CHAPTER IV

IMPACT OF DIFFERENT MODELS OF HUMAN RESOURCE

Does HR models make a difference? That is, to what degree can managers expect to influence their "bottom line" by adopting one HR model over another? Are they of any use for a Third World country like India where the problems are different? Given the centrality of such questions, it should come as no surprise that the bulk of strategic human resource management research in recent years has focused precisely on such issues. Indeed, if HR strategy is not associated with key organizational outcomes, then - aside from intellectual curiosity - researchers have little incentive for further inquiry. Over the past decade, dozens of studies have explored the association between HR strategy and a wide variety of organizational outcomes, including turnover, machine efficiency, employee productivity, innovativeness, financial performance, and firm's survival.

HR researchers have long had an interest in understanding the impact of specific HR practices on individual level outcomes such as turnover and job satisfaction. For example, the enrichment and realistic job previews can be effective in reducing turnover,¹ and showed that job satisfaction and employee motivation may be enhanced by redesigned work systems.² However, only in the past decade or so have scholars begun to investigate the impact of individual HR practices and systems of HR practices on organisational-


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level outcomes such as productivity and financial performance. Although the studies have consistently pointed to the positive impact of such HR policies and practices on a variety of organizational outcomes, because they all focus on individual HR policies or practices, the results need to be taken with some caution. As M. A. Huselid noted, firms adopting such practices in one area are likely to use them in other areas as well. Therefore, to the extent that any single example reflects a firm's wider propensity to invest in such practices, any estimates of the firm-level impact of the particular practice will be wholly biased. In simple terms, "The sum of these individual estimates may dramatically state their contribution to firm performance".

J. Arthur justified this proposition by noting that: "by decentralizing managerial decision making, setting up formal participation mechanisms, and providing the proper training and rewards, a commitment system can lead to a highly motivated and empowered work force whose goals are closely aligned with those of management. Thus the resources required to monitor employee compliance, such as those needed to maintain supervision and work rules, can be reduced. In addition, employees under these conditions, are thought to be more likely to engage in organizational citizenship.

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behaviours: non-role, unrewarded behaviours that are believed to be, nonetheless, critical to organizational success.⁵

How can this HR strategy effect on firm performance be explained? It is commonly assumed that the impact of HR strategy on firm performance is a function of three interrelated processes. First, HR strategy is likely to shape the human capital base of the firm by means of policies and practices having to do with recruitment and selection, as well as training and development. Second, HR strategy is likely to influence the degree to which the firm is able to exploit this human capital base in terms of employee motivation to stay with the firm and perform; this by means of policies and practices having to do with career development and advancement, compensation, and commitment-building benefits (e.g., employee assistance). Third, HR strategy can have an impact on firm performance by influencing the degree to which talented and motivated employees are provided with the job-related opportunities and discretion to contribute.

SHRM theorists have argued that underlying these assumed processes are a number of well-grounded organizational theories. First, Behavioural Theory ⁶ explains the impact of HR strategy on human capital and motivation in that it argues that the human capital base of an organization may be enhanced to the degree that HR practices encourage employees to seek to develop desired organizational skills and competencies. Furthermore, it argues that certain HR activities can elicit and reinforce the kinds of behaviors and attitudes required by the firm. Second, Classical School ⁷ explains the impact of HR strategy on motivation in that it argues that HR practices may be used to better

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⁶ Supra, Chapter II, p. 57.
⁷ Ibid., p. 48.
align the interests of workers with those of management. Finally, Management Science School \(^8\) explains the impact of HR strategy on the opportunities for employee contribution in that certain HR practices (particularly those regarding the nature of performance appraisal and the design of work systems) may provide for greater employee involvement and participation. These three assumptions and the theories underlying them are at the base of each of the studies reviewed above.

However, alternative explanations of the association between HR strategy and performance cannot be ruled out. It is generally argued that the positive impact of HR strategy on firm performance is explained by its impact on what they referred to as "structural cohesion, an employee generated synergy that propels a company forward, allowing it to respond to its environment while still moving forward." That is certain HR strategies may be more strongly associated with firm performance because they provide the stable infrastructure necessary for the organization to rapidly and effectively respond to change. Included as part of this stable infrastructure might be a highly cohesive workforce, an effective, highly cooperative network of teams, and a high level of goal consensus.

Focusing on start-up organizations, placing more value on employees at the time of their initial public offering (e.g., by citing employees as a source of competitive advantage in their mission statement and having organization-based compensation programs such as stock options or profit sharing (to enhance goal consensus) increase their survival chances. Although the capital market tends to react negatively to firms using their capital for organizationally based employee reward programs, as predicted, yet their findings suggest that to the degree that start-up firms are able to use HR practices to

\(^8\) Ibid., p. 43.
enhance their structural cohesion, they may be able to enhance their long-term prospects for survival. Specifically, although the mean probability of survival was .70, firms with a high level of human resource value (i.e., one standard deviation above the mean) had a mean probability of survival of .79, and firms with a low level of human resource value (i.e., one standard deviation below the mean) had .1 mean probability of survival of .60. Firms adopting HR strategies structured around the-use of organizational rewards (i.e., using organization-level rewards at a level one standard deviation above the mean) were able to increase their survival prospects to .87, whereas firms failing to do so (i.e., using organization-level rewards at a level one standard deviation below the mean) had survival prospects far below the mean (i.e., .45). Finally, survival prospects were nearly a third higher (.92) for firms placing a higher-than-average value on their employees and on the use of organizational rewards and were 50% lower (.34) for firms placing a low value on their employees and essentially failing to use organizational rewards as compared to the average firm. In sum, this study suggests that the nature of a start-up’s HR strategy can affect its probability of survival by as much as 22%.9

Underlying these findings is the notion that the link between HR strategy and firm performance may be explained or mediated by the level of organizational agility. That is, certain HR strategies may provide organizations with greater flexibility and responsiveness potential, and it is this agility, that, in turn, yields enhanced performance.

Most strategy researchers have in recent years focused their attention on the role of strategic complementarities and contingencies not as mediators of the strategy-performance link but rather as

potential moderating constructs. That is, rather than identifying the particular processes underlying the link between HR strategy and firm performance, researchers have turned their attention to gaining an understanding of the mechanism by which this relationship is weakened or intensified. At the core of this research are three alternative theoretical perspectives, commonly referred to as, the universalistic, contingency, and configurational approaches.10

Although all three of these perspectives are grounded on the assumptions and theories specified above regarding the link between strategy and performance, they differ in terms of the degree to which the assumed HR strategy effect is likely to be moderated by internal and external fit and the way in which such a moderation effect may operate. Researchers adopting a universalistic perspective11 argue that many of the HR practices (e.g., participation, incentive pay) that we have associated with the commitment strategy and as "high performance work practices" are, on individual basis, always better than comparative practices that we have associated with the other HR strategies discussed and that their effects on firm performance are additive. Consequently, they claimed that all organizations, regardless of size, industry, or business strategy, should adopt these so-called "best practices."

Researchers adopting a contingency perspective12 posit that the assumptions underlying the strategy-performance link are applicable

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11 Ibid.

12 Huselid, M. A., op. cit.
only under conditions of high external fit. That is, they claim that to have a significant, positive impact on firm performance, HR practices must be aligned with the organization's overall business strategy.

Finally, underlying the configurational approach is the assumption of "equifinality" and a focus on the system or pattern of inter-related HR practices. Theorists adopting the configurational approach posit that internal coherence among individual HR practices is key and that, assuming that these practices are internally consistent, combinations of HRM practices are likely to have larger effects on organizational outcomes than the sum of the component effects due to individual practices. Resource-based theory provides an explanation for such equifinality effects. When a complex pattern or system of interrelated HR practices is in place in an organization, these strategic capabilities become even more difficult to imitate. Lacking an understanding of just how these practices and policies interact, competitors are less likely to be able to reproduce such synergies. Furthermore, many of these policies and practices may be path dependent, requiring that competitors replicate, "socially complex elements such as culture and interpersonal relationships" before being...

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able to implement particular elements of the complex web of interrelated HR practices. MacDuffie's finding that "bundles" of internally aligned HR practices have a more powerful positive impact on manufacturing performance supports this perspective.17

Several studies have attempted to test comparatively the alternative hypotheses implicit in each of these three perspectives. In one of the most comprehensive of these analyses, Delery and Doty examined seven key HR practices consistent with what we referred to as the commitment strategy (e.g., use of internal labour markets, training, profit sharing) and tested hypotheses consistent with all three perspectives.18 According to the universalistic perspective, they proposed a direct, positive link between these seven practices and financial performance. In line with the contingency perspective, they posited that the positive link between these practices and financial performance would be moderated by the degree to which the behaviours elicited or encouraged by these practices were consistent with the organization's strategy. The greater the degree of alignment between business strategy and individual HR practices, the better the financial performance. Finally, they argued that according to the configurational perspective, it is the synergistic effect of configurations of internally consistent HR practices that explains the link between HR strategy and firm performance. Thus, at the most basic level, they proposed that a firm's performance would improve as a function of the degree to which its HR practices, as a group, were internally consistent and most similar to an ideal-type strategy (e.g., commitment, secondary). However, because external fit was also viewed as a

moderator of the strategy-performance link, they posited that a given system of aligned HR practices would enhance firm performance only when that strategy was appropriate for or consistent with the firm’s business strategy. Thus, the strategy-performance link is moderated not only by the degree of internal consistency among HR practices but also by the degree to which this configuration of practices is aligned with the organization’s strategy.

Using a stratified random sample of over 1,000 banks, their analyses yielded results that provided strong support for the universalistic perspective and some support for both the contingency and configurational perspectives. In line with the human capital, motivational, and work structure assumptions presented at the beginning of this section, three individual HR practices (i.e., employment security, profit sharing, and results-oriented appraisals) were all found to have a strong, positive association with financial performance, regardless of the other practices in place and regardless of organizational strategy. Financial performance was found to be some 30% higher for banks, one standard deviation above the mean on each of these three practice scales than for those banks at the mean.19

In line with the contingency perspective, three HR practices - performance appraisal, participation, and internal career opportunities - were found to be associated with higher levels of financial performance only when these practices were aligned with organizational strategy.

In the discussion above, we have suggested that SHRM research needs to pay greater attention to the “black box” between HR

strategy and firm performance. Specifically, researchers need to test more directly some of the assumptions underlying the strategy-performance link. Critical in this regard is the need to ascertain the causal relationship between HR strategy and firm performance. However, researchers also need to identify additional and alternative theories that might explain the strategy-performance relationship and test these theories against those discussed in our analysis in a competitive framework. In addition, there is the need for multilevel analyses and alternative configurational frameworks designed to ascertain the degree to which the universal, contingency, and configurational approaches are competing as opposed to complementary. However, before SHRM researchers can turn to these important issues, a number of methodological and practical issues remain to be resolved.

First, researchers need to better tailor their measures of effectiveness and HR practices to the particular context. Furthermore, the standard metrix of capital market value and profit fail to reflect organizational performance among firms striving to meet alternative objectives, such as increased market share, revenue growth, or technological innovation. HR strategies designed to meet profit goals, for example, may have an adverse impact on growth or market share objectives.

However, measurement problems affect not only the dependent (or outcome) variables in the HR strategy-performance equation but also the independent (or predictor) variables. Different researchers not only focus on different practices but also measure the implementation of these practices in different ways.\textsuperscript{22}

A second challenge facing researchers has to do with the enhancement of model specification. Specifically, three main specification errors remain to be addressed by researchers. The first and most critical specification error has already been discussed and has to do with the absence of critical mediating variables in models of HR strategy and firm performance. Structural equation models would facilitate the estimation of such mediational effects and would go a long way in helping researchers gain an understanding of the manner in which individual HR practices and systems or strategic configurations of such practices add value to the firm.

The second, specification error has to do with the inclusion of variables likely to co-vary with the HR system in models of the HR strategy-performance linkage.

The third specification error has to do with the incorporation of temporal effects. Relatively few studies of the strategy-performance relationship are based on longitudinal data. Those that still tend to include data on HR practices they do so from only one point in time. This makes it impossible to ascertain the degree to which any shift in HR strategy or the adoption of new strategic practices over time may have a subsequent impact on firm performance.

Finally, HR researchers and practitioners alike must confront what is called a "major 'disconnect' " between what the research

\textsuperscript{22} Ibid., p. 825.
literature suggests and what firms should and actually do. That is, a major challenge facing SHRM researchers is to make their research results meaningful to practitioners in the field.

And there lies the crux of the problem. These strategies and models have been made keeping in view the environment and problems of the advanced countries. What is their relevance and, if adopted, the repercussions on the Third World countries in general and India in particular.

Measurement Challenges:

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Human Resource Accounting: The Indian Experience

Human Resource Accounting (HRA) is one of the latest concepts adopted by Indian companies in recent times. Most of the enterprises, which follow HRA, spare a separate section in their annual reports for a detailed account of their human resources. Human resource reporting in India, usually, includes a profile of human resources; the compensation-pattern; training and development; human asset productivity; human asset value and total wealth of the organisation.

The concept of HRA can be basically examined from two dimensions, viz., (i) the investment in human resources, and (ii) the value of human resources. The expenditure incurred for creating, increasing and updating the human resource quality is known as investment in human resources. Such investment yields fruitful results, like higher productivity and higher income to the organisation. The yield that the investment in human resources generates is considered as the basis of human resource value.

American Accounting Association has defined human resource accounting as 'the process of identifying and, measuring data of human resources and communicating the information to the interested parties. It is rightly pointed out that HRA measures all the data relating to the people of an organisation and these data, when reported to either shareholders or managers or government or any other agency, will yield useful information for making the relevant decisions.

Rao has developed a system of YIRA and has illustrated its application in a transport equipment manufacturing concern. He has designed the system based on the input/output control mechanism. The output variables of the system are described to be the indicators of
human resource development and utilisation. The human resource investments are measured through human resource investment subsystem. To identify the human resource investments, a distinction is made between human resource current costs and human resource investments. All the human resource costs, whose benefits are expected to materialise in future periods, are treated as investments. Then, the annual human resource investments are adjusted taking into account changes due to the intake of people, or separation or natural deterioration of human resource. The intake of people results in addition of human resource investments while separation necessitates writing off of human resource investments. The human resource deterioration is measured and adjusted with the help of amortisation rates in each year under study.

Human Resource accounting (HRA) forms a controversial approach to organisational intervention. It is a departure from traditional approaches to organising and managing organisations. It is gaining popularity as a technique for accomplishing OC. It also demonstrates the inventiveness of OB practitioners in adapting ideas and techniques from other fields. HRA has been taken from the field of accounting. The rationale underlying this particular approach is that, largely, accounting systems do not adequately take into consideration human resources and that such systems need to be altered and refined so as to measure and effectively utilise these resources. The basic theory behind HRA is that there are some causal variables (e.g. managerial leadership, organisational climate, peer leadership and group processes), which give rise to both productive efficiency as well
as satisfaction, although many years may elapse before their effects can be seen.26

Human Resource Valuation in India

Indian companies basically adopted the model of human resource valuation advocated by Lev and Schwartz.27 They employed the following equation to compute human capital value:

$$E(V_i) = \sum_{T=j}^{r} \sum_{i=j}^{t} \left( \frac{l(i)}{(1 - r)^{t-i}} \right)$$

where $E(V_i)$ is the value of human capital of an individual $j$ years old; $l(i)$ is the individual's annual earnings until retirement; $T$ is the age of retirement; $P_j(t)$ is the probability of an individual of age $j$, dying at age $t$; and $r$ is the rate of discount.

All Indian enterprises observed the basic theme of Lev and Schwartz model in the sense that they have computed the present value of future direct and indirect payments to their employees as a measure of human resource value. While doing so, the common assumptions set by the above companies are the pattern of employee compensation, normal career growth and weightage for efficiency. The Indian companies have considered some additional features from the Flamholtz, and the Jaggi and Lau models. These models provide some scientific basis for employee mobility and for valuation of homogeneous groups of employees, respectively. MMTC has taken 12 per cent; SPIC

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has considered the rate of return which is used for evaluating the company's capital expenditure proposals, while SAIL has applied 14 percent to arrive at the present value of human capital. BHEL also reported human resource value with similar model, using a 12 per cent discount factor on the future earnings of its employees.

For example, BHEL has incorporated certain improvements relating to human resource efficiency for valuing its human resources. The company has classified its employees into six categories, based on skill, type of work, experience and qualifications. In each category, 10-15 salary grades are identified to facilitate human resource value computation. The model adapted by BHEL is given below:

\[
HRV = \left( \frac{P \times 12 \times N \times E \times I}{1 + r} \right)
\]

where HRV is the Human Resource Value of the group of employees in a particular salary grade; \((P \times 12)\) is the annual compensation per employee in a given salary grade; \(N\) is the total number of employees in the grade; \(E\) is the weightage for efficiency level; \(I\) is the increment factor and \((1 + r)^n\) is the discount factor. Mean salary in each grade is taken as the vital factor in the basic framework of human resource value computation. Various items like, basic pay, dearness allowance, ad hoc dearness allowance, city compensatory allowance, house rent allowance, benefits like provident fund contribution, medical, gratuity and other allowances are included in the computation of the mean salary. A reduced level of efficiency of around 5 per cent for each period of five to six years has been observed while an increment factor of about 5 per cent for five to six years' period is included in the computations as captured by the variables like weightage for efficiency level and increment factor of the above model. Other companies have also followed the same methodology with minor changes.
Improved Model

Indian companies have focused their attention on the present value of employee earnings as a measure of their human capital. The relationship between the wage/salary bill and the value of production is not always vital. The fluctuations in the value of employees' contributions to the organisation are hardly proportional to the changes in the payments to employees. Under the Lev and Schwartz model, the value of human resources will more or less increase even if organisation continuously incurs losses. The attitude and morale of the employees to the contribution of employees to the organisation and such other factors are out of purview of the Lev and Schwartz model of human resource valuation. Therefore, the companies may consider a human resource model based on the employees' contribution to the organisation.

Eric Flamholtz\textsuperscript{28} has advocated a model for human resource valuation based on the Stochastic process with service rewards. A general statement of this model is presented below:

\[ E(S) = S_1 (P(S_1)) + S_2 (P(S_2)) + \ldots + S_n (P(S_n)) \]

i.e.

\[ E(S) = \sum_{i=1}^{n} S_i P(S_i) \]

where \( E(S) \) is the total quantity of services expected of the individual to the organisation; \( S_i \) is the quantity of services; \( P(S_i) \) is the probability of occurrence of \( S_i \).

The above Stochastic process model may be modified to suit Indian conditions. One such modification is to incorporate the behavioural dimension into the above model. The human asset value

may be adjusted to the changes in the human organisational characteristics. Human skills in an organisation do not remain static. Skill formation, skill obsolescence or utilisation may take a continuous process. Besides, employee attitude, loyalty, commitment, job satisfaction, etc. may also influence the way in which the resources are utilised. Therefore, the variable of economic value in the model of human resource valuation should be qualified with a weighted efficiency factor that captures the human resource development and utilisation process in an organisation. Accordingly, the economic value may be adjusted with factors like age, experience, skill formation or skill obsolescence, human organisational score, etc. to arrive at the human asset value.

If the human asset value is adjusted with the human organisational score as outlined by Professor Likert, it will reveal a more realistic value of the human assets of an organisation. The process involves measuring the key variables through a social-psychological measurement instrument. The measurement instrument would contain variables like leadership, motivation, communication, decisions, goals, control, etc., covering the profile of organisational characteristics. Unlike physical asset, the human assets are susceptible to socio-psychological influences. The human asset value computed from a model that consists of human organisational score would be of more relevance, since significant relationships are found between human organisational characters and overall organisational performance. Then the modified version of the model can be expressed by the following equation:

$$HAV = \sum_{t=1}^{T} \sum_{i=1}^{n} \frac{[R_i \times P \times EF]}{(1 + r)^t} \times HOS$$

where HRV is the Human Resource Value; i is the service position; R_i is the value of the service position; P is the probability of remaining in
the service position $i; t$ is the time period; $n$ represents the number of time periods; $r$ is the discount rate; and $m$ is the state of exit (a person may reach the state of exit by death or by leaving the organisation for betterment, or by voluntary retirement while serving in the present position or after occupying a few or all of the subsequent service positions in the organisation); $EF$ is the efficiency factor which can be derived from the weightages attached to age, experience, skill formation, skill obsolescence, etc., $HOS$ is the human organisational score of attitude, loyalty, commitment, job-satisfaction, etc.

The above model, with additional features of the behavioural side of the organisation, is expected to reveal the value of the human organisation of an enterprise with reasonable precision.

HRA is not often utilised in practice. However, the utmost potential for HRA relates to the analysis and measurement of worths of groups or the entire system. Effective individualised measurements have yet to be evolved; of course, there exists a strong cultural opposition to them. Notwithstanding this, in contrast to the relatively fruitless exercises of many development programmes, HRA can provide a sound framework to understand the probable necessity and effect of human resource expenditure. Although its current prospects seem dim for individualized investment measures, this innovative approach appears to offer immediate potential for application to entire organisations, or to organisational subsystems or particular job classifications. However, much more research is needed prior to drawing any definite conclusions about the utility of this approach.29

As discussed in Chapter three, in India, we have a different set of problems. Here our primary problem is not the efficient management of human resource but the maximum use of the resource since we

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have an abundance of it. Our major problem is how to give suitable work to our every hand because we all know that the human resource deteriorate very rapidly if not used. The discussions that follow in this chapter may look slightly out of context but are extremely important for us.

For the poor nations, all the aforementioned models are only of academic interest. At best, they conform to the complex realities of the prevailing world order only partially. These typologies conceal the real interests of the dominant groups who are pitted against others living in poverty, illiteracy and squalor. There are rich nations and poor nations but the world order divided into nation states also conceals the alliance between the ruling classes or elites of most nation-states, which leaves at least two billion people in the cold. Few radicals can remove their ideological blinkers to see this grand alliance. Cardose saw this relationship clearly when he wrote about the relationship between national and international forces as forming a 'complex whole whose structural links are not based on mere external forms of exploitation and coercion, but are rooted in coincidence of interests between local dominant classes and international ones and, on the other side, are challenged by local dominated groups and classes'.

That is why the distinction between North and South - a divide between the privileged and the underprivileged - is of much greater significance. The latter are increasingly pushed out of global decision-making, with a few crumbs and weapons thrown for their consumption. Corresponding to natural or social Darwinism, there is an International Economic Darwinism. All the North-South conferences have ended in a stalemate, increased distrust, bitterness and pervasive cynicism.

30 Cardose, F. H. and E. Faletto, Dependence and Development in Latin America (Berkeley: University of California), 1979, p. xvi.
No matter which classification one prefers, there is no escape from the ugly fact that a vast majority of nations of the third and fourth world are pushed or have pushed themselves into a dangerous situation of international ghettos or of forced Darwinism. Notwithstanding all the models and theories, they face utter hopelessness on account of big power hegemony and their capacity to externalize their problems or on account of their own self-inflicted wounds.

Economic Darwinism is both a new form of international order and a threat to the poor nations. What we call Darwinism is nearer to Galbraith’s ‘Second Imperialism’ which deals with the core nations’ behaviour vis-a-vis others. The will to national independence, according to him, is the most powerful force in modern times. Therefore, its antithesis is not mere imperialism but, to use Kautsky’s phrase, ‘Ultra Imperialism’. If the national leadership is strong, effective and well regarded, it will not tolerate foreign domination. If the leadership is weak, ineffective, unpopular, corrupt and oppressive, it may accept foreign guidance, support and a measure of domination, to be ultimately marginalized. But then it may not be tolerated by its own people. This is the eroding effect of new imperialism.\textsuperscript{31} On the one hand, it reduces the need for deeper cooperation, and, on the other, provides them the opportunity for deeper penetration or total neglect of the LDCs. The last one is called Darwinism.

It may be of some interest to the reader that the concept of Economic Darwinism has found renewed interest in the history of economic thought. For instance, Veblen’s theory of economic behaviour is characterized as Darwinism. Veblen judged all classical and neoclassical (orthodox) static equilibrium theory to be pre

Darwinian, old-fashioned and outmoded. Others have been characterized as Darwinian, Adam Smith’s ‘theories of competition and the division of labour that led to the development of specialisation and natural selection. Therefore, it has been thought that Malthus was the source of Darwin’s evolutionary concepts.³²

Attempts to slur over the historical background of the LDCs, as to how they arrived at the present position, have blurred the analytical perspective. It is not necessary to get into the old arid debate about historicism, or whether the use of the dialectical rather than the equilibrium mode of analysis is more relevant, or to establish the superiority of one model over another. What is required is to determine the effect of the international system on national situations by which the LDCs are being pushed out of history as unnecessary objects.

To understand the problem better, one has to shift the emphasis from an analytical analysis to a historical one. Under old imperialism and colonialism, there was a much greater degree of integration between the North and the South and also much more explicit exploitation. In the post-independence phase, there seemed to be an unprecedented push towards greater international cooperation among the ADCs only. However, attempts were made to restructure the old relationship in two ways: (i) by starting the system of semi-colonial modernization as fast as possible under conditions of political independence and (ii) by so concentrating on the development of the North as to make it more autonomous, and thus leaving the South to its own devices. The crude fact is that the ruling elites of the LDCs joined with the nations of the ADCs in order to profit from these two developments while leaving the people of the South to fend for

themselves, without realizing that they are being alienated from their own people.

Thus one sees a series of paradoxes. While attempts are made to maintain colonial exploitation in new forms at whatever level it is feasible, the LDCs and ADCs are drifting away from one another into two different worlds. The structural changes and growth patterns of the latter make them more and more autonomous from the economies of the former which are slow to bring about structural changes, to have growth and social justice. The word 'rupture' means the growing autonomy of the ADCs vis-a-vis LDCs less of interdependence. The paradox is that the more the world is 'integrated', the greater is the rupture between one set of nations and the other.

We may find all this in the linkages of trade, technology, ecology and growth. The essentials of the theory of trade are: (i) comparative advantage; (ii) free trade and specialization in products to bring about factor free equalization, (iii) trade promotes development in the form of higher consumption and production. These arguments which started with David Ricardo, have wrought havoc. In a world of changing technologies, capital accumulation, economies of scale and imperialism, trade has produced results contrary to expectations for the LDCs. Labour is confined to low productivity areas (nation-state barriers) and capital to high productivity areas (no barriers). Kitamura proved that international trade, if not assisted by the consciously guided transfers of factors of production, has no inherent, tendency to equalize incomes and productivity levels. Indeed, the trade mechanism works the other way round, in favour of the progressive countries and against stagnant ones.33

In the area of ecology and technology, Lester R. Brown in his 1985 Worldwatch Report, has given statistics to prove that the emergency of a highly developed internal economy provides a way of transmitting scarcities from one country to another, a sort of domino theory of ecological stress and collapse. Soil erosion, for example, has historically been a local problem; civilization whose food systems were undermined by erosion, in times past, declined in isolation. But in the integrated world economy of the late twentieth century, food — like oil — is a global commodity. A country that loses an excessive amount of topsoil needs to import more food and thereby raises the pressure on soils elsewhere.

The entire international economic establishment, which includes the developed world, international financial institutions, the UN system, the economic gurus, and the third world elite, was tied to the growth rate of the developed world. Statistical correlations were worked out to prove the point. But all theories of growth, ranging from trickle-down to basic needs accompaniments, marked the great deception as they all legitimized Darwinism. Third world growth slumped badly and its growth rate did not pick up after 1973 through the cycles of growth of the developed world.

It is universally recognized that the present international system is in some kind of crisis. Capitalism is in crisis, communism is in crisis, the third world is in crisis, and so on. But talking about crises has become an international industry. Those who control the international system or its sub-system and who enjoy its fruits, living in great luxury, are most vocal about it. One of the techniques they have developed is to talk continuously about the urgency to help the poor. International organizations such as the UN, NAM and the Commonwealth produce mountains of documents. This exercise creates the illusion that
somebody is concerned about the world and its people. In reality, this is a fraudulent exercise.

Since this exercise is conducted through top world leaders of the great powers, it becomes difficult to expose its real meanings in order to understand what is really happening behind the scene, and why the present highly exploitative and inequitous international order as well as national orders are continuing.

No matter how one looks at its opponents or critics, the system is nothing but a well-designed international dictatorship: political, economic and military. International economic monopolies buttress this dictatorship. Paradoxically, this dictatorship is internally democratic and externally authoritarian.

Global reordering requisites a firm and clear understanding of the prevailing order and, more significantly, of what is so wrong with it that it needs fundamental rather than incremental change. Is there a common plot with a limited number of endings, asks Marry Kaldor, without giving an answer. She can't give an answer because she and other left liberals, along with others from west belong to the intellectual club of international Darwinists.

The LDCs have, both by choice and compulsion, opted for a long-drawn journey towards individual and collective suicide. No matter what politics its member nations pursue on the basis of the present and proposed world order model, suicide is ensured unless they get out of Darwinism by (i) downgrading trade, (ii) changing domestic development strategies, (iii) inter-LDC cooperation; and finally (iv) by changing their own ruling elites who are junior partners of the International Darwinists.

Paradoxically, all economic theories survive with varying acceptability because all have been found to rest on a single paradigm. Even those who recognized that disengagement from the international
Almost all theories of management are based on certain assumptions which have never been fully valid and have certainly declined in their value and validity in recent years. Four assumptions deserve special mention. First that the global economy is one unified whole and trade is the most important unifying factor. It will be shown here that trade has, in fact, become an instrument of fracturing the global economy. Second, some trade better than no trade. It can be shown and has been shown that even if there are certain competitive advantages over a wide range of goods, trade may be injurious for other reasons. Third, the principle of the international division of labour, which was derived from the general principles of division of labour, as propounded by Adam Smith and elaborated by Karl Marx, is one of the central principles of efficient or optimal system and growth of capitalism. In reality, this principle has not only produced unequal relations so far but also is likely to promote further inequalities so long as trade is between nation-states of unequal sizes, resource endowments, technologies and trade practices. Both Marxists and non-Marxists have turned the division of labour into a normative principle. We often forget that Marx himself had called division of labour the assassination of man. Fourth, an equitable new international economic order requires expanding trade relations because of intensified interdependence through other factors such as technologies, finance and growth.

Darwinism or rupture theory implies that the ADCs as a group are becoming more and more mutually integrated and thus
autonomous of the LDCs. Apparently, the latter’s dependence on the former seems to have increased, but in reality the LDCs are being pushed out of the global system to stand on the margin. There is no real periphery in the sense suggested by dependency theories.

H. W. Singer has defined intra-ADC relations as convergence against the double divergence faced by the LDCs, i.e., divergence from the ADCs as well as internal divergence. This is the central argument of Darwinism or rupture theory. As Singer has stressed, in the LDCs, the growth was also divergent in the internal sense, because contrary to what happened elsewhere, it was accompanied by increased inequalities in income distribution. Thus both because of divergence between and within countries, Third World poverty did not show any signs of disappearing or even diminishing. This divergence is one example of principle of Darwinism.

In contrast to interdependence, Darwinism exposes rupture rather than accept integration between North and South in the area of trade which has concealed the rupture for too long. Apparently, the rapid growth in global trade, some net transfer of finance and technology, and the opening up of vast channels of knowledge have created a strong impression of global integration and interdependence. In reality, there is a growing rupture, in respect of economic relations, between ADCs and LDCs as well as between North and South. Darwinism is marked by a declining share of the LDCs in global trade, reverse transfer of resources from the South, a widening technological gap, and unremitting poverty of vast masses of the South.

Poverty is now degenerating into both international and national destitution of large sections of the people of the South, into an irreversible process of creating international ghettos. Whatever the

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claims made on behalf of the ADCs in the system, the number of absolute poor and, more shockingly, the number of absolute destitute is increasing year by year. There is no hope for them of any kind within the prevailing or suggested models. They form part of international ghettos whose inhabitants are given some crumbs of aid, but without reducing the size of the ghetto population is unemployable. Darwinism is a theory of slow attrition of millions; it does imply some poverty alleviation but no poverty eradication. The rupturing of economies rests on an international ghetto order.

Rupture is not only between ADCs and LDCs but also within the latter. Indeed, most LDCs have been drifting away from one another more sharply than from some of the ADCs. The so-called South-South dialogue has turned out to be a damp squib even though it was admitted that without such a dialogue producing definite results, no North-South dialogue was feasible. The way the OPEC nations have exploited other LDCs either directly or in partnership with the ADCs is the most striking example of internal Darwinism among the LDCs. At the same time, the post-colonial international system has helped to create a harmony of interests between the elites of the Third World and those of the industrial world, and in the process of conflict of interests between rich countries and the poor ones, it has been partially transferred into a conflict between the masses and the elites within the poor countries.35

Most theories of exploitation rest on integration between the exploiter and the exploited. The greater the economic exploitation, the greater is the integration between the exploited and the exploiter. One cannot survive without the other. Darwinism goes beyond exploitation. It is a theory of rejection while not ignoring exploitation. Marx's theory

of surplus value when applied to international economic relations is sustainable only on the principle of integration. What we see is ‘de-integration’. However, Darwinism does suggest the possibility of greater cultural exploitation in order to legitimize economic rupture.

International Economic Darwinism is distinct from original Darwinism in that it is more cruel. For a few decades, the ADCs showed deep concern about increase in population. Now, they have given up. Except for China, no other LDC nation is seriously attempting to control population as indeed is reflected in their decennial growth rate. Other statistics do matter. Earlier, people used to die on account of famines. Now they are preserved at half starvation levels. They can neither decently survive nor die. All this is a part of the ghetto syndrome. But there is more to it. Nations which contain within their societies large chunks of half-starving people provide the necessary conditions for their marginalization and are subjected to the demand, explicit or implicit, of final solution through war or civil strife. Recently well-known ADC economists have called for defining a Fourth World, consisting of sub-Saharan Africa and South Asia. This statement has shocked some Indians but they are refusing to account for their own half-starved, acutely malnourished, destitute and the marginalized people. Thus for the LDCs, the South, the poor and the destitute of the world, the most serious crisis is of the onslaught of International Economic Darwinism.

More than inequalities of capital and other resources, natural and man-made, it is the growing technological gap between the ADCs and LDCs that lies at the source of Darwinism and the great world disorder, makes the situation explosive and condemns the poor countries to utter physical or intellectual exhaustion.

Several distinct trends are noticeable. Both in the ADCs and the LDCs technological developments have given rise to the power of
colossal corporations. And it is these corporations with their technological, financial and communication power which have become both the makers of the goods and the makers of the desire for them. Although the high degree of specialization, complexity of decision making, risk and financial, backing that make technological development, take the organisational form of big corporations; beyond a certain limit, these corporations break through national barriers to become multinationals.

The present vehicle of this economic domination by the North or the South or more so of the state of Darwinism is the multinational corporation. Over 4,000 of these exist today, most with headquarters in the USA, Europe and Japan. These corporations pick up junior partners from the LDCs, squeeze out small competing firms, evade local taxes through numerous devices, send large profits back to ADCs, and utilize the capital intensive technology that was once used in the industrialized countries successfully dumping them on the LDCs.

Analysts of multinationals (MNCs), be they dependency or interdependence theorists, accept the fact that the power of the global corporation derives from its unique capacity to use finance, technology and advanced marketing skills to integrate production on a worldwide scale and thus to realize the ancient capitalist dream of one Great Market.\(^{36}\) However, one of the important features of these companies is their overwhelmingly oligopolistic character, that is, they dominate in markets effectively controlled by a few buyers or sellers.\(^{37}\) Their large size, control of technological and product innovation and differentiation, brands and patents, power over investment location, research programme, transfer prices, etc. give multinationals the political power


to determine the range of oligopolistic global strategy and a common global control.

Initially, in search of markets and profits, the MNCs drove into LDCs with investments, but later their main interests pushed them towards areas which were trade oriented. The ADCs constituted the areas dominated by trade. The LDCs both welcomed them as well as repelled them, depending upon their own evaluation. Those who welcomed them without safeguards came to grief because of the economic control exercised by the MNCs. Those who tried to repel them but failed to develop their own science and technology base also came to grief because they lost the trade leverage and ultimately had to reverse their negative attitude.

Multinationals take recourse to and finally work for countries which have reached a certain stage of development. In countries below that level of development, namely the LDCs, the restrictions they impose with respect to technological diffusion of technology, export markets, domestic competition, etc. make the MNCs barriers to growth because they create enclaves and impose a new dualism on an existing dualistic economy inherited from the colonial era.

However, whatever the MNC package, the LDCs were not allowed to determine the appropriateness of commodity production and technological use. The net result was the perpetuation of domestic dualism of the colonial era and this ensured profits for the MNCs. MNCs determine the share of trade for LDCs as prompted by their global strategies as well as by the aforementioned dualism. Since the trend is towards greater grade integration among the ADCs for a variety of reasons trade in the LDCs loses its autonomous character. Thus the MNCs, with their control over resources, oligopolistic power and focus on economic development of the ADCs, ultimately marginalize and darwinize the LDCs first in trade and then through
trade, in the technological development of LDCs, ironically enough, by operating within the LDCs. MNCs thus assume a double role of domination over LDCs.

In this milieu, it is becoming increasingly difficult for any single country to find a natural and indigenous solution for its socio-economic problem. This inability leads to serious political complications. It is not surprising that both Washington and European union denounce the so-called narrow nationalism of the poor and newly independent countries. The US has started a tirade against important LDCs such as India, Brazil, etc. These countries have been sucked into this new economic order without their consent, an order which condemns them to live in perpetual poverty. Even the poorest nation is being forced to put all its eggs in the export basket. This is the practice today. It was not so ten or fifteen years ago, even when the economic plight of these countries was unenviable.

Modern technological regimes are formed not by nations but by economic organisations’ interests on the one hand and by scientists and managerial experts on the other. Every powerful nation tries to keep control over both because in the final analysis, they find that their competitiveness and productivity increases depend upon their control of technologies. It is the economic nationalism of the ADCs which is most fiercely reflected in their national technological regimes. Even within the alliance system, secretiveness, jealousies and desire for appropriation in respect of technologies remain a critical barrier for further integration unlike the international trading regimes, such as former GATT and WTO and other organizations there are secretive arrangements. The day such regimes come into being, the monopoly of a few powerful nations over the rest would be complete, and the global order would be fractured in every sense of the word. Before
such a calamity comes upon us, it is important that a more equitable and ecologically justifiable world of technological progress be created.

Notwithstanding all promises that the MNCs and technological regimes make, they are unwilling to alleviate the position of the vast starving millions as well as of less literate and semi-educated masses, whose health is jeopardized not only by the rest of the socio-economic regimes but also by the technological regimes.

Several approaches to technological development have been suggested by the LDC in an attempt to follow the examples of the ADCs. The four most important are: (i) the ‘catch-up’ technology approach, (ii) ‘technology-following’ strategies, (iii) technology adoption and diffusion, and (iv) science and knowledge self-reliant approach. Many LDCs have opted for one or more of these approaches. The question is; why have some failed, and others succeeded? The answer can be found in the overall approach of the development strategies. Those nations which imported technologies in the short run but developed them later with their own R&D base, introduced stiff domestic competition, made investment in high productivity areas, whether for domestic use or export, discriminated between domestic and foreign entrepreneurs, etc., succeeded. On the other hand, those which did not follow this policy, failed. All the success stories can be summed up as a ‘Swadeshi’ approach or self-reliance approach. If a developing country can develop technological capacities very early in production without assimilation of foreign technology, it can become self-reliant. The important issue is the avoidance of foreign control over technology.

Most of the LDCs cannot be on the frontiers of technology, but they can certainly imitate, adapt and develop their own R&D or bypass ADCs’ technologies to fight back the onslaught of the products of ADCs. The central problem is that even with relatively low levels of
knowledge and early stages of industrialization, a developing country can avoid dumping of second-rate industries by the ADCs. As Westphal, Rhee and Pursell have stated:

“South Korea’s technological mastery has progressed much further in plant operation than in plant and product design. It thus appears that the know-how to operate production process efficiently is to a large degree, independent of the ability to use the underlying engineering principles in investment activity. That is not to deny that...Koreans have become increasingly involved in various phases of project implementation, it is not too great an over statement to say that Korea has become significant industrial power simply on the basis of efficiency in production.”38

The LDCs now face new problems with the extraordinary growth in technologies and knowledge. In the last few decades, there has been a qualitative change. An increasing number of technologies have science-base, a situation strikingly different from that of the nineteenth century. Accordingly, without high-level domestic science capability, imitation and adaptation have become difficult. As suggested by Freeman, Clark and Soete: ‘It may become increasingly difficult to borrow or imitate without a reasonably high-level domestic science capability....If this turns out to be so, it may be important in slowing down the progression of the less-industrial countries to increasingly complex, research-intensive production.’39 These capacities are also controlled by the MNCs.

Probably, the most important aspect of the situation today is that the technological developments in the ADCs have very little to do with the needs of those in the LDCs. As Kaplinsky puts it:

‘The assertion that LDCs can continue to assimilate DC technology at an unchanged rate, that they can continue their penetration of DC markets in increasingly technology-intensive manufactures, must be opened to question. In contrast, I offer a view that suggests that the gap between DC and LDC technology is reopening, but at the same time DC technology is becoming increasingly inappropriate for LDCs.’\(^{40}\)

Consequently, a rigid dependency or rupture has become the distinct characteristic of relations between the ADCs and LDCs. Technological Darwinism has become the central core of global Darwinism.

One reason is that life-cycle of many products suggests that as high-technology products mature and stabilise, new possibilities emerge that make their production more compatible with the relative factor prices when skills and resources available in less advanced economies are married to them. Something incremental rather than basic designing skills play the central role and even these are denied to the LDCs. There seem to be many opportunities for modifications in final product design or specification that will make high-technology products far more compatible with the capabilities of less-advanced economies.

Today, the general discussion between ‘generation’ and ‘diffusion’ of technology has become inappropriate, since technologies are modified, adjusted and improved upon in process of their diffusion. It must be recognised that cumulated significance of incremental

\(^{40}\text{Kaplinsky, R., Trade in Technology-Who, What, Where and When? in Fransman and King, 1984.}\)
improvements requires that the processes of diffusion and technological change need to be conceptually linked. It may well be taken that part of the reason for Japan’s successful ‘catch up’ and, in some cases, ‘take over’ lies in the technical change generated by rapid but autonomous diffusion which was itself facilitated by appropriate socio-political relations and fuelled by high rates of investment. Foreign collaborators with MNCs specially put restriction on any kind of diffusion.

There is a danger of the so-called ‘catch up’ strategy for several reasons. The catch for the catch-up approach is also with the MNCs. Other resources are: (a) there can be no catching up between most advanced and most undeveloped countries because of knowledge explosion and rapid increases in technology and knowledge; (b) circumstances differ so much from industry to industry that no general technology policy can be meaningful; (c) improvements can only be of incremental nature in the use of domestic or imported technologies; (d) science-based knowledge may become difficult in the short run; (e) the quality of product of foreign manufacturers may be distinctively better and unbeatable in competition; (f) major problem in ‘catch up’ strategy is in the initial selection by private firms or by the states; the decision may be influenced by trade circumstances; (g) conflict between short-run and long-run criteria; (h) sequence in developing deeper levels of knowledge in the industries that have been selected, require a variety of policies all of which may not be available. In the early stages of industrialisation, the possibility of ‘catch up’ process requires relatively low level of knowledge. It is not true today, as the production skills today require more complicated applied research as well as basic research. The sequence has changed because deeper knowledge is required in order to facilitate routine production.
As against the ‘catch up’ strategy, there is the ‘technology following’ strategy. It is here that MNCs exercise their full control. Indeed both strategies widen the technological gap because of the absence of clear self-reliant science and technology plans. The latter differs from former in the sense that it relies on the use of foreign knowledge efficiently without in the long-run building up the capabilities to challenge the frontier leaders. The strategy does not preclude the selection of infant industries, but the hope that these industries will become internationally efficient with the passage of time is no longer valid. Investment and knowledge-creating capabilities have to be adequately developed with the utilization of foreign knowledge productively.

Once a country refuses to accept the mere ‘catch up’ or ‘follow up’ technology approach, it can break the international technology leadership. That is why the history has shown that international technology leadership is difficult to sustain. In recent years, the Japanese firms, first by imitation and then by development of R&D have overtaken most of the developed nations. They understood and mastered international technology diffusion process. As W. A. Lewis stated: ‘It is not necessary to be a pioneer in order to have large export trade. It is sufficient to be quick imitator. Britain would do well enough if she merely imitated German and American innovations. Japan, Belgium and Switzerland owe more of their success as exporters of manufacturers to imitation than they do to innovation.’

The choice will have to be made between import of foreign knowledge and foreign technology in various forms and use of both market and non-market processes such as direct foreign investment, licensing and other know-how agreements, imitation, scanning of

foreign trade journals and learning-by-exporting. ‘Technology following’ becomes very difficult with the process of knowledge and financing as required by industries. The real problem is one of ‘keeping-up’ rather than of ‘catching-up’.

The prospects are not too bright for both. The LDCs, particularly India, in their trying to enter into software market so as to emerge as a major offshore centre for software production, face a wail. According to recent International Labour Organisation (ILO) study, the prospects for these low-wage, manpower-rich nations in tapping the employment and income potential of the burgeoning software industry were not too bright. This was not because of any lack in technical expertise, but because of a host of other bottlenecks such as the absence in many third world countries of infrastructural and other facilities, the study said.

The global economic system has marginalized the third world, to some extent by exploiting it and more so now by pushing it out of the global decision-making system. Except for those nations which have struggled to come up to become middle income countries or newly industrialized countries (NICs), all others are being treated as international ghettos. In this situation, the ruling elites of the third world are openly accepting the job of undermining their own economies and societies, though of course at a price. The most critical crisis in the third world, therefore, seems to be that it is their lot to remain in poverty and squalor forever.

All the theories and models of the global system that have been put forward, have one thing in common: they either assume some kind of integration between nations or minimize the problems of structural ruptures. As solutions to problems or changes from one order to another are predicated upon certain assumptions, the rejection of integration or interdependence will produce solution quite the opposite
to those which its acceptance will produce. None of the models of order or disorder seems to expose the rupturing disintegrating forces which impose upon us a new classification. Models are spread over from the extreme right to the extreme left. For instance, there is the dependency theory on the extreme left and the theory of full market interdependence on the extreme right. In between, there are other theories that tilt to one side or the other or which are a combination of the two, such as the Bandt Commission and the Prebisch-Singer models. All have their strong points but each one is so partial in its analysis as to botch the perspective ironically, the more left wing the analysis, the less policy options it can recommend, and the more rightist the analysis, the greater the support it derives from current policy making. This is because the prevailing order suits both the advanced developed countries (ADCs), whether capitalist or communist, and the ruling elites of the less developed countries (LDCs).