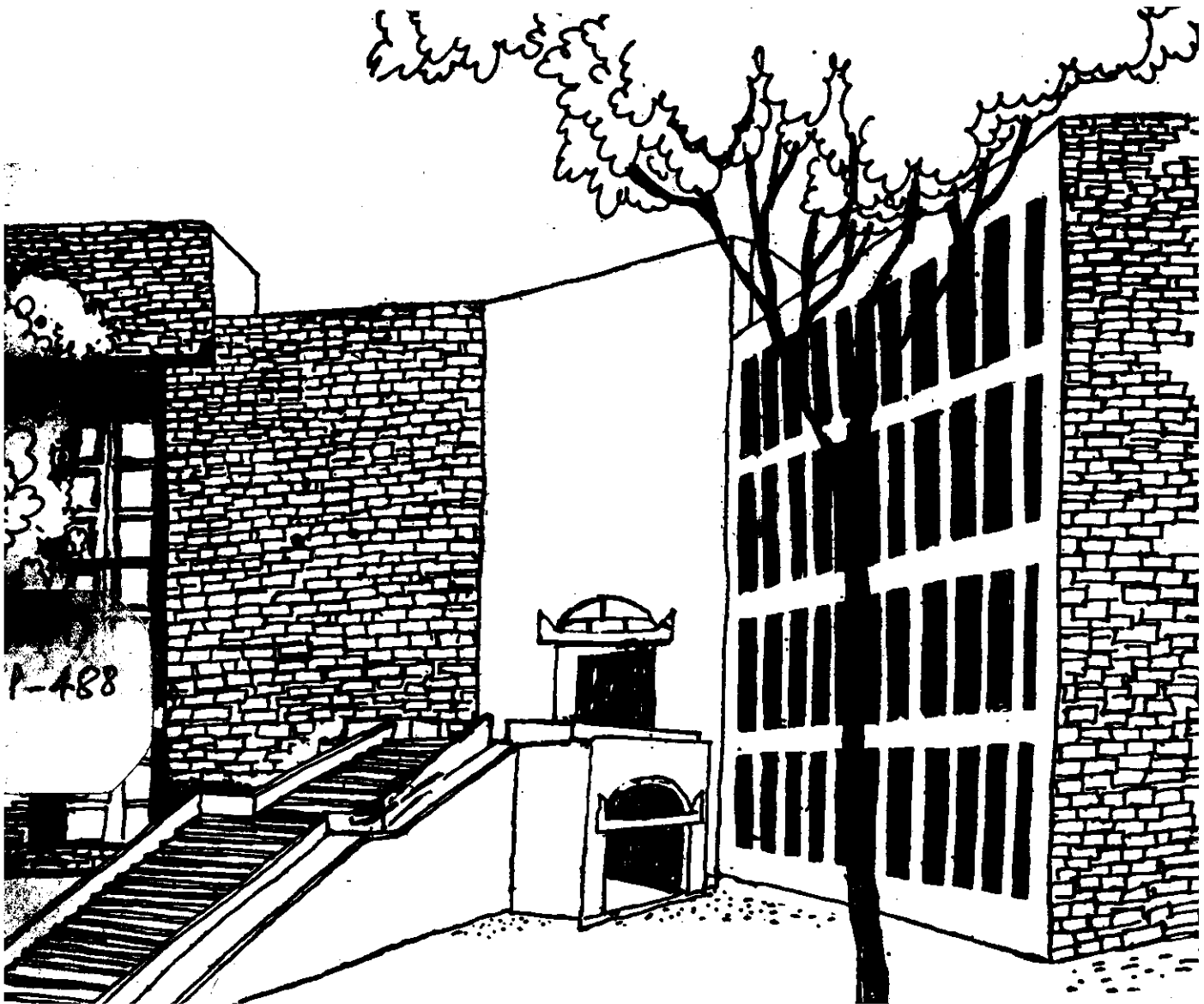




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Working Paper



CULTURE AS A MODERATING FACTOR
ON THE EFFECT OF CONTEXTUAL
VARIABLES ON OPERATING
ORGANIZATIONAL STRUCTURE

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ABSTRACT

Organizational structure has been the focus of many studies in recent years. In most of these studies, the impact of culture on organizational structure is not considered. This paper argues that cultural values of the members of an organization influence its structure significantly. This has been discussed in the Indian context. Implications of cultural impact on organizational structure for developing countries have been indicated.

1. INTRODUCTION

Over the last three and half decades, the governments of most of the developing countries have initiated the process of transformation of their predominantly agro-based economies to industrial economies. This is in recognition of the fact that industrialization could make significant contribution to the development process as a base for the growth of the primary sector, as a catalytic agent for the development of infrastructure, as a stimulant for generation of technologies through R & D effort, and as a growth multiplier. The process of industrialization, with few exceptions like the railways, and the cotton textile industry, really started in India with the commencement of the first five year plan.*

The process of transformation of the economies of developing countries is also accompanied by changes in social structure such as large scale migration of rural people to urban centres, expansion of education resulting in their increased aspiration levels, changing values, attitudes and changes in other social parameters of the people (Chinery, 1979). These changes are likely to contribute to the complexity and uncertainty of the environment in which the organizations

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in these countries are operating. In fact, the very developmental process contributes to the uncertainty of the environment.

The governments in developing countries, besides aiding entrepreneurs, also participate in the industrialization and the developmental process of their economies by establishing a large number of public enterprises. For example, the number of government companies in India increased from 142 in 1961 to 836 in 1980, whereas non-government companies increased from 26007 to 57364 during the same period.¹ Many of the larger companies may be structured after British and U.S. organizations. But how far is this practice appropriate for the proper functioning of organizations operating in complex and uncertain environments? The structure of an organization enables it (Khandwalla, 1977; Child, 1977) (i) to reduce external and internal uncertainty facing the organization, (ii) to undertake multiple activities, (iii) to coordinate these multiple activities to achieve organizational goals, (iv) in organizational learning, and (v) to reduce transactional costs with the markets (Williamson, 1975).

As Gonzalez and Macmillan (1961) and Oberg (1963) point out, the management philosophy (which also includes structure of organizations) is culture bound and hence American management philosophy is not universally applicable. The specific ways and degrees of effectiveness in which the overall management process is being performed by firms

1. Kothari Economic and Industrial Guide of India, 1982-83, (Madras: Kothari), p. 118.

in different countries tends to differ substantially reflecting the culture of the society in which they are located (Richman, 1965; Hofstede, 1981; Inzerilli, 1981). Britto (1973) compared the cultural assumptions of Americans underlying much of U.S. management philosophy with the cultural assumptions of Indians and found significant differences, especially with regard to self-determination and self-reliance, subordination of family and friends to the claims of the enterprise, personnel selection, decision making, and quest for improvement. Therefore, it is hypothesized that even though the larger Indian organizations are structured (i.e., formal structure) after western organizational models which are influenced by systems theory and contingency theory to a great extent, their actual functioning (i.e., operational structure) is likely to differ substantially from western organizations.

The Open Systems and Contingency theories are concerned more with contextual factors like technology, age, size of the organization, and environment as determinants of organizational structure. This paper tries to discuss the moderating influences of Indian culture on the effect of contextual factors on organizational structure.

Before that, we shall review some evidence on the influence of culture on the organizational structure in the next section to get a better understanding of the phenomenon.

2. INFLUENCE OF CULTURE ON ORGANIZATIONAL STRUCTURE : REVIEW OF LITERATURE

Even though the research on the impact of societal culture on organizational structure started in mid-1950's (Richardson, 1956), it gained momentum only during the last decade. Most of these studies have been conducted by American, British and Canadian researchers or others working in these countries.

Negandhi (1979) and his colleagues conducted a study of organizational practices of American subsidiaries and local firms in six developing countries - Argentina, Brazil, Uruguay, India, the Philippines, and Taiwan - between 1967 and 1973. The data were collected through structured and semi-structured interviews from fifty-six American subsidiaries, fifty-five comparable local firms, and fifteen U.S. parent companies in the U.S.A. on planning orientation, organizational forms, authority definition, manpower management, and managerial effectiveness. The results indicate that there were significant differences between local firms and the U.S. subsidiary companies with respect to all the dimensions studied except organizational forms.

Planning orientation of a typical local firm was medium-to-short range, policy making was less formalized, authority definition was unclear and diffuse, manpower management practices were least developed, and management effectiveness was poor. On the whole, the local firms were characterized as 'sleeper' type.

On the other hand, the U.S. subsidiaries had a long range planning orientation with a time horizon of 5-10 years, authority definition was clear, degree of decentralization of decision making was greater, leadership style was democratic or consultative, manpower management practices were well developed, and managerial effectiveness was high. The overall profile of a U.S. subsidiary was characterized as 'thruster' type.

Nagandhi (1979) argues that the differences in management practices of U.S. subsidiaries and the local firms were more due to economic and political factors than due to cultural factors.

Child and Kieser (1979) conducted a comparative study of British and West German companies. They characterized the German people as supposedly having a greater respect for authority and an inclination towards directive rather than participative relationships in contrast to the British. With regard to work, Germans tended to attach greater importance to orderliness and having clearcut objectives, but less importance to achievement and challenge. The British tended to value benevolence towards and receiving recognition from others more highly, while Germans attached relatively greater value to having authority over other people. Whereas managements in Britain justify their authority in terms of knowledge and technical ability, German top executives' authority system consists of value-oriented definitions based on charisma and trusteeship.

In the light of these cultural differences, Child and Kieser (1979) wanted to test the hypothesis that "as Britain and West Germany are approximately in the same stage of industrialization and have similar economic structures, organizations within these two countries, if they are of similar size and have similar contextual variables will be demonstrating no significant differences in the structure or in the nature of their approach to management".

They tested this hypothesis drawing data from 82 British companies and 51 West German companies.

The relationships found in both the British and West German samples between contextual variables (size of the organization, size of the parent organization) and structural variables (role and functional specialization, standardization of rules and procedures, and decentralization of decision making) were all significant. In larger organizations in both the countries, it was found that there was greater degree of standardization and formalization of rules and procedures, and a greater degree of decentralization of decision making than in small organizations.

But when the data were reanalyzed making the sizes of the organizations in both the countries comparable (which resulted in the reduction of the British sample size to 71), it was found that there were significant differences in decision making styles of the management in both the countries. While strategic and major administrative decisions were taken at board level or at chief executive level in both the countries,

operational decisions were more centralized in German companies than in British companies. This was true of all marketing, production, purchasing, and some personnel decisions studied. Other findings of the study indicate that German managers were less willing to accept variety and uncertainty in their work than their British counterparts; Germans regarded as appropriate a higher degree of acquiescence with established authority than was the case with British managers.

In another study of 36 local administrative bureaucracies selected randomly, 12 from Walloon and 24 from Flanders in Belgium, Aiken and Bacharach (1979) tested the effect of culture on structure and administrative processes of these organizations. To them, "culture comprises the configuration of values, normative principles, and ideas which are historically unique."

They described the culture of the two samples as mainly distinguished by regional location. Walloon is in the southern half of Belgium and French speaking, and Flanders is in the northern half and is Dutch speaking. The two regions are separated on linguistic lines, and the French-Dutch linguistic border has been amazingly stable over the past ten centuries or so. On the basis of prevalent stereotypes about the people in the two regions, Aiken and Bacharach (1979) characterised the Flemish people as unimaginative, solid, hard working, practical, i.e., as having a more 'Anglosaxon' approach to life. Walloonians on the other hand were characterised as verbose, intelligent, lacking in perseverance or possessing other sins or virtues of a more 'Francophone' approach to life.

But the researchers did not consider these stereotypes in their study due to lack of empirical evidence to support the stereotypes. Instead, regional location was considered as a surrogate for cultural traditions and norms of these two regions.

The results of the study indicate that the organizations located in Walloon and Flanders did not differ significantly with respect to role and functional specialization and number of hierarchical levels (differentiation), but they differed significantly in other aspects of structure. Organizations in Walloon were characterised primarily by social control mechanism that use impersonal rules and procedures, little reliance on interpersonal mechanisms of social control, less short circuiting of bureaucratic channels, more bureaucratic recruitment and promotion procedures, and less innovative behaviour. On the other hand, organizations in Flanders were characterised by greater reliance on inter-personal mechanisms of social control (surveillance), less use of impersonal rules and procedures, more short-circuiting of official channels, less universalistic and less bureaucratic recruitment and promotion practices, and more innovative behaviour. In short, the organizations located in Walloon were more rigidly structured than organizations located in the Flanders region.

While comparing tobacco industries of Britain and France, Clark (1979) concluded that the British tobacco firm studied by him was more decentralized, had a less rigid stratification system, relied

less on impersonal rules and was more adaptive to changing circumstances than the French tobacco company described by Crozier (1964).

Horvath and others (1976) in their study of 700 organizations from Britain, Canada, and the United States using standard scales of autonomy of decision making, functional specialization and formalization found that there was more written documentation (formalization) in U.S. organizations but marginal differences between countries on autonomy and specialization.

Richardson and Taizo (1981) in their recent book observed that "Japanese business organizations are different from those in America. While corporations in both countries have functional divisions and hierarchies of authority, decision making in at least ideal Japanese firms tend to flow upward from middle-level management rather than downward from top echelons as typifies the American case. This major difference is due to cultural differences" (1981:3). They further observed that it is inconceivable to Japanese managers that any decision could be made without consulting those individuals who are directly responsible for the internal working of the organization (Richardson and Taizo, 1981:9).

Maurice and others (1981), following the societal approach to studying organizations, concentrated on variables like interaction of people at work, work characteristics of jobs, systems of recruitment, training and remuneration for manual and non-manual positions in their study of manufacturing firms in France, West Germany and England.

Their findings indicate that there are significant differences in the remuneration pattern for manual and non-manual jobs and their proportion in the overall work force of organizations from ^{three} the countries. This, they claim, is a fresh approach to studying organizational structure across nations.

Inzerilli and Laurent (1983), considering the 'ideational' aspect (Child and Tayeb, 1982-83) of culture as it relates to organizational structure, conducted a study of French and U.S. managerial perceptions of organization structure. They argued that the structure of an organization may be conceived in either 'instrumental' or 'social' terms. In the instrumental conception of structure, each position in the structure is associated with a specific type of activity or task, independent of the incumbent. The organization chart has the connotation of a system of tasks. The relationship among different positions in the structure is defined by the functional interdependency of the tasks corresponding to the positions.

In the social conception, there are no positions independent of particular people. Each position is defined by the personal characteristics of an individual, particularly his status and authority ranks. The relationship among different positions in the structure is defined as a relationship of superiority and subordination among people.

The results of Inzerilli and Laurent's (1983) study indicate that U.S. managers perceive organizational structure in instrumental terms whereas French managers perceive it in social terms.

Summarizing the results of a large research project involving 116000 questionnaires about the work related value patterns of matched samples of industrial employees from fifty countries and three regions at two points in time (1968 and 1972), Hofstede (1983) observes that half of the variance in the countries' mean scores can be explained by four basic dimensions, namely power distance, uncertainty avoidance, individualism versus collectivism, and masculinity versus femininity. These four dimensions were used to explain differences in (i) structuring of organizations, (ii) motivations of people, and (iii) issues people and organizations face within a society.

Cluster analysis of the data based on each country's score on four basic dimensions resulted in thirteen clusters, such as a Belgium-France cluster, three Asian clusters, an Anglo-saxon cluster, a Nordic cluster and so on. Japan was the most different from any other country. It is interesting to note that in most cases, geographically and historically close countries clustered together.

Trends over time indicate that while individuality showed a convergent trend, the other three dimensions viz., uncertainty avoidance, masculinity, and power distance showed a divergent trend among the countries.

3. DIMENSIONS OF INDIAN CULTURE

It is clear from the review of empirical evidence discussed in the previous section, that culture significantly influences operational structure. It is also clear that the cultural values which influence the relationships among different positions/tasks, and between superior

and subordinates in the organization are likely to influence operational structure to a great extent. In the Indian context, two such major cultural values are dependence proneness, and status consciousness and authoritarianism.

3.1 Dependence Proneness

Dependence proneness (Sinha, 1970; Sinha and Sinha, 1974; Pareek, 1968; Chattopadhyay, 1975) is a strong tendency of the subordinates to seek support, advice, and help from superiors, even in situations which do not warrant such leanings. This was nicely explained by Dayal (1976:45): "In a research organization employing specialists with doctorate degrees from abroad, the scientists looked to the dean for guidance, approval, and for review of their work rather than depend on themselves"

Sinha (1980) in his recent book, observes that dependence prone persons tend to avoid responsibility and do not show initiative. Closely related to the dependence proneness is the preference for personalized relationships. Indians seem to prefer to maintain personalized, affiliative relationships in work situations rather than system dependent relationships (Moddie, 1968; Britto, 1973; Sinha and Sinha, 1974).

3.2 Status-consciousness and Authoritarianism:

Status-consciousness or status mindedness refers to the tendency of individuals to respect others according to their ascribed (rather than achieved) status (Sinha, 1980). Status is accompanied by

authority of a pervasive nature and, therefore, is invested with enormous power over persons of lower status (Sinha, 1980: 46-47). Thus status mindedness manifests as authoritarianism. Indian social structure is hierarchical and authoritarian in all of its aspects - economic, political, and religious. The exercise of authoritarian hierarchy refers to every individual in a traditional hierarchy (except perhaps few at the very apex) who is submissive to authoritarian decisions above him and in turn exercises authority on persons below him (Kakar, 1971). Although it is never made clear, Indian authoritarianism is similar to the one postulated by Adorno *et. al.* in 1950 (Sinha, 1980; Spratt, 1966).

In the organizational context, the tendency of authoritarian superiors is likely to manifest in the form of direct or indirect control of all the activities of their subordinates in the organization, especially in complex situations.

4. DETERMINANTS OF ORGANIZATIONAL STRUCTURE

Even though there are a large number of variables which are likely to influence structure to varying degrees, this paper focuses on three of the most important variables, viz., size, technology and environment and tries to explain how socio-cultural factors modify the effect of these variables on structure.

4.1 Size and Organizational Structure

There are a large number of studies on the effect of size on organization structure (Weber, 1947; Pugh *et. al.*, 1969; Blau and

Schoenherr, 1971; Child and Mansfield, 1972; Hickson et. al. 1979; Zeffane, 1981). The general argument is that when the organization is small, the entrepreneur makes all the decisions, coordinating their execution by direct supervision, and everyone else carrying out his orders. The structure, to be able to innovate, remains flexible, formal and organic (Mintzberg, 1979). There is minimum formalization and standardization of rules.

But as the organization increases in its size, it is able to obtain benefits from increasing specialization, and become more differentiated. To cope with increased complexity, decision making is likely to be more decentralized and the number of hierarchical levels gets increased (Blau and Schoenherr, 1971), and more formalized documentation of action intended for control becomes necessary (Hickson et. al. 1979).

But if we consider the cultural values of Indians described earlier, the influence of size on organizational structure, especially on decision making process, is likely to be different. In smaller organizations, the members are likely to belong to an 'ingroup' (Triandis, 1983); there is likely to be greater opportunity for developing personalized and affiliative relationship among organizational members resulting in greater trust. Under such conditions, though the entrepreneur or the top manager is supposed to make all the decisions, organizational members are likely to influence his decisions to a great extent via their affiliative linkages with him.

As the size of the organization increases, the complexity of the organizational environment also increases. Opportunities for personalized relations become restricted. Under such conditions, the formal decision making may be decentralized, but the dependence proneness of the subordinates is likely to push the actual decision taking upwards resulting in centralization. This is likely to be reinforced by the authoritarian and assertive nature of the superiors. They are likely to employ various direct and indirect mechanisms like 'double-bind' communication (Garg, 1980) or through their nominees on the decision making committees at the lower levels.

As mentioned earlier, the need for formalization and standardization of rules increases as the size of an organization increases. But once a person establishes a personalized relationship, he would ask for and quite likely receive all sorts of favours - time, favourable decisions, etc. Rules and regulations may be side tracked in order to accommodate a friend or relative (Sinha, 1980), and these are likely to be selectively applied.

Hypothesis 1: Under norms of rationality, strong dependence proneness, authoritarianism and personalized relationships, the formal structure and operational structure are likely to differ significantly.

Hypothesis 2: Under norms of rationality, strong dependence proneness, authoritarianism and personalized relationships, as the size of an organization increases, it tends to get more formally decentralized and tends to have more standardized and formalized rules, but tends to become more centralized in the actual decision taking process, and less standardized in the application of formally adopted rules.

The implications of the second hypothesis are that the top management will be overburdened with operational decision making leaving little time for strategic decisions. This may affect the long run performance of an organization unless some effective indigenous control mechanisms like the 'padta' system (Khandwalla, 1980) used by the Birlas are developed.

4.2 Technology and Organizational Structure

The technology of an organization is the mechanism for transforming inputs into outputs. The effect of technology on organizational structure has been extensively researched (Woodward, 1965; Hage and Aiken, 1969; Hickson *et. al.* 1969; Hunt, 1972; Child and Mansfield, 1972; Khandwalla, 1974; Reimann, 1980). While there is much disagreement and confusion about the nature of the impact of technology on structure, the confusion arises mainly because of the differences in conceptualizing technology. But it is still possible to discern some regularities in technology's effect on structure.

Khandwalla (1974) presented a model to account for the structural changes resulting from the mass production orientation of operations technology. Following Thompson (1967), he argued that the more mass production oriented an organization's technology, the more it is likely to lead to vertical integration primarily to seal off its technical core from environmental disturbances. Such organizations are likely to be more internally differentiated, with more standardized and formalized rules and decentralized decision making.

But under conditions where vertical integration is not feasible because of government regulations as in India, this model may not hold good. Firms using mass production technology will be subject to strong environmental exigencies, such as frequent power cuts, bans and/or restrictions on imports of raw materials or duty hikes, strikes at suppliers firms, etc. These exigencies are likely to arise more frequently. The survival and growth of these organizations will depend on how successfully they cope with such contingencies. As a result, even if the formal decision making process is decentralized in those organizations, the actual decision taking will be centralised because of dependence proneness of the subordinates and authoritarian attitude of the superiors.

Hypothesis 3: Under norms of rationality, dependence proneness and authoritarianism, the more an organization adopts a mass production technology, the more it is likely to face frequent contingencies due to inability to integrate vertically, resulting in centralization of decision making.

4.3 External Environment and Organization Structure:

External environment came to be regarded as a very important contingency for organizational design and its structure following the pioneering studies of Burns and Stalker (1961) and Lawrence and Lorsch (1967). Two important dimensions of the environment relevant for organizational structure are variability and complexity (Child, 1972; 1975). The variability dimension refers to the degree of presence of changes which are difficult to predict, involve important departures from previous conditions and are likely to generate considerable

uncertainty. The complexity of the environment is said to be higher, when the external environment in which the organization operates is more diversified and differentiated. Both these dimensions are particularly significant in developing countries in view of the growing turbulence and complexity of organizational environments in such societies. While the external environment of organizations in India is generally quite uncertain and complex because of the developing nature of its economy and increasing government regulation and intervention, there are likely to be significant differences in the environment of firms in different industries. For example, the environment of firms in the drug industry may be characterized as more complex because of uncertain input supplies, good deal of competition and more government regulations, than the environment of firms in the automobile industry.

There are a large number of studies which have taken account of environmental variability and its influence on structure (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Duncan, 1973; Child, 1975; Aldrich and Pfeffer, 1976; Khandwalla, 1977). The general conclusions are that as environmental variability and uncertainty increases, the organization will be internally more differentiated with less formalized and standardized rules in boundary spanning roles. More efforts will be directed towards uncertainty reduction. Because of the higher level of internal differentiation, these organizations need a higher level of integration which is achieved through increasing face-to-face participation in discussions and decision making with emphasis on close lateral relations among the member of different departments.

But if we consider societal influence, the effect of environmental uncertainty on structure is likely to be different. In most developing countries, the opportunities to control the conditions under which inputs are acquired and outputs are disposed of are constrained by government regulations. In accordance with the pressure created by a variable environment, organizations may employ boundary spanning roles in positions where they form a link with the external environment, securing and evaluating relevant information. This information is likely to be critical for coping with organizational uncertainties. In the strategic contingency theory of Hickson et. al. (1971), power within an organization comes from one's capacity to cope with uncertainty. As a result, the boundary spanning roles are likely to be held by a trusted few in Indian organizations.

Because of the uncertain nature of the environment, the outcome of a decision is likely to be unpredictable. Even if decision making is decentralized under such conditions, the dependence proneness of the subordinates and authoritarian nature of the superiors is likely to push up the actual decision taking resulting in centralization. The government organizations have another problem with decentralization. The accountability and the fear of public criticism of individual judgements going wrong makes the top management prone to closer personal supervision over matters which could have been taken care of at lower levels (Narain, 1980; Jones, 1983). Where personal supervision over decision making at lower levels becomes difficult for the top management, special

integrating roles to be manned by top management's nominees are likely to be created. In either case, the actual decision taking is likely to be more centralized.

To cope with frequent contingencies arising due to variable and uncertain environment, there is likely to be greater formalization of rules. But, because of personalized relationships, these are likely to be selectively applied.

Hypothesis 4: Under norms of rationality, dependence proneness and authoritarianism, the higher the environmental variability and uncertainty of an organization, the greater will be its internal differentiation, the more centralized will be its actual decision making and the higher will be the integration efforts either through personal supervision of top management or through special integrating roles manned by top management's nominees.

Organizations having a spread of different products or services, and having sites and outlets in a number of regions, and competing with a large number of other organizations are said to operate in a complex environment. Such organizations are also likely to be large. Because of their complexity and large size, these organizations may hire a large number of professionals. Because of their competence and expertise, these professionals are likely to wield considerable influence in the organization. In authoritarian managerial culture, this may be viewed by the top management as a threat to its power and authority. Under such conditions, the top management is likely to react by withdrawing the authority from the professionals, eroding their roles. This will lead to the retention of centralization of decision making, and elaborate staffing of professionals without professionalized decision making.

Hypothesis 5: Under norms of rationality, dependence proneness and authoritarianism, the more complex the environment, the larger will be the size of the professional staff, but due to their role erosion, there will be no reduction in the centralization of decision making.

Some suggestions for empirical testing of the hypotheses formulated in this paper are presented in the Appendix.

5. CONCLUSIONS AND IMPLICATIONS OF THE HYPOTHESES

We have argued in the preceding pages of this paper, that culture influences the organization structure significantly. If the cultural assumptions underlying the formal structure of an organization are incongruent with the cultural values of its members, another structure, namely, operational structure is likely to emerge. Under such conditions, the formal structure exists only on paper as an organizational fantasy (Garg, 1980), whereas the operational structure reflects the real structure. This phenomenon is more likely to appear in developing countries because of their tendency to lean on western management philosophy. This may result in the following dysfunctionalities:

1. If the work situation does not reflect the cultural values of the staff, they are likely to be alienated which may be manifested in the form of high absenteeism, low morale, low efficiency, etc. This may result in the sub-optimal performance of an organization.
2. The tendency to overcentralize may over-burden the top management with operational decisions when they are supposed to pay more attention to strategic decisions and the management of organization and external environment interface. This may lead to the neglect of strategic options which may adversely affect organizational performance in the long run.

The tendency to overcentralize has another dimension of dysfunctionality. When the top management is overburdened, it may allocate crucial roles such as boundary spanning and integrating roles to its surrogates or nominees. These people are selected on the basis of their loyalty, sincerity and their ability to model their behaviour after their leader rather than on the basis of their competence. This may result in most of the organization members wasting their efforts in trying to secure their leaders' favours, rather than on concentrating on their jobs, which may ultimately lead to factionalism.

The above dysfunctions have important implications (i) for leadership style of the top management, and (ii) for O.D. work.

(i) In a series of studies on dependence-prone persons, Sinha (1970) and his colleagues found that whenever dependence-prone persons were expected by boss figures to work hard and to take initiative, they surpassed less dependence-prone persons. Their initiative and efficiency continued even after the expectations ceased to be emphasized. Therefore, what is more important for a dependence-prone person is a climate of nurturance, warmth and emotional support (Sinha, 1980). The effectiveness of such leadership style (tight but nurturant) was also observed by Khandwala (1982) in his study of turnaround strategies of Indian companies. But such a style may not be effective for ever. As Dayal (1976) suggests, a developing country may need a two stage development of organization culture. The first stage may have to emphasize nurturant-task relationships and lay stress on development of personal

relationships at superior-subordinate level. The second stage of development may emphasize institutionalization of management systems, and participative leadership (Sinha, 1980).

(ii) If organization structure depends on the culture of society, the organization on its own can do little to change its social system. Over several decades, as in many industrialized countries, social culture and organizational culture may harmonize in the natural process of adjustment. But the process of adjustment has to be facilitated by the selection of appropriate technology, organizational forms and management philosophy. Benefits of development of appropriate organizational forms and management philosophy are loud and clear from the Japanese experience. Although the necessity of appropriate technology has been well recognised in developing countries, the importance of the development of appropriate indigenous management techniques is not widely recognized. Khandwalla (1980), in discussing the availability of indigenous management know-how, identified some distinctive aspects of Indian management techniques, which when supplemented by western management know-how may have a tremendous contribution to make to effective management education and effective management practice in India.

APPENDIX

SOME SUGGESTIONS FOR TESTING THE HYPOTHESES

A study to test the hypotheses proposed in this paper can be conducted by using participant observation, personal interview, and questionnaire methods for the collection of data. The organizations can be matched for contextual variables (size, technology, and environment) through selection of the sample. Environmental variable can be manipulated by selecting the organizations operating both in more variable and less variable environments. Similarly, technology variable can be manipulated by selecting firms using mass production technology. Size can be manipulated by using multiple criteria (Kimberly, 1976) like number of employees, physical capacity, and the amount of inputs used or output produced in a given period of time for selecting the organizations. Data on cultural variables can be collected by using relevant portions of motivational climate questionnaire (Pareek, 1979) or by developing a similar questionnaire for measuring dependence proneness and authoritarianism.

For testing the hypotheses proposed in this paper, two types of data are required; data on formal structure and data on operational structure. Data on operational structure can be collected either through participant observation or through informant observation method.

Data on formal structure can be obtained using questionnaires. The method for measuring each of the key variables of formal structure is explained below.

Standardization: The extent to which the major organizational activities are subject to standard procedures and rules. This can be operationalized through scaled statements like 'clear standards exist for job performance'.

Formalization: The extent to which procedures, rules, instructions, and communication are written down. This can be operationalized through scaled statements like 'there is a rule for every action in this organization.' This can be supplemented with the data collected through personal checking of records and interviews.

Integration: may be defined as the mechanisms for achieving unity of effort among the various sub-systems in the accomplishment of the organization's tasks.

Differentiation: is defined as the state of segmentation of the organizational system into sub-systems. Data on integration and differentiation may be collected by using the measures developed by Lawrence and Lorsch (1967).

Centralization: refers to the extent to which the locus of decision making authority is confined to higher levels of hierarchy. This can be measured by a combination of techniques, namely, the control graph technique (Tannenbaum, 1968), the concept of indices of participation in decision making and hierarchy of authority (Hage and Aiken, 1967), and the concept of who makes a particular decision (Pugh *et. al.* 1969; Khandwalla, 1973).

The data may have to be collected on all the variables discussed so far from various levels of hierarchy in each organization.

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