A Dynamic Model of Japanese Networking System[1]

A case study of Japanese Automobile Investments in Asia

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Abstract

This paper conducts a systematic investigation of the factors affecting 100% utilization of the local networking potential by the Japanese Multinational Corporations taking Japanese automobile industry in Asia as a case. It shows that the proportionate strategic significance of the three causative factors identified by Gupta and Abo (1995) in workforce proficiency is in the following descending-order: management intentionality, workforce commitment, and workforce competency. A disproportionately high significance to workforce competency has deleterious effects on further upgradation of such competencies. The networking system with a "lower sense of belongingness" of the local workforce leads to gradual hollowing-out of the network as it diffuses its potential by putting priority on "work" without strengthening the "net". Furthermore, workforce belongingness can be perpetuated only if local management is strategically trained by the parent Multinational Corporations in belongingness-servicing techniques.

I Literature Review

Japanese industrial structure is currently undergoing a major shift under the influence of globalization forces. High domestic costs are now encouraging Japanese MNCs to boost their overseas investments so as to maintain their global competitiveness. Such expansion however is a double-edge implications, for it threatens hollowing-out of the corporation and the nation unless a dynamic approach is adopted. A dynamic approach entails a strategic focus on the long-term survival and competitiveness of the corporation, with its primary emphasis on reinvestible incremental value in contrast to technical productivity. While the Japanese Multinational Corporations (MNCs) have till now accumulated only a limited experience of operating in the developed western nations, they have a long history of foreign direct investments in Asia (see, e.g., Yoshino, 1976). In addition, the nature of Japanese investment networks in Asia has been found to be changing from a complementary-type relationship with the parents to a competitive-type relationship (see, e.g. Ozawa, 1991). It will therefore be appropriate to conduct an overall strategic assessment of the proficiency of Asian transplants of the Japanese automobile industry, in order to identify fundamental causative forces in hollowing-out.

One of the most systematic study on Japanese transplants in Asia has been conducted by Yamashita (1991). This study highlights that the employees of the Japanese transplants in Asia are more likely than the those in other firms to leave the job, either for joining other companies or for setting-up their own businesses. Tho (1993), in his investigation of transplants in Thailand, reports that the fundamental reason for a job turnover lies in slower promotion opportunities in the Japanese transplants, arising from distinctive Japanese emphasis on gradual skill formation and

long-term employment. Such a high job turnover potentially should weaken incentives for investing in skill formation in Asia.

However, Koike (1987) shows that Japanese-style skill formation systems are easily transferable to Asia, provided a systematic approach is taken to enhance their intellectual capability. Abo (1995) also finds that Asian nations are characterized by a very successful application of the efficiency-properties of Japanese production and management systems, in terms of lower reliance on Japanese expatriates and a more well-developed skill-formation system as compared to other regions. However, his research shows that the causative force behind an well-developed application system in Asia might be an absence of job demarcations in the Asian work-culture, coupled with a "my company consciousness" among the workforce.

These two distinct findings suggest that while the potential for a powerful networking system in Asia is very high, there exists substantial perforation in the Japanese networking approach that hamper full utilization of such potential. Gupta and Abo (1995) based on their investigation of Toyota, formulated a dynamic model of Japanese human resource system. The model shows that Japanese MNCs compensate for their low investment in local management development, through indirect investments of their indigenous management power. The low local management power dynamically downgrades the local workforce hybrid from a "Supra" level to a "Super" level, as first commitment and then competency fall from a "Supreme" level to a "Super" level. The double productivity gap from indigenous perpetual supreme level then encourages direct management investments of Japanese expatriates to revive the local workforce power. There is an additional need in light of the previous research to investigate proportionate significance of three factors:

management power, commitment (devotional intensity), and competency (emotional intensity) in the corporate networking. This research accordingly conducts a dynamic modeling of the proportionate significance being laid by the top three Japanese Multinational Corporations (MNCs) in the automobile industry - Toyota, Nissan and Honda - in various focal aspects of their Asian networking system. The basic framework for the dynamic modeling is derived from the research conducted by Japanese Multinational Enterprise Study Group (JMESG) in the form of an Application-Adaptation Hybrid Model.

This paper is organized as follows. Section I provides the literature review. Section II gives principal findings of this research. Section III gives criteria for evaluation of the overall incremental value of Japanese networking system. Section IV summarizes the conditionalities for operation of Japanese networking system. Section V contains research methodology. Section VI quantifies local effects of Toyota, Nissan and Honda on the overall incremental value of their overall networking system in Asia, and then investigates their common denominator at corporate and national levels. Conclusions are given in Section VII.

II Principal Research Findings

The research conducted by JMESG emphasizes that it is the strong sense of identity that employees feel with the company, coupled with flexibility deriving from "worksite-oriented operations", that is vital for achieving high production efficiency and product quality over a wide range of operations when Japanese production system is internationalized. Gupta and Abo (1995) demonstrated additional significance of local management power in workforce proficiency.

The findings of the current research demonstrate that competency is only a pre-dominating factor in networking proficiency. Dynamic competency

development is a function of workforce commitment, which in turn is the dominating factor in networking proficiency. Commitment is perpetuated only through innovative and creative linkages nurtured by management power, which is the deciding factor in networking proficiency.

Compensating Techniques for Imprudent Work-Culture

The auto industry work-culture promotes a primary priority on competency. As a result there is a proliferation of efforts to develop tactical workforce competencies, by channelizing compensating management power from (a) local workforce manifested in lower priority to strategic education and training policies, (b) local transplant “first-line supervisors”, (c) local transplant management (“local personnel”), (d) parent company in form of indirect investments (“centralization of authority”), and (e) parent company in form of direct investments (“Japanese expatriates”), in that order.

Compensating Factors for Sourcing Force

These Compensating techniques utilize several compensating factors: (a) lower priority on “sense of unity” activities, such as open offices and picnics, (b) lower priority on “local autonomy” in assumption of responsibilities, (c) lower priority on “grievance procedures” centered around first-line supervisors, (d) lower priority on “small group activities”, and (e) lower priority on strategic “hiring policy”, in that order. These compensating factors are foundations of a networking system. These factors promote devotional intensity of the workforce to the company, and affect dynamic performance.

Catalyc Powers for Manipulating Power

The management power released from reduced investments in these compensating factors is utilized as various catalyc powers intended to manipulate

local competency in an ascending order. These catalyc powers are: (a) flexible “job classifications” that eliminate all institutional impediments to tactical mobilization of workforce, (b) more harmonious “union relations” that facilitate tactical deployment of workforce as per the production needs, (c) greater “information sharing” by the management trying to sustain workforce trust (d) greater “job security” to sustain workforce trust, and (e) non-egalitarian “wages” disproportionate to the workforce skills as incentives for support with the management, in that order.

Consequence of the Compensation Heuristic

The consequence of the compensation heuristic is acceptance of a “Supra Networking Proficiency” as standard of local hybrid performance. The compensation factors gradually hollow-out this supra proficiency in a descending-order “Super Networking Proficiency”. When the energy of compensating factors is completely hollowed-out through equivalent investments in catalyc forces, then a renewed strategic priority on channelization of energies of compensating entities for strengthening compensating factors is done. This is the reason why Japanese MNCs are now increasing their direct investments overseas amidst hollowed-out overseas compensating factors that in the past had allowed sustained low cost indigenously. On the whole there is little strategic priority on dynamic servicing-based promotion of overseas networks - whether at workforce or at material investment level.

Thus, this paper highlights a need for an overall strategic survey of Japanese overseas investments and tactical approach to perpetuate additional investments as a solution for the current problems of Japan and Japanese corporations.

III Criteria for Networking System Dynamism

In a disintegrated world, the leading firms aim for creating and perpetuating a “**super networking hybrid**” for management of their investments, while the

average firms are able to survive even by realizing a simple "**networking hybrid**". In the age of globalization, leading firms in all the nations have a potential of realizing "**supra networking hybrid**". The multinational corporations through their innovative and creative global strategic alliances have a potential to obtain a quantum jump in this to realize "**supreme networking hybrid**". Therefore the appropriate dynamic criteria for evaluating Japanese auto MNC networking system is supreme networking hybrid.

IV Conditionalities of Japanese Networking System

Based on the previous research, one can identify four factors that have a dynamically orthogonal - independent yet cumulative - effect on the nature of production and management technology used in a given transplant. These factors are global factors, industry factors, corporate factor, and local (host nation) factors. The global and host nation represent the cultural system conditionalities of a networking system. The industry and corporate factors represent the work-culture conditionalities of a networking system. The overall incremental value of a networking system is a function of compatibility between these micro and macro cultural and work-culture conditionalities. All incompatibilities and inequities in a networking system have to be compensated by the strengths of other parts in the parent networking system. Such compensation reduces the overall dynamism of the global network, and threatens hollowing-out under cut-throat global competition environment.

In order to quantify independent effects of the above four factors, this research utilizes a matched triplet sample of transplants. The data consists of 16 items in the hybrid production and management system of the overseas transplants of 9 Japanese MNCs. There are three MNCs each from auto industry, electronics

industry, and intermediate industry. Three transplants of each of the MNCs have been selected, representing one transplant each for the three local regions: Asia, Europe and America. The Asian data pertain to Thailand subsidiaries, while the European data pertain to British and German subsidiaries. The data has been collected by the members of JMESG under the direction of Dr. Abo over a seven year period 1989-95 through personal visits to each of the 27 transplants included in the sample.

V Research Methodology

This research follows a modified version of the methodology developed by Gupta and Abo (1995) using "Dynamic Entity Approach". Gupta and Abo found that greatest weakness of the human resource system of Toyota in its overseas operations is a poor assignment of responsibilities to the local managers. This accentuates endowment differences between the parent company and the local subsidiary over time, and tends to hollow-out the parent management power. A failure to assign responsibilities to the local managers along with active tactical interventions of top management in the lower level operations is in contrast to the indigenous networking system of Japanese MNCs. In Japan, there is a strong emphasis on voluntary involvement of the lower-level personnel in corporate activities, along with a strategic approach to management by the top management. Low freedom to the local personnel can significantly alienate them by restricting their promotion and growth opportunities, and may be a factor underlying the findings of previous studies about low job stability of Asian employees in Japanese MNCs.

In order to quantify impact of the supporting conditions in which local personnel operate, a dynamic multi-level multi-focal modeling is conducted. This modeling proceeds as follows. First, the corporate, regional, and industry level

averages of each of the 16 parameters in the system is taken. These 16 parameters are grouped in five sub-systems of networking system (see Abo, 1992; Gupta and Abo, 1995 for further details). Then all averages are transformed into conditional hybrids, using local management units (hybrid ratio) as a common denominator - i.e. by dividing local management responsibility hybrid ratio by each of the other items. Then the industry effect is computed as a pair-wide difference between each industry and region. Similarly corporate effect is computed as a pair-wise difference between each corporation and region. Then 9 regressions for each of the three transplants of three MNCs are conducted over the 16 hybrid parameters of the networking system using the following functional form:

Hybrid Ratio = f(constant, raw industry effect, raw corporate effect, residual)

The slopes give the average industry effect and average corporate effect for each of the transplant. The constant is equivalent to the average hybrid ratio across all 16 parameters, and so represents global or corporate-wide networking effect. The residual quantifies the remaining effect in the system, i.e. local or region effect. The slopes are variable conditionalities, and therefore one needs to correct for the fact that all conditional averages are denominated in local management responsibility units. This can be done by dividing computed value of industry effect and corporate effect of each hybrid parameter with Local responsibility units per unit of hybrid ratio. The value of residual needs to be computed after this correction in the variable factors. The corrected effects for Asian auto transplants are then aggregated to obtain overall focal item level and industry level effects.

The dynamic proportionate significance of each of the 16 parameters is then computed for each of the effects as well as for raw hybrid ratios. The system level proportionate significance normalizes number of items in each system as 1, so that

average significance of any system is 20%. The item level proportionate significance is computed by normalizing overall sum to 1, so that average significance of each of the 16 items is 6.25%.

VI Dynamic Proportionate Significance in Corporate Level Networking Hybrids

Proportionate significance of local effect and of overall hybrid parameters in the Asian networking system is shown in Table 1(a) for Toyota, Table 1(b) for Nissan, and Table 1(c) for Honda.

Local Toyota Effect

The distinctive characteristics of Toyota's Asian network are proportionately stronger backward linkages of the parent's global management (26.51%) and organization power (26.71%), accompanied by proportionately weaker forward linkages of local participation (15.60%) and local administration (18.71%). These linkages are supported by parallel linkages of the relational system (24.12%), which are very strong in job security (8.91%) and union relations (8.97%), but are weak in hiring policy (5.82%) and grievance procedures (6.45%). Backward linkages are those network linkages that are sustained by parent investment force in the local transplant, while the forward linkages represent self-perpetuating local servicing power that adds value to the parent investments. The parallel linkages condition overall relationship between the parent company and the local subsidiary.

A very low priority is given to the selective hiring policy (5.82%) - indicating that low sense of belonging and potential conflictual relationships are partly rooted in gradual entry of less committed workforce. This low workforce commitment translates into less willingness to accept job rotation for skill formation, despite corporate significance on education and training policies. As there is likely to be fairly high labor turnover under condition of low opportunities for merit-based

promotion opportunities, a high priority of 8.97% is given to harmonious industrial relations in order to retain more committed workforce. The strong priority on job security (8.91%) allows the company to retain previously accumulated competencies. This facilitates a static maintenance of existing competencies, though on a dynamic basis compared to corporate global network there tends to be a descending-order degradation.

In the indigenous Japanese networking system, servicing power of each unit of management force in realizing workforce with high my-company consciousness is very high. In foreign nations that lack such nation-wide cultural system, strong Japanese-style interaction can be created between the local and the global systems of the parent company only through an active adaptation to the local reality in form of strategic hiring policies. In absence of such strategic hiring, trust of workforce in information shared by the management tends to be quite low (5.95%). As such grievances must be resolved through intervention at the higher level, as distinct from the Japanese-style system where grievances tend to be solved through coordination by first-line supervisors at the level where they occur. Therefore local management power is inhibited, because it has to compensate its savings from low-investment hiring system with a high-investment tactical intervention in the shop-floor activities.

An investigation into the Management system reveals that as a result of such local downgradation in management power, parent takes up more responsibilities for local operations even when authority for such acts has already been given to the local managers. This is manifested in a priority of only 2.19% on delegation of authority, despite a high priority on localization of workforce (10.16%). As a result the commitment of local management is hampered, and it responsibilities have a proportionate power of only 0.29% - the least of all items. This shows that the

company is placing a very low priority on development of local management power, and instead compensates with its global management power.

Most of the global management power is directed towards the organization system - in particular for creating flexible job classifications (10.35% emphasis). The reason is an emphasis placed on avoiding institutional barriers to worker mobility. Flexible job classifications are considered prerequisite in Toyota-style human capital formation through systematic education and training policies (8.69% emphasis).

However proportionate dominance of competency factor appears misplaced, and presence of a pre-condition for competency development is indicated by the fact that job rotation, the most distinctive aspect of Toyota's indigenous training system, is actually implemented to a quite low degree (6% against average 6.25%).

It can be seen that priority on flexible organization system is compensated by a relative ignorance of the participation system. There is little evidence of my-company consciousness and sense of belonging among the local employees - in fact corporate effect on sense of unity with 3.72% significance is even less than the overall 3.92% emphasis on sense of unity. Information sharing often tends to use channels other than informal small group activities. Thus the approach is to seek work-site flexibility through institutional mechanisms, assuming that such mechanisms would automatically result in flexible assignment of local employees and their ascending-order upgradation. The effectiveness of these mechanisms however has been limited because of lack of significant efforts to promote involvement and devotion of workforce in the company. The low proficiency of the above approach is demonstrated by a relatively poor success in the revised application of skill-based performance evaluation for wage payments (6.05%) as well as for promotion (5.88%).

Actual success in internal nurturing of supervisors trained in broad-based skills turns out to be even poorer (5.62%). As a result dynamic administration system - the final determinant of transplant performance at work-force as well as aggregate levels - tends to demonstrate a fairly weak forward linkage.

Thus Asian transplant is characterized by a gradual transformation of the dynamic energy (Supreme level) into stationary potential energy (Super level) because of a triple compensation approach - first compensation by the overall network of weak workforce commitment with institutional flexibility in administration system derived from flexible job classifications, secondly compensation by the local management for its low priority on strategic hiring policy with institutional mechanisms of industrial relations and job security offers, and thirdly compensation by the global management for weak local management power with its own power.

Local Nissan Effect

As can be seen from Table 1(b), Nissan's local corporate effects in Asia demonstrate a high proportionate emphasis on localization of management force (30.84%), accompanied by a low proportionate emphasis on relational system (15.42%) and participation system (14.15%).

Nissan places a strong proportionate significance on selective hiring policy (5.71% significance, matched by only 3 items of management system and by job classification). As a result of its relatively prudent hiring policies, company is able to rely significantly on the local personnel (11.22%). The evidence shows that Nissan puts a great priority on development of local managers, but then adopts a passive adaptation approach. Therefore, priority given to delegation of authority is less than the significance of responsibilities assigned to the local managers. In other words, local managers are sometimes expected to perform even beyond the authority

and resources provided to them.

Because of this over-expectation, local management responds by making efforts to improve the organization system (emphasis 23.81% against 22.56% in overall plant networking). In order to do so, local management uses substitute management power, by marginally discounting significance of the relational system (15.42% emphasis against 16.92% in overall plant networking) and participation system (14.15% emphasis against 16.41% in overall plant networking).

In relational system, greatest compensating effect is on grievance procedures (2.50% emphasis against 3.85% overall transplant emphasis) signifying that the approach of local management is to make direct tactical interventions at the shopfloor level so as to get the things moving. This expedient approach in general works well, but in some cases marginally alienates the workers (5.58% emphasis against 5.77% overall transplant emphasis) and enhances their propensity to quit the company manifested in a poorer job security (5.49% emphasis against 5.77% overall transplant emphasis).

The expedient approach adversely affects the proficiency of participation system. Pressures on the management tend to usurp on its time and efforts to share information with the shopfloor workers (5.37% emphasis against 5.77% overall). At the same time there tends to be a lower emphasis on small group activities for solving problems and for making suggestions (5.43% emphasis against 5.77% overall), as short-term networking becomes more pressing than the long-term networking linkages in the transplant. This significantly hampers sense of unity among the work-force (2.47% against 3.85% overall).

The adverse behavioral effects are compensated with institutional flexibility of job classifications (11.14% emphasis against 9.62% overall) that require much less

management time and energy. These job classifications however are not intended to promote workforce training. In fact there is a reduced emphasis on education & training (5.50% against overall 5.77%), as well as on job rotation (5.68% against overall 5.77%). Rather the purpose of flexible job classifications is to compensate work-force for its acceptance of the task targets set by the management, in form of greater wages disproportionate to the skills and capabilities of the work-force (5.35% emphasis on skills against 5.77% overall). Additional compensation takes place in promotion and supervisory system.

Thus on the whole, Nissan's networking system is characterized by "Supra Networking Hybrid" despite a serviced potential of "Supreme Networking Hybrid". While the local management power is provided training to introduce strategic hiring and other competency development policies of the parent company, it is assigned higher targets disproportionate to authority, and is expected to provide a stronger forward linkage in form of output and productivity to the parent company. The local management therefore tries to compensate the short-term performance centered around competency development, by giving lower priority to the long-term potential centered around workforce involvement and commitment. In reality the gradual perforation of sense of belonging and devotion adversely affects proficiency not only the long-run but also in the short-term because of higher wages and weakened promotion systems.

Local Honda Effect

Honda's networking system is characterized by a proportionately high backward linkage of parent management power in the transplant (16% localization against 17.78% overall). The parent management power promotes priority on relational system (21.64% against 20.74% overall), participation system (19.97%

against 19.75% overall), and organization system (22.55% against 21.73% overall), but in the process has to compensate with weaker forward linkage in the ascending-order administration system (19.28% against 19.75% overall).

To begin with, there is a proportionately low priority to a strategic hiring policy (5.50% against 5.56% overall). As a result parent company has to compensate by greater application of its direct (Japanese expatriates) as well as indirect (concentration of authority and self-fulfillment of responsibilities) management power from home-base.

The home management power is directed towards two goals: (a) better workforce commitment: first the proportionate priority of short term industrial relations rises from 7.41% overall to 8.15%. Then a priority is given to long-term workforce commitment through (i) greater training of first-line supervisors in resolving shop-floor grievances (7.95% role emphasis, against 7.41% overall), and (ii) improvement in supervisor credibility through a strategic priority on sharing information with the workers (7.88% emphasis against 7.41% overall), (b) enhanced work-site productivity. A greater priority is placed on flexible job classifications (10.21% against 9.26% overall), to promote skill formation (5.62% against 5.56% overall) and to promote merit-based wage system (7.72% against 7.41% overall). The opportunities created by the enhanced workforce commitment are thus positively capitalized into greater work-site competency development and productivity.

However one side-effect of weak hiring policy and a relative tactical intervention by the parent company in transplant operations is a moderate deterioration in the dynamic ascending-order linkages of skill-based promotion (5.24% against 5.56% overall) and supervisory systems (5.11% against 5.56% overall). This is due to a weakening of the strategic approach, manifested in a

weaker formal education and training system (5.31% against 5.56% overall) on the corporate-side and a weaker sense of belonging (5.50% against 5.56% overall) on the workforce-side. Therefore while in the short term, Honda's networking system is able to upgrade the local "Supra Networking Hybrid" into a "Supreme Networking Hybrid" with more harmonious worksite relations and greater work-site productivity, there tends to be a gradual compensating hollowing-out because of a non-strategic management intentionality that reduces the long-run dynamism of the transplant's networking system. As a result in dynamic terms, Honda's networking system fails to maintain its momentum as "Supreme Networking Hybrid" without perpetual priority on direct management power investments from the parent company.

Overall Corporate Effects on Networking System

The common denominator in the above behavioral characteristics of the local Asian transplants of the top three automobile MNCs is shown in Table 2.

At the overall corporate level, there are two distinct characteristics: a disproportionately high significance given to organization system (23.59%), using management power released from a disproportionately low significance on participation system (17.61%). In the organization system, greatest priority is given to realization of flexible job classifications to allow Japanese-style deployment of workforce. However the gains from investment in such institutional flexibility are not capitalized, as manifested in a descending-order organization system. The proportionate significance on strategic education & training is only 6.34%, and on job rotation is in fact below average at 5.28%. This demonstrates that a primary priority given to competency development does not ensure success in human capital formation.

The causative factor in competency development can be identified through

an analysis of participation system- which is compensating the energy channeled into job classifications. In the participation system, a distinctively low priority is given to sense of unity mechanisms such as open offices, common parking, picnics, and other “my-company consciousness” boosting techniques. The causative factors in poor sense of unity investments can be seen on the relational system. While an above average 6.74% priority is given to union relations, a relatively low priority is given to hiring policy (5.35%). Therefore the entry-level workforce tends to have low commitment with the company. At the same time, low proportionate significance on sense of unity manifests in low significance on grievance procedures (5.57%). As a result the shopfloor work-climate becomes unstable. The voluntary involvement and identification of the workforce is therefore hampered, and as such training measures that require workforce cooperation at the shopfloor level become difficult. Thus a priority on competency factors provides only short term solutions, and manifests in a priority to union relations and job classification.

The short term nature of competency-led solution is authenticated by an analysis of administration system. While there is a high proportionate significance of skill-based wage system (6.59%), the significance of promotion system is only 5.79% and of supervisory system only 5.85%. Thus the long-term ascending-order dynamism is hampered by an approach that gives primary importance to competency factor.

The investigation of management system shows that the deciding causative factor in weak local commitment has been a weak local management system. Despite a extremely high proportionate significance on localization of workforce (10.03%), there is only 3.55% significance on assignment of local responsibilities. There is however a much greater significance attached to delegation of authority to

local management (5.70%), indicating weak local management power that is unable to assume responsibilities for delegated authority.

If parent company uses an ideal standard of networking proficiency equivalent to its home operations without providing a strong local coordinating force, commitment of local workforce falls and in turn downgrades development of their competencies. While technical productivity of the plants remains low, the performance-based remuneration of workforce ensures high local profitability of the local transplants. As the imputed cost of parent management input is not included in the subsidiary accounts, such high local profitability in fact is compensated by lower global profitability of the parent company. As a result incremental value of corporate investments is hampered, and the overall investments in the transplant suffer.

Thus despite a serviced potential of Supra Networking Hybrid, the local transplants are able to realize only a Super Networking Hybrid because of predominating ideal expectations of self-perpetuation of workforce commitment from shopfloor to management level, and then dominating theoretical notions that promote priority on competency and human capital rather than on commitment and involvement of workforce. The hollowing-out is decided decisively by the ideal notions of productivity based on a quantity approach rather than value approach, and theoretical notions of profitability that ignore network-wide utilization of management power.

Authentication of the findings: Auto-Industry Effects

The above results can be authenticated through an investigation of industry effects as given in Table 2. As can be seen, servicing potential of the auto industry is negative in all items - indicating that high technical standards of Japanese auto

industry have an effect of lowering the network proficiency. The greatest negative compensating effect of the industry in the organization system is on strategic education and training policies (-5.53% relative to corporate effect of 6.34%), though the tactical job rotation is not that seriously affected. However the fact that greatest negative effects are on the administration system (-27.94%), indicate that the workers need to be compensated for their flexibility in job rotation through disproportionate wages and promotion.

At the same time there is a greater tactical intervention of top management in the work-site grievance procedures, whereby development of supervisors is impeded and their authority usurped reflected in a -9.22% effect on small group activities, -7.59% effect on information sharing, and -7.51% effect on sense of unity in the participation system. These results confirm that sense of belongingness realized through participation system is the dominant causative factor in supreme networking proficiency.

A weak networking hybrid under poor commitment results in a weaker stability of workforce. A relative lack of corporate appreciation of the need for management action is reflected in a negative 2.94% industry effect on strategic hiring policy. As a result, a gradual hollowing-out of the transplant is promoted through dynamic downgradation. This then encourages greater investment of indirect management power (-7.31%), and of direct management power (-12.57%). Thus it is the weak commitment at the local transplant level that is instrumental in a need for direct investments from the home nation.

Thus on an overall basis automobile industry is able to realize significant multi-skilling in the Asian transplants. However such skill-formation is at the cost of reduced sense of belongingness of the workers. As a result the networking system

becomes highly proficient in mass working, but such work lacks any net and risks hollowing-out of the transplant under adverse competitive conditions. This forces parent company to increase its compensating management input even more, thereby putting it into a vicious cycle of hollowing-out rather than a virtuous cycle of technological growth.

VII Conclusions

The analysis shows that dynamic sense of belongingness and voluntary involvement of the workforce is more a function of corporate servicing or networking strategy, rather than of natural behavioral characteristics of the workforce. The deciding factor in the network proficiency is the local management power, that can perpetuate the servicing at the local level. The commitment and capability of local management is a function of corporate policies. When no priority is given to development of local management capability, the local workforce commitment and then competency development process quickly becomes more static.

Even when a priority is given to development of local management capability, as in case of Nissan, the local networking proficiency may gradually deteriorate if no priority is given to local management commitment. Over-expectations from the parent, without providing commensurate endowments to the local management, hamper stable utilization of potential of local management. As such local management tends to put a greater priority on workforce performance and skill development, compensating with lower priority on commitment and skill-based wage and promotion systems.

Finally, even when a priority is given to both management capability as well as management commitment as in case of Honda, realization of a supreme networking hybrid may still be impeded because of misplaced overall priorities of management.

Thus a weak priority given to strategic hiring policy and strategic education and training policy hamper the long-term potential development of Honda's Asian transplant. Therefore there is an urgent need to adopt an overall strategic approach towards overseas networking in order to realize full workforce potential. Only then the real networking effects of workforce can be potentiated to make a 100% utilization of the golden global opportunities for perpetuation of international prestige of Japanese automobile industry in this era of supreme global linkages and supreme global values.

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