Cultural Assumptions that Influence the Implementation of Communication Technologies

Noshir S Contractor,
Janet Fulk, Peter R
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Contents

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The authors describe the role that cultural assumptions play in the transfer of new communication technologies between the West and third world countries. They contrast Great Britain, West Germany, and India on five value orientations along which cultures vary: regard for human nature, relationship of man to nature, time orientation, orientation towards activity, and types of relations between people.

Pointing out the widely differing assumptions in implementation research in the West and the third world, the authors argue that successful transfer of communication technologies depends upon a match between the cultural values of the third world country implementing the technology and the assumptions inherent in the technology itself and the implementation process for that technology.

Noshir S Contractor and Arvind Singhal are doctoral students and Peter R Monge and Janet Fulk are Professor and Associate Professor respectively at the Annenberg School of Communications, University of Southern California. Los Angeles, California.

A substantial body of research in the West studies the implementation of new information technologies in organizations. As with other aspects of organizational behaviour, many of the theories and models developed were primarily for organizations in western cultures. Cross-national studies of management and organization have provided evidence that much of the research conducted in the West is not generalizable across different forms of economic and cultural systems. In this paper we argue that the cultural determinants of the implementation process are particularly important when studying organizations in the third world

Cultural Systems and Organization Practices in the First and Third World Countries

The concept of culture was first developed by anthropologists in their attempt to study characteristics of primitive societies. They knew culture as a complex whole which included. "knowledge. belief, art, morals, law, custom. and any capabilities and habits acquired by man as a member of society" (Tylor. 1924, p 1). Even though man does not live in isolated tribes any longer, there still exists significant differences in knowledge, values, preferences, habits and customs, and traditional practices and behaviour around the globe. Such variations. being fundamental in nature, often lead to very different practices in contemporary societies. It is reasonable to suppose therefore that variations in cultural systems will lead to variations in conduct of organizations in these cultures (Child, 1981).

Scholars of comparative management have noted differences in organizational characteristics, such as individual behaviour, interpersonal styles, manifestation of authority, the recognition of individual's rights and obligations and an

individual's attitude towards collectivity (e.g. Nath, 1968: Graves, 1973: Weinshall, 1977; Hofstede, 1978: Lammers and Hickson, 1979). However. as Child(1981, p 306) notes, many such studies view culture as:

> a residual factor which is presumed to account for national variations that have neither been postulated before the research nor explained after its completion. It is hardly satisfactory to continue to treat culture in this naive manner and yet at the same time to claim that it is **the primary** criterion in comparative cross-national research.

This assessment clearly identifies a need to specify the relevant dimensions along which cultures vary. and to relate these variations to organizational conduct. In response to such a need, Evan (1975), Hofstede (1978), and Child (1981) have proposed the use of Kluckholn and Strodtbeck's Theory of Variation in Value Orientations (1961). Kluckholn and Strodtbeck propose five value orientations along which cultures vary :

Human Nature'- is it regarded as good. evil. or mixed and can **it** be changed?

The relationship of man to nature -does this involve mastery over nature. harmony with nature. or subjugation to nature?

Time orientation — is this to future. present. or past?

Orientation toward activity is this being, being-in becoming. or doing?

Types of relations between people — is this orientation toward individualism. teamwork. or hierarchical relations?

(Child. 1981. p 32)

In order to understand how these value orientations affect organizational practices, let us first examine how these value orientations emerge. Kroeber and Kluckholn (1952) suggest that cultural systems are "the products of (past) action" and "the conditioning elements of further action" (p 181). Therefore, Child (1981) argues, "it should be possible to isolate as well as account for dominant values in a society by reference to the historical development of its political, social, economic and other institutions, and also by reference to the manner in which key events and crises have been handled within the country" (p 32)). Child (1981) makes the case of distinguishing between two western nations, Great Britain and West Germany, illustrating the variation in value orientations of cultures within the West. We summarize these and apply the five value orientations to a non-western nation, India.

Value Orientations : A Comparison

Great Britain

Almond and Verba (1963) describe institutional developments in Great Britain "as a series of encounters between modernism and traditionalism which transformed the tradition of feudal estates into the parliamentary tradition and enabled the country to pass through the era of absolutism without destroying its pluralism" (p 332). Moore (1967) characterizes this route as combining capitalism and parliamentary democracy -the route of "bourgeois revolution."

Table 1 examines Great Britain, West Germany, and India in terms of the five dimensions of value orientations proposed by Kluckholn and Strodtbeck (1961). The dimension of human nature in Great Britain is considered to be inherently good. Individuals are seen as possessing high intrinsic motivation: there is a strong awareness of an individual's rights and obligations. On the second dimension, the relation of people to nature, there is a preference towards mastery over nature, but not at the cost of traditionally cherished values about nature. The third dimension of time orientation is primarily in the present, leaning towards the past to include many practices based on past traditions. Human activity, the fourth dimension, is more oriented towards "being" than "doing." As a result, there is a high degree of interpersonal sensitivity, and social growth is as important, if not more. as technological and economic advancement. Finally, the fifth dimension, the type of relations between people, is more oriented to accepting of individualism than teamwork.

West Germany

Almond and Verba (1963) and Dahrendorf (1965) describe institutional development in West Germany as "encounters between modernizing tendencies and traditional power, (which) have been too massive and uncompromising to allow for a shared culture of political accommodation to emerge" (p 332). Moore (1967) describes this route to modernization as a capitalistic one, which passed through conservative, even reactionary political forms to culminate in fascism: "the revolution from above."

Analysing the German culture along the five

Table 1

Value Orientations of Great Britain, West Germany. and India along Five Dimensions: A Comparison

Dimensions	Great Britain	W. Germany	India
Human nature	Awareness of individual's rights	Emphasis on human resources. rather than human relations	High intrinsic motivation in people
Relationship of people to nature	Mastery over nature	Mastery over nature	Harmony with nature
Time orientation	Present. leaning towards past	Future	Leaning towards past [Karma)
Orientation toward activity	Morn oriented toward "being" than "doing"	Emphasis on "doing" over "being"	More oriented toward "being" than "doing"
Types of relations between people	Emphasis on individualism	Emphasis on collectivity	Hierarchical

value orientations described above, we observe that human nature is not considered to be intrinsically good or bad. There is a greater emphasis on human resources, than on human relations. The relationship with nature has generally been characterized as having a preference for mastery over nature. They thus possess a strong pro-innovation bias. Their time orientation is geared to the future, since modernization must not be impeded by traditionalism. On the dimension of orientation towards activity, they prefer "doing" over "being." As a result they emphasize economic and technological considerations over social considerations. Finally, in terms of the types of relations between people, there is less concern for individualism and a greater emphasis on collectivity.

Third World Nations : India

The value orientations are theoretically equally applicable to the third world as it is to the West. Consequently. it is useful to look at India as a representative of third world, in the same way as we looked at the value orientations of Great Britain and West Germany. Unlike Great Britain and West Germany, and like most other third world organizations, India's institutional development is in a state of flux (Lamb, 1975; Mitchell, 1976). Most of these nations have existed in their present political form for less than half a century. Prior to its independence. India spent two centuries under British colonial rule. The

colonizers often reinforced, and in many cases amplified, traditional feudal or tribal practices that existed in these cultures (Edwards,1968). Encounters between modernization and traditionalism have only recently begun to surface in India (Franda, 1976: Chirol, 1926). As a result. despite the fact that India has shown a strong commitment to democratic institutions such as parliamentary elections, there exists a strong desire for authority figures which is a spin-off from the feudal age. Indian culture strives to exert freedom of choice, and yet the choice may be for leadership styled in the feudal tradition.

The result of a cultural flux is evident in what may appear to western observers as inconsistent patterning of the five value dimensions. In terms of human nature. people are considered to be intrinsically good. External motivation is looked upon not only as unnecessary, but often as an insult to human nature. However, individual autonomy is not necessarily viewed as desirable. The relationship between people and nature is oriented towards harmony rather than mastery. The time orientation of Indian culture is heavily oriented towards the past. Karma, a dominant theme in Hindu philosophy. posits that current human human existence is pre-determined by past actions either in this life or in previous lives. The orientation toward activity is more towards "being" than "doing." There exists a great emphasis on interpersonal sensitivity and social interests outweigh economic or technological

interests. However, the emphasis on social interests is not synonymous with dismantling of social stratification. As a result, interpersonal sensitivity exists within the framework of a well-differentiated social structure. The type of relations between people, therefore, is oriented towards hierarchies.

Cross-cultural Comparisons of Organizational Practices

The above examples from Great Britain, West Germany, and India are not meant to provide a comprehensive typology o f contemporary culture systems. Instead, they are illustrative of a wide spectrum of value systems that can be traced to the historic development of institutions in these countries. As we mentioned earlier. value 'systems are likely to affect the organizational characteristics and practices in these cultures. In support of this proposition, we present three culturally-derived hypotheses that contrast certain aspects of organizational characteristics and practices in these countries. Child (1981) had initially proposed these hypotheses to compare Great Britain and West Germany. We extend this development to include India as well. The three organizational properties examined in these hypotheses are decision-making (centralized vs. decentralized), structures (adherence to procedures), and concern for subordinate relationship.

Hypothesis 1

Values regarding human nature, orientation towards activity and types of relations between people predict a very high degree of centralization of decision-making in India, a somewhat lesser degree of centralization in West Germany, and a markedly less degree of centralization in Great Britain.

Child reports that the difference in the degree of centralization between British and German firms is supported in studies conducted by Child and Kieser (1977, 1979), Budde (1979), Franko (1974, 1976), Horowitz (1978), and Granick (1962, 1972). However, a multi-nation study of decision-sharing at top managerial levels reported by Heller (1976) and Heller and Wilpert (1977) did not find differences in the degree of centralization between Great Britain anti West Germany. Child (1981) suggests that the Heller-Wilpert measurement of decision-making focused upon the "consultative-participant" dimension, rather than who makes the final decision regardless of the consultation. A multination study by Haire, Ghiselli, and Porter (1966) focuses specifically on manager's attitudes towards participation and reports no difference between Great Britain and West Germany.

The study by Haire, Ghiselli. and Porter (1966) also found that British managers had a more positive attitude towards sharing information and objectives than their German counterparts. Indian managers in the study were found to be least well disposed towards sharing information and objectives. Studies conducted within Indian organizations also indicate the existence of a high degree of centralized decision-making. As a result. a nurturant-task leadership style was found more appropriate than a participatory-task leadership style among Indian executives (Chattopadhyaya, 1975: Sinha. 1977: Maheshwari. 1978). "The significance of the nurturant leadership can be better appreciated if one takes into account the heavy dependence on superiors for direction and guidance" (Ganesh and Rangarajan. 1983). Ganesh and Rangarajan (1983) point out that referral to the top is the most commonly used approach for handling inter-group issues. Thev trace these characteristics to India's tradition o f feudal practices.

Hypothesis 2

Values regarding human relations, orientation to activity. and type of relations between people predict a very high degree of adherence to procedures and role formalization in India. a fairly high degree in West Germany. and a somewhat lesser degree in Great Britain.

Child (1981) provides evidence for this hypothesis in the studies of Horowitz (1978). Child and Kieser (1979), Haire. Ghiselli, and Porter (1979), and Hofstede (1976). None of the cross-national studies included India. However. Chattopadhyaya (1976) observed a very high tendency on rules and regulations in a study

conducted in India. He observed that the dependency on procedures often substituted for dependency on superiors. Further, Ganesh and Kangarajan (1983), summarizing role behaviour research in India, suggest that "the role behaviour of managers and administrators is a fertile area for understanding organizational phenomena in the Indian context since 'role' is an especially significant characteristic of everyday Indian existence" (p 362).

Hypothesis 3

Values regarding human nature, orientation to activity. and type of relations between people predict the extent of consideration for the well-being and personal development of subordinates to be highest among Indian managers, fairly high in Great Britain and somewhat less in West Germany.

Child (1981) finds support for the comparison between Great Britain and West Germany in studies conducted by Granick (1962). Child and Kieser (1977), and De Bettignies and Lee Evans (I 977). Kannellopolos (1975) had found German managers to be less employee-oriented than their American counterparts. Further. Rangaswamy and Helmich (1976) found Indian managers to be more employee-oriented than American managers. Taken together, these two findings suggest that Indian managers are more employee-oriented than their German counterparts. Ganesh and Rangarajan (1983) suggest that the values associated with patronage in Indian organizations make supervisors feel more obliged to be concerned about the welfare of their subordinates.

These differences in organizational practices predict variations in the strategies for successful implementation of innovations in organizations in the three cultures. What are the determinants of successful implementation of innovations in the West and the third world? We discuss next these determinants in the West.

Determinants of Implementation in Western Organizations

There are four issues pertaining to the implementation process: first. the determinants of innovativeness in western organizations: next.

the stages in the implementation process; third, the factors that havk been found to facilitate the implementation process and finally, the assumptions underlying the western research on implementation.

Determinants of Organizational Innovativeness

The majority of innovation-related studies in western organizations has focused on two major determinants. First, there are contextual determinants such as size. technology, and dependency on other organizations. Second, there are structural determinants such as hierarchical and lateral divisions, ratio of line to staff employees. ratios of supervisory, technical and managerial staff, adherence to procedures. and centralization.

Burns and Stalker (1961) proposed that non-bureaucratic ("organic") structures were more receptive to innovations than bureaucratic ("mechanistic") structures. **Organizational complexity**(or the diversity of specialists) is associated with greater organizational innovation (Aiken and Hage, 1968: Hage,1980: Heydebrand, 1973: Duchesneau, Cohn. and Dutton, 1979). **Formalization** [the number of rules and specified procedures) has been associated with lower innovativeness (Rothman. 1974). **Centralization** or (the concentration of decision-making and power) has been associated with lower innovativeness (Hage and Aiken, 1970: Feller and Menzel. 1975; Daft and Becker, 1978). However. centralization facilitates the implementation of innovations (Rothman. 1974). There is also work (e.g. Mintzberg, 1979: Hage. 1980) that relates organizational characteristics (such as "flat" structures as opposed to "pyramidal" structures) to characteristics of the innovation (such as small-incremental innovations versus large-scale innovations).

It must be mentioned that the above studies have often been criticized for providing weak operationalization of the concepts examined. Further, they do not provide information about the relative importance of each of these structural features: nor do they provide clues about which of these features is most responsive to change (Tornatzky et al.. 1983).

While the above studies dealt with the over-

all innovativeness of organizations, there has also been research focusing on the implementation of innovations. The importance of studying implementation as an identifiable phase in the innovation process is relatively recent. The interest in implementation research resulted from the realization that the decision to adopt an innovation, or even its actual adoption would not automatically result in its deployment (e.g., Eveland, Rogers, and Klepper, 1977; Tornatzky et al., 1980).

Stages in the Implementation Process

The implementation process has been described in terms of five-stage process model: agenda-setting, matching, redefining, structuring, and inter-connecting (Eveland, Rogers, and Klepper,1977). **Agenda-setting** is the stage at which problems in the organization are identified and commonly recognized by its members. **Matching** is the stage at which a general problem from the agenda and a possible solution are brought together; **redefining** is the stage at which attributes of the innovation are redefined in terms relevant to the members and goals of the organization; **structuring** is the process by which organization members establish the innovation within the organization system; and, **interconnecting** is the process wherein political issues are assessed and meaning of the innovations for individual's status and satisfaction are negotiated.

The model is not innovation-specific though the decisions made at each of the five stages may vary according to the innovation. The model has been applied specifically to the implementation of information technologies in organizations by Rice, Johnson, and Rogers (1982). The authors point out that the application of the process model of implementation is consistent with the socio-technical systems approach to job design (Cummings,1980). The socio-technical systems approach attempts to integrate theories of job design based on rational, structural, human relations, political. and interactionist perspectives.

Factors that Facilitate Implementation

The process model described above provides a framework for the management of the implementation process. However, it does not identify the

factors affecting implementation behaviour. Berman (1978) proposed a distinction between micro-implementation and macro-implementation to distinguish between the formulation of policy regarding the innovation (within or outside the organization) and structuring the actions necessary to embody the policy in behaviour (Tornatzky, et al., 1983, p 134).

The effects of broad. policies (such as national policies or guidelines) have not been found to significantly influence implementation behaviour in organizations (e.g.,Fullen and Pomfret, 1977; Williams and Elmore,1976). However, Kirst and Jung (1980) point out that the impact of national policies on implementation behaviour within organizations is related to their specificity.

Fullen and Pomfret (1977) also discount the importance of the characteristics of the innovation itself. Instead, they argue that the implementation behaviour is significantly influenced by the strategies used during implementation and the match between the technologv and the organization.

Some of the strategies found to be related to increasing the likelihood of implementation are experimental trials (Stevens and Tornatzky, 1979), team involvement in workshop training (Corbett and Guttinger, 1977), encouraging initiative from levels at which the innovation will be most useful (Yin, 1980; Berman and McLaughlin, 1978), andcontinuation of top management support (Yin, Heald and Vogel, 1977: Berman and McLaughlin, 1978).

Danziger and Dutton (1977) propose a complementary set of variables (that predict implementation behaviour) from a largely political perspective. They argue that an innovation is likely to be adopted and implemented if the values and interests primarily served by the innovation are relatively dominant in the political system. Dutton and Kraemer (1976) also predict greater likelihood of an innovation being implemented if the actors whose interests are served by the innovation will also control key decisions regarding its implementation.

Assumptions

None of the studies reported above includes

cultural variables as a determinant of the implementation process. This indicates certain assumptions on the part of the researchers. Either, they believe that organizations in different nations do not reflect local cultural norms, or, if they do, these norms do not influence the implementation process. The first of these assumptions is less plausible and contradicts the ''organisations within society" perspective (Brossard and Maurice, 1976, p 33). The second assumption is actually based on a series of smaller assumptions which are generally valid in implementation studies within the West. Attempts by most western nations towards mastery over nature, coupled with their time orientation towards the future leads to the presence of a proinnovative and pro-implementation bias among most western cultures. In addition, research also makes assumptions about the values associated with human nature, and the type of relations that are viewed as desirable (or acceptable) in organizations.

The assumptions accompanying implemen tation research in the West are given in Table 2.

It is true that the recognition of these assumptions do not alter the general tenor of the research findings from the West-as applied to the West. However, a failure to recognize these assumptions can be counter-productive if applied to cultures where these assumptions are invalid. It would be useful here to examine the determinants of implementation in the third world.

Determinants of Implementation in the Third World

What does research on implementation of innovations, primarily communication technologies, in third world societies show? The emphasis of the research literature on implementation in the third world differs considerably from that of the West partly because of the difference in the levels of analysis. The research in the West is typically conducted at the organizational level. In third world countries. however, the focus is much more on the societal level. There are other reasons which also contribute to the differing emphasis.

The factors affecting implementation in the third world can be broadly classified into three categories: technological, economic, and cultural. We briefly review examples of technological and economic factors, before focusing on the cultural determinants of the implementation process.

Technological Determinants

There are a large number of studies that identify

Table 2

Assumptions Accompanying Implementation Research in the West

Assumptions
Either organizations in different nations do not reflect local cultural norms, or. if they do these norms do not influence the implementation process
Presence of a pro-innovation and pro-implementation bias among most western cultures
Subordinates covet responsibility. autonomy, the freedom to take initiative, and participation in decision-making
Organizations are in general less accepting of external intervention. especially from government
Employees must take the initiative in implementing innovations because the general belief in organizations is that managers are not intrinsically employee-oriented

techonology itself as the reason why implementation failed or succeeded. To begin with, technologies that are used in the third world must be appropriate geographically. For instance, Clark (1981) argues that satellite technology is particularly appropriate for implementation in third world countries that are large and have a rugged geographical terrain, especially if the country has not already developed a terrestrial telecommunication system. There are several examples of implementation failures that can be attributed to failure of technology. For instance, in 1976, a US telecommunications firm positioned five balloons over Nigeria, each the size of a Boeing 747, moored by 10,000 feet of cable, to bounce telephone signals. The project which cost US$ 140 million was never successfully implemented because even when the balloons were lit they were considered a hazard to aircrafts. In addition, the helium-filled balloons had to be brought back to earth during a thunderstorm, resulting in a telephone blackout (Media Development, 1986).

In some cases, defects in the peripheral components of the communication system have accounted for failures in implementation. The lack of stable power supply which is critical for television receivers accounted for failure to implement educational television programmes in many Indian villages during SITE (Eapen, 1979). The non-availability of FM receivers in Kenya resulted in only 1 per cent of the popuiation being able to benefit from an educational service using FM radio transmission (Heath,1986).

Lack of appropriate technology was also blamed for multi-lingual problems encountered by telephone operators in some countries (Hudson,1985). A technological solution suggested is the implementation of automatic exchanges that will eliminate the need for telephone operators. A problem of non-Roman scripts, encountered in Japan, is also relevant to many third world countries. There are thousands of characters in the Japanese script which have resulted in many varieties of keyboard layouts in that country. Ebizawa (1984) points out that difficulties in understanding the different layouts have left many users in a quandary as to what keyboard is more useable.

Often, it is not the technology itself but the design for its users that has prevented its suc-

cessful implementation. During SITE, community veiwing television sets were placed in a sheltered enclosure, and the viewers would sit out in the open. During the monsoons, the rain did not affect the equipment, but viewers were affected (Eapen,1979).

Finally, researchers observed that many of the inhabitants had no prior experience with technology and hence displayed technophobia. Basic training for the end-user facilitated the implementation process (Rice and Parker,1979; Hudson, 1985).

Economical Determinants

As noted in the previous section, the implementation process was often attributed to technological malfunctions. Reddi ((1985) suggests that this occurred because the third world relied very heavily on importing the technology from the West. Though these imports were cheap, and sometimes free, they were often obsolete, defective, or inappropriate for use in third world conditions. This observation leads directly to an argument made by many researchers that economic considerations are often the principal determinants of successful implementation in third world countries.

For instance, in Tanzania, what was largely a successful health campaign, using broadcast technologies, ran into problems because of lack of financial resources. A survey of telephone use in Peru showed that the low use of services could be attributed to the limited budget available (Stahmer,1985). Economic considerations were also the focus of the Maitland Report which made recommendations on the transfer of communication technology from the advanced nations to the third world. Specifically, the report proposed a policy for financing telecommunication projects to ensure their successful implementation (Jonscher,1985; Ellinghaus and Forester,1985).

In order to identify areas where telecommunications can be successfully implemented, a group called the Communication Studies and Planning International conducted a series of field studies. They proposed the assessment of net economic benefits to predict the successful implementation of telecommunication projects

in the third world. In particular. they identified categories of economic benefits such as reduction in production stoppages, streamlining inventory levels, reducing distribution costs, and improved purchasing decisions.

In general, lack nf foreign exchange. lack of capital, and unfavourable balance of payments arc: recognized as the principal economic hurdles faced by the third world (Jonscher, 1985). Goulet (1977) suggests that successful implementation of communication technologies will depend on the use of local raw materials. local personnel, and independence from high capital investments.

Cultural Determinants

Finally, an overwhelming number of studies points to cultural determinants of the implementation process. As Mitchell (1976) observes, considerations besides efficiency and profit in engineering and economic terms have to be made. MacConghail (1986) argues that while economic and geographical considerations mav dictate the choice of tho distribution and carrier components of the communication technology [such as satellite vs.cable). the choice of the access component of the communication technology (such as teletext and aural techniques) must recognize and be responsive to cultural differences.

Beneath the rhetoric surrounding the 'culture" argument, there are two findings that appear to be consistently reported in the research. First, the implementation of communication technologies is greatly facilitated in a homogeneous culture. The successful implementat ion of communication technologies in Singapore was attributed to a high degree of homophily and cosmopoliteness among its people (Kuo and Chen, 1983). In a comparison of the implementation of broadcast technology in Japan and Indonesia, Bey (1985) suggests that the success in implementation in Japan was largely due to its hnmogeneous culture. On the other hand. in Indonesia. one of the problems cited was the presence of ''centre-regional'' culture gaps.

A second consistent finding is that implementation of a communication technology is successful only when it is used to support the activities of a traditional culture and allowed to

develop according to the values of that culture. One of the best known examples of the implementation of a modern communication technology that fits into the activities of a traditional culture is the use of audio-cassettes, photocopying, and direct dialling during the revolution in Iran (Tehranian. 1979). A second example is provided by Eapen (1979). He compared a group of villages that were part of SITE. In all villages. the introduction of television did not change the traditional decision-making structures. Villagers continued to go to elders with their doubts and problems. In villages where watching television was endorsed by the elders. introduction of television was significantly more successful

Value Systems and Implementation of Innovations in the Third World

On the basis of our knowledge of implementation of societal innovations and our knowledge of value systems. it is useful to study a few examples where the assumptions of the five value orientations discussed earlier affect the implementation process in organizations. Three examples from non-western nations are considered below.

Greater Adherence to Procedures. A comparative study of implementation processes in Senegal. Cameroun. India. Phillpines. Peru. and the West Indies brought to the fore many interesting issues. One of the findings was that development activity was significantly facilitated by the implementation of a communication technology that transmits written documents. Stahmer (1985) notes that "hardcopy communication is highly desirable because many local activities could not be implemented without written directions." In terms of Kluckholn and Strodtbeck's value orientations, this study indicates that assumptions made in the West and the third world about orientations towards activity are different. There is a greater adherence to procedures (viz., written directions) in third world cultures than in most western cultures.

Rigid Hierarchical Relationships. In their analysis of management practices during SITE. Block et al ., (1979) applaud the working style of SITE's management. However. they point out

that it was in stark contrast to that of other more traditional and bureaucratic government ministries in India, and in most other third world countries. In particular, they note that the policy debates encouraged by SITE's management was different from the typically hierarchical communication and decision patterns characteristic of most bureaucracies. Their argument highlights the differences in the value orientations between the West and the third world in terms of the 'relations between people. Citing the SITE management as an exception, they point out that the formalization of rigid hierarchical relationships is generally more prevalent in third world countries than in the West

Different Value Assumptions about Human Nature. Ebizawa (1984) compared the organizational determinants of the implementation process for new information technologies in the US and Japanese organizations. He discovered that in Japan, the user displayed a greater deal of autonomy in developing and implementing end-**user** equipment than their American counterparts. One of the reasons suggested was that Japanese employees are seen as "changeable elements within the same organization" and hence the organization trains employees in a wide range of skills as and when they are required. A second difference was the greater concern that American managers expressed about higher introductory costs in implementing the technology. Ebizawa suggests that this was because the

> US has a more pragmatic value system- they put high emphasis on concrete, practical and quantitative values requiring faster and more concrete results. Hence they have a tougher time persuading top management and in cost-justifying the introductory costs.
>
> (p 5:

Ebizawa's (1984) findings once again point at differences between western and non-western cultures that can be traced to differences in their respective value orientations. The fact that Japanese employees are seen as "changeable elements" serves to contrast the value assumptions of the type of relations between people in Japan and in the US. The emphasis by American managers on quick results as compared to the Japanese managers indicates different value assumptions about these two cultures' orientation toward time. Finally, the greater autonomy exer-

ted by end-users of technology in Japan as compared to their Amercian counterparts is indicative of differences in their value assumptions about human nature.

What are the general value assumptions that appear to accompany the entire implementation literature in third world countries? The literature focused heavily on the implementation process rather than on innovativeness. The reason for this is that most of the innovations were originally developed in the West. Hence, the third world was more concerned about the transfer of the technological innovations from the West into the third world. The aim, in many cases. was to select and adapt existing innovations to third world contexts. The modes of adaptation were technological, economic, and cultural. There is also ample evidence in research that technological and economic modes of adaptation were necessary, but not sufficient, conditions for successful implementation. The economic and cultural modes of adaptation reflect assumptions by researchers that there exists differences between the economic and cultural systems in the West and the third world.

In many cases. research revealed that failures resulted where the implementation strategies were based on value assumptions made in the West. As discussed earlier in this paper, western nations tended towards a pro-innovation bias, resulting from a fervent attempt at mastery over nature. They also had a general orientation in time towards the present and the future. These values, as pointed out before, were often not true in third world cultures.

As a result, cultural modes of adaptation are today viewed unequivocally as the most influential determinants of successful implementation. However, few, if any, of the studies go beyond recognizing the fact that in order to be implemented a communication technology must fit the activities of the traditional culture. Virtually all studies that report the impact of culture on the implementation process have been an exercise in retroactive sense-making. Singularly absent are studies that present a priori hypotheses that relate culture to the implementation process. As such, these studies are prone to Child's (1981) criticism of the comparative management literature that culture, although recognized as critical. continues to be treated as a residual

black box to account for unexplained variance.

Conclusion

We have examined five value assumptions on which cultures differ. These assumptions are associated with the implementation of communication technologies in organizations in various countries of the world. Many of the previous attempts to transfer western communication technologies have been undertaken without specific consideration of value assumptions. One reason for this is that in western countries cultural factors have been relegated to a black box status. In contrast, we assert that these assumptions must be articulated *a* priori as factors to which implementation processes must be adjusted. Specifically, both the West and the third world appear to give insufficient attention to the cultural implications of specific features of the technologies themselves. Further, the implementation process contains its own cultural assumptions built into technologies that are to be implemented.

The third world has been much more outspoken than the West with regard to cultural differences between the two. Most of this attention, however, has been focused more on broad scale economic, political, and social issues than on considerations relevant to transfer of communications technology at the organizational level.

Significant improvements in the transfer of new information technology is dependent upon the match between two sets of value assumptions. The first is the match between the values that are built into the technology and the cultural assumptions of the country adopting the technology. The second is the match between the cultural values of the country adopting the technologies and the assumptions embedded in the implementation   process

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