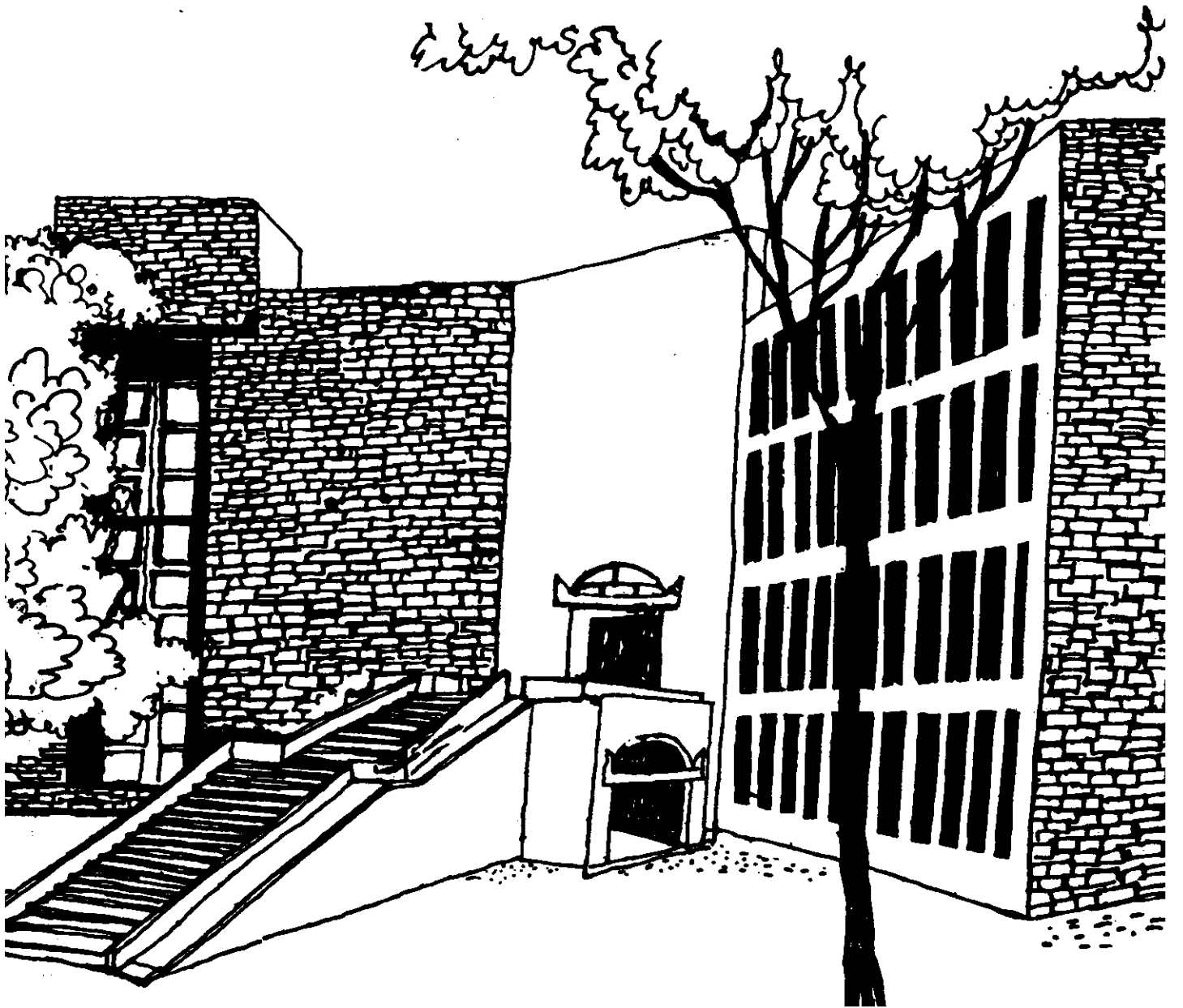




w. p - 459

Working Paper



THE PI STYLE OF MANAGEMENT

BY

Pradip N. Khandwalla

WP 459

VIKRAM SARABHAJ LIBRARY
INDIAN INSTITUTE OF MANAGEMENT
VASTRAPUR AHMEDABAD - 380015

W P No. 459

June 1983

WP459

WP 1983 (459)

The main objective of the working paper series of the IIMA is to help faculty members to test out their research findings at the pre-publication stage.

INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380015
INDIA

THE PI STYLE OF MANAGEMENT

Abstract

The pioneering innovative (PI) mode of management was identified from corporate policies data supplied by the top managements of 75 Indian organizations. The paper presents the determinants and organizational consequences of the PI mode of management. Implications of the findings for Indian management, for management research and management education, and for organizational design and development are explored.

Consider the following excerpts from an intimation to shareholders from Premier Mills, located in South India:

"The makers of India's best reputed yarn, Premier Mills have had an exciting entry into the colourful world of high fashion fabrics. In a very short time, the Premier range - 100% polyester sarrees, design shirtings, polyester blouse materials, dress materials and suitings has established for itself reputation for the best quality and the latest designs

Our financial figures reflect the dynamic growth that has made Premier a major force in the fiercely competitive market for fashion fabrics

Our composite mill at Bagalur is the most modern textile plant in India. Thanks to the latest technology, we have the highest productivity standards in both spinning and weaving in India....

Today Premier's design studio produces over 1000 designs per year, the largest output in South India. Soon it will be equipped with an imported colour matching computer which will help in colour experimentation and introduction of several new hues and shades leading to newer varieties and designs for the consumer.

Our Quality Control Laboratory has the latest testing machines and instruments which help to maintain the high quality for which Premier is known

The future promises to be exciting at Premier for we are on the verge of realising our full potential in textiles. Our Marketing Division, structured on the 'Product Management' concept, is alert to market trends and is constantly developing new products and new designs to meet ever-changing consumer needs and to keep up with our commitment to be "NO 1 IN FASHION FABRICS".

Premier is soon entering the world of electronics, by promoting a new company in collaboration with the world leaders in Electronic Textile Instruments, M/s ZELLWEGER USTER LTD, of Switzerland... Uster instruments are renowned and well accepted all over the world including India.

Besides electronics, we have several other diversification plans to strengthen the Premier group further.

To sum up, Premier is poised for growth, thanks to its firm commitment to the latest technology, modern management and quality products."

Notice the emphasis on new products, advanced technology, design and innovation, high quality, and growth. The company is a "blue chip" scrip, quoting (in March 1983) at Rs.38 (Rs.10 face value) in a bad year for textiles, and its sales have doubled between 1978 and 1982. The research reported in this paper indicates that the pioneering-innovation oriented management at Premier is no freak in a tradition ridden culture such as India's, but one of a type that may be enormously important to the future of this and other developing countries.

INTRODUCTION TO THE STUDY

Although armchair conceptualizations of Indian management are galore, there are but few systematic empirical studies that seek to identify modes of Indian management. The need to find out more about management in India, especially effective varieties of indigenous management, is acute (Khandwalla, 1980). This is because the current received model of effective management is the borrowed model of Western management taught in Western and Indian business schools that has yet to demonstrate its superiority over indigenous varieties in hard performance terms. Nor may this model be acceptable to the majority of Indian organizations because the cultural values and premises on which it rests may be alien to these organizations. The acceptability of an effective, indigenously evolved management model to Indian organizations may obviously be greater both because of more compatible value premises and because of its demonstrated suitability to Indian conditions.

With some such thought in mind, the Indian Institute of Management, Ahmedabad, initiated a study of indigenous management styles in the mid-seventies. Some of the preliminary conclusions of this study have already been published earlier (Khandwalla, 1980). In this paper, a particularly important outcome of a questionnaire based study of the top managements of 75 Indian organizations is presented.

A fruitful way to study management is to find out what policies it follows. These policies are the guidelines for decision making (March and Simon, 1958; Cyert and March, 1963). By identifying policies followed by an organization in the various areas of management such as production, marketing, finance, personnel management, growth and diversification strategy, etc., it may be possible to get some idea of its style of management (Khandwalla, 1977). This approach was followed in the study of Indian indigenous managements.

A questionnaire on top management operating policies covering the various functional areas, business strategy, etc., was developed on the basis of prior research abroad (Khandwalla, 1977, pp 681-686) as well as a year's interviews with Indian managers, share brokers, management consultants, management professors, officials of trade and industry associations, entrepreneurs, etc. (Khandwalla, 1980). The questionnaire contained over 50 five point scales on policy. An illustrative item was:

Highly formal control of operations by means of elaborate formal controls, budgets, and procedures.	1 2 3 4 5	Highly informal control; heavy emphasis on informal relationships and co-operation between executives and dislike of tight controls and procedures.
---	-------------------	---

Your rating for policy 3 years back _____

It may be noted from the above example that extreme statements that were polar opposites along a specific dimension were given for each scale to help the respondent pick that number that most closely indicated the operating policy of his organization (as he perceived it). In addition, the respondent was also required to indicate the policy in force 3 years earlier, so that some idea of policy change and continuity could be had.

This questionnaire was sought to be completed by top level executives of each organization, operationally the chief executive and/or his immediate subordinates that had been with the organization for at least 3 years. Typically, depending upon the size of the organization, one to four (in a few cases upto six) questionnaires were administered in each participating organization. All the responses from an organization were averaged for each scale to get a single management policy score for the organization.

Besides the questionnaire on organizational policies, a questionnaire on external environment, management goals, etc., was administered to some other members of top management, a questionnaire on management practices was administered to departmental level, fairly senior managers, and a questionnaire on job satisfaction, motivational climate, etc., at middle and junior levels of management was administered to middle to junior level managers (for details, see Khandwalla, 1981). On an average six management practices questionnaires and ten middle management questionnaires were administered per organization.

METHOD

Reasonably complete data were available on 51 policy items. These were factor analysed successively to yield ultimately 7 composite variables.² One of the 7 composites, consisting of summation of scores on eight scales, was labelled the pioneering-innovative or PI management mode. The scales (after appropriate reversals) are reproduced below:

1. A strong insistence on adhering to time honoured traditions and management principles, whatever be the current business situation.	1 2 3 4 5	A strong emphasis on adapting freely to changing circumstances without much concern for past management practices or traditions
---	-----------	---

Your rating for policy 3 years back _____

2. Strong emphasis on the marketing of time tested established produces or services	1 2 3 4 5	Strong emphasis on marketing new or novel products or services
---	-----------	--

Your rating for policy 3 years back _____

3. A cautious policy with regards to acquiring new equipment or technology	1 2 3 4 5	Strong emphasis on acquiring the latest, most sophisticated plant, machinery, or equipment.
--	-----------	---

Your rating for policy 3 years back _____

4. For investments within the discretionary authority of the management strong tendency to go in for low or moderate risk, moderate or high return investments (e.g. more or less certain 20% return on investment)	1 2 3 4 5	Strong tendency to go in for high return investments even if they involve high risk (e.g. a possible 50% annual return on investment but a chance of earning nothing)
---	-----------	---

Your rating for policy 3 years back _____

5. Standard quality, low or popular price orientation in marketing the company's established products	1 2 3 4 5	<u>High quality</u> , high price orientation in marketing the company's established products.
---	-----------	---

Your rating for policy 3 years back _____

6. Great reluctance in altering time tested management practices unless new practices have proved their worth in other comparable organizations 1 2 3 4 5 Great emphasis on innovation, experimentation, trying out new ways and techniques in every area of management

Your rating for policy 3 years back _____

7. In recruiting junior level executives or in selecting internal candidates for junior management positions:

Strong emphasis is put on their ability to carry out effectively tasks given to them by their superiors, rather than on the originality of their ideas. 1 2 3 4 5 Strong emphasis is put on their ability to come up with original solutions and novel ideas

Your rating for policy 3 years back _____

8. No desire to be a pioneer within the industry in bringing out technologically sophisticated products 1 2 3 4 5 Strong emphasis on being a pioneer within the industry in marketing technologically sophisticated products

Your rating for policy 3 years back _____

Notice the internal logic of PI. Managements that score high on PI tend to pursue a business strategy of pioneering novel, technologically sophisticated, high quality products and plants. They are willing to take the necessary risks attendant on this strategy. Since they are pioneers, they cannot afford not to adapt or innovate - indeed, they are aggressively adaptive and innovative, not merely technologically but also in various areas of management. To nurture creativity and the spirit of innovation, they are willing to hire creative personnel even at junior management levels where generally only errand boys or clerks are sought. Equally consistent is the logic of the low scorers on PI. Their managements tend to pursue a business strategy of marketing primarily only well tried out, established, technologically

less sophisticated, standard products that are produced by familiar plants and technologies. They do so because they are risk averse and prefer steadiness to spectacular but uncertain success. Since these managements are not pioneers they prefer to live by management principles and practices that have worked in the past, and hire junior level managerial staff that fit in with the conservative ethos. The high scorers on PI resemble the classical entrepreneurial type described by the economist Schumpeter, (1934, 1965) who suggested that the major function of the entrepreneur is not just to start an enterprise, but to innovate or pioneer a novel combination of pre-existing factors of production. Schumpeter's entrepreneur is motivated by some primordial will to power, and is characterised by capacity for judgment and intuition sufficient energy and will power to overcome fixed habits of thought, and the capacity to withstand opposition. While Schumpeter's entrepreneur was an individual, PI is a mode of management adopted by the top level executive group in the organization.

RELIABILITY AND VALIDITY OF PI

The reliability of a measure is the probability that on a subsequent measurement, if contextual conditions have not changed, the method of measurement would yield the same score. The reliability of PI (as measured by formula 6-18 in Nunnally, 1967, p.193) was .80 for its "current" score and .67 for its "past" score, well above the minimum of .5 recommended by Nunnally for exploratory studies (ibid, p.226).

As important as reliability is the validity of a measure, the assurance that the latter measures what it is supposed to measure. Agreement between experts is one common way of establishing validity. In this study, the "experts" were various levels of management. Thus, PI was correlated .31 ($p \leq .01$ one tail)² with senior level management's perception of top management as risk taking and entrepreneurial, and -.30 ($p \leq .01$) with their perception of top management as conservative. Similarly, PI was correlated with middle level management's perception of top management as risk taking .25 ($p \leq .05$), conservative -.31 ($p \leq .05$), as aggressive in marketing, diversification, expansion, etc. .42 ($p \leq .005$), and as creative (emphasizing creativity and innovations), .51 ($p \leq .005$). There is, therefore, impressive independent confirmation for PI.

Besides the foregoing, PI was correlated .38 ($p \leq .01$) with the long term real growth rate of sales of the company. In other words, the stronger the PI orientation of a management, the higher tended to be the organization's rate of growth, a reasonably good confirmation of the validity of the measure of PI. Indeed, the growth rate of the upper third scorers on PI was twice that of the bottom third scorers. An analogous measure of risk taking which shared some of the scales included in PI correlated significantly with firm's growth rate in a study of over a hundred Canadian corporations (Khandwalla, 1977, p.660), suggesting cross cultural validity for PI. Finally, PI was correlated .47 ($p \leq .005$) with the organization's performance relative to others in the industry, as rated by its top management. This performance measure was an aggregated measure of nearly a dozen items of relative performance.

SAMPLE

The sample of 75 Indian organizations was quite heterogeneous. Net sales or operating revenues in 1980 varied from less than Rs.5 millions to over Rs.10 billions. They averaged over Rs. 1 billion, but with a standard deviation of over Rs.2 billions. The sample included some of the largest private and public sector companies in the country, and also included several relatively small units operating in the two sectors.

About 30% of the organizations were engineering units, ranging from cycle and truck manufacturers to sophisticated machinery manufacturers. About 10% each were textiles units, chemical and pharmaceutical units, plantations units, and banks and financial institutions. The rest were in industries such as paper, electronics, tobacco, cement, steel, electricity generation, and merchandising. There were also a few non-commercial organizations. About 80% were private enterprises, mostly listed on stock exchanges, while about 20% were public sector corporations and government bodies. The characteristics of the sample are summarised in Table 1.

The bulk of the sample was secured in the course of a study of Indian indigenous management (Khandwalla, 1980), but a significant number of organizations provided data via their senior managers' participation in an IIMA workshop on organizational design, development, and change agency coordinated by the author. Four public enterprises included in this sample were studied by the author in the course of a World Bank assignment (Khandwalla, 1981), and four private sector enterprises included here were studied by Mrs. Rita Moulik in the course of her doctoral dissertation (Moulik, 1982). The multiplicity of sample sources was one reason for the considerable heterogeneity of the sample. This was, however, an advantage rather than a handicap, because it extended the generalisability of the findings.

TABLE 1
CHARACTERISTICS OF THE SAMPLE OF 75 ORGANIZATIONS

Annual sales/operating revenues

Mean	Rs. 1086 m.
Standard deviation	Rs. 2165 m.

Sector

Private, commercial	80%
Public and governmental	20%

Industry

Engineering (consumer goods and capital goods)	30%
Textiles	10%
Chemicals and pharmaceuticals	10%
Plantations (tea, coffee, rubber, etc.)	10%
Banks and financial institutions	10%
Miscellaneous (paper, electronics, tobacco, cement, steel, electricity generation, merchandising, etc.)	30%

APPROACH TO DATA ANALYSIS

The main objective of data analysis was to identify the causes and organizational consequences of PI. This is usually not possible in questionnaire based research because in such research, most of the time the data relate to the current circumstances. Thus, if a variable, such as PI, correlates with another variable, say, environmental complexity, it is not clear whether PI causes complexity, or vice versa, or there is a spurious correlation between them. In this research, however, data were secured for both current PI and PI as perceived to have been practiced 3 years earlier, as well as current and past goals of management, top management work ethic, business environment, etc. If, therefore, the correlation between a "past" variable and a "present" variable is a significant one, on grounds of antecedence we may have greater confidence in saying that the former may have ~~caused the latter~~ than if both the variables are "present" variables. The confidence would be even greater if the correlation of a "past" variable X with a "present" variable Y is a significant one but the correlation of the "present" variable X with the past Y is not significant. For then we can say that X may be causing Y but the vice versa may not be true. On the other ^{hand}, if both correlations are significant, one may hazard that X and Y mutually cause each other or reinforce each other, like physical exertion and food intake.

In the paper, therefore, the causes and consequences of PI were sought to be identified by correlating "present" PI with a number of "past" variables and "past" PI with a number of "present" variables. This meant some data loss because a few organizations that provided data for the current situation did not provide data for the past situation, so that sample sizes for correlations tended to vary, depending on the variables that were being correlated. This loss of data, was, however, justified in terms of greater certainty about the causal arrow.

In identifying the causes and consequences of PI, recourse was, of course, had to previous research on modes of management. For instance, external environment may influence the mode of management (Burns and Stalker, 1961; Petersen, 1981; Khandwalla, 1977). The organization's managerial culture may affect the mode of management (Burns and Stalker, 1961; Beyer, 1981). The goals of management may influence the mode of management (Dent 1959; England and Mee, 1971; Perrow, 1970). On the other hand, the mode of management may affect organizational climate (Hellriegel and Slocum, 1974), and organizational performance (Bowers and Seashore, 1966; Mott, 1972; Khandwalla, 1977, 1981). This prior research was useful in converging on the likely causes and consequences of PI.

DETERMINANTS OF PI

Clearly, the PI management orientation is of great importance in a developing country struggling to bring about rapid economic growth through import substitution, use of new technologies, and diversification of its output base. What forces may determine PI orientation?

Prior PI Policies

One of the strongest determinants of current policies is likely to be past policies, for policies tend to remain fairly stable over substantial periods of time due to a combination of political and economic reasons. What has worked in the past is likely to be retained in the present. Also, policies often reflect delicate power balances in organizations (Cyert and March, 1963). A policy change often unleashes bargaining among various actors in the organization, whose outcome is hard to predict. As a consequence policies are only infrequently changed. In this study, past PI was correlated .6 ($p \leq .005$) with current PI, attesting to the relative stability of the policies constituting PI. What was more interesting was the differences in correlations of constituents of past PI with the current PI orientation, as shown in Table 2.

From Table 2, it is apparent that certain policy choices have a much stronger impact on the current strength of PI than others. The past policy of recruiting creative managers at junior levels seems to be the strongest determinant of current PI, followed by the past commitment to making innovations in management, taking on high potential but high risk ventures, marketing of novel, high quality products, etc. Comparatively speaking, past commitment to adapt freely to changing circumstances is a much weaker determinant of current PI. Obversely, the strongest determinant of current conservatism is the past commitment to recruiting "yes men" at junior management levels, followed by commitments in the past to the status quo in administration, relatively low risk ventures, established, standard quality products, and so forth.

TABLE 2

CORRELATIONS OF PAST PI POLICIES WITH CURRENT STRENGTH OF THE
PI ORIENTATION

	Correlation with <u>current</u> PI
Past commitment to freely adapting to changing circumstances without regard to traditions and time honoured "management principles".	.13
Past commitment to the organization marketing novel products	.38**
Past commitment to going in for latest technology and equipment	.33**
Past commitment to go in for high potential ventures even if they are highly risky	.39**
Past commitment to the marketing of high quality premium price products	.38**
Past commitment to innovation, experimentation, new techniques in every area of management	.41**
Past commitment to recruiting creative persons at even junior management levels	.50**
Past commitment to pioneering technologically sophisticated products	.30*

* Significant at $P \leq .05$ (one tail)

** Significant at $P \leq .01$ (one tail)

Note: The lower the p-value, the greater the likelihood of a significant relationship between an item and current PI

Other Past Policies

Table 3 presents a fascinating assortment of other past policies correlated with current PI. A past business strategy of opportunistic, unrelated diversification, backwards and forwards vertical integration, and rapid growth (even at the cost of some profitability) fueled by credit sales, appears to be a significant determinant of current PI. Notice also the combination of past personnel policies determining PI: Stress on informality, cooperation, and managerial autonomy but also on discipline and personal accountability; sharing of crucial operating information with the managerial rank-and-file; a performance based reward and recruiting system, sweetened, however, by above industry norms benefits and amenities; and the recruitment of MBAs at junior management levels. Evidently, the roots of PI go deep - into a strong top management commitment to multi-faceted growth, to acquiring and retaining high quality managerial personnel, and to a hard nosed but organic management (as opposed to formal, bureaucratic, hierarchical type mechanistic management - See Burns and Stalker, 1961). Equally, of course, the roots of traditionalism seem to lie in aversion to growth, preference for mediocre personnel, and a soft-hearted but mechanistic management.

There was persuasive evidence that these policies determine PI rather than are determined by PI. ~~None~~ but one of the correlations of past PI and current policies listed in Table 3 were statistically significant. The exception was current autonomy given to managers to practice whatever style is needed to get results (see item 7, Table 3).

WP 459

VIKRAM SARABHAJ LIBRARY
INDIAN INSTITUTE OF MANAGEMENT,
VASTRAPUR AHMEDABAD - 380015

TABLE 3
CORRELATIONS OF OTHER PAST POLICY COMMITMENTS WITH CURRENT PI

<u>A. Business Strategy Related Past Policies</u>	<u>Correlation</u>
1. Past commitment to a policy of unrelated or conglomerate-type diversification	.31*
2. Past commitment to having a production system that enables the organization to offer products or services that are tailor-made to customer's needs	.31*
3. Past stress on sales volume and market share (rather than on profitability) in relation to decisions concerning the organization's established products/services	.39*
4. Past commitment to a policy of backward integration (that is, of taking up the manufacture of inputs)	.30*
5. Past commitment to a policy of forward integration (that is, of seeking control over channels of distribution of the organization's products)	.40*
6. Past policy of making sales on credit	.31*
<u>B. Operating Mode Related Past Policies</u>	
7. Past commitment to giving managers the autonomy in their operating styles for getting their job done (rather than imposing on them a uniform style of functioning)	.43**
8. Past commitment to a policy of enforcing the individual (rather than collective) accountability of managers	.33**
9. Past commitment to informal management control and emphasis on norm of co-operation (rather than on formal controls, budgets, procedures, etc.)	.27*
<u>C. Past Managerial Personnel Related Policies</u>	
10. Past commitment to a policy of promoting managers on the basis of high performance only	.26*
11. Past emphasis on enforcing strict discipline among all the employees (rather than relying on their sense of fairness and commitment to the organization)	.34**

	<u>Correlation</u>
12. Past commitment to rewarding outstanding performance immediately (rather than after several popetitions)	.37**
13. Past stress on hiring only MBAs at junior levels	.38*
14. Past stress on open channels of communication, with widespread dissemination of important financial and operating information throughout the ranks of management	.25*
15. Past stress on filling managerial vacancies from outside as well as inside (rather than from only inside) the organization and sister organizations	.24*
16. Past stress on providing employees benefits and amenities above the industry norms	.38**

Note: * Significant at $P \leq .05$ (one tail)
 ** Significant at $P \leq .01$ (one tail)

Work Norms of Top Management

Table 4 provides striking evidence for the effect of top management's work norms or culture on PI. While none of the correlations of past PI with current norms are significant, four out of six correlations of past norms with current PI are significant, indicating that work norms at the top shape PI rather than vice versa. Table 4 indicates that where top management is committed to the use of expertise in decision making, is dedicated to serving the organization as a whole, is concerned about achievement and excellence, and down plays conformity, yes-manship, and authoritarianism, the likely result is the emergence of a management orientation of pioneering and innovation.

TABLE 4
CORRELATIONS OF WORK NORMS OF TOP MANAGEMENT AND PI

	Correlation with current PI	Correlation with past PI
<u>Work Norms of Top Management</u> (as rated by top level executives)		
<u>Current Norms</u>		
Pursuit of task achievement and excellence		-.06
Use of expertise in management		.11
Dedication to organization		.04
Maintenance of friendly relations		.21
Power orientation, authoritarianism		-.37*
Dependency on the powerful for instructions, etc.		.05
<u>Past Norms</u>		
Achievement and excellence	.26*	
Use of expertise in management	.40**	
Dedication to organization	.29*	
Friendly relations	.11	
Power orientation, authoritarianism	-.23	
Dependency on the powerful	-.34**	

* Significant at $P \leq 0.5$ (one tail)

** Significant at $P \leq .01$ (one tail)

Note: See note 4 for operational definitions of each work norm

External Environment of the Organization

The external environment of the organization was assessed by top level executives on ten scales. Factor analysis resulted in four underlying dimensions, labelled riskiness, scope, complexity, and favourableness. A risky environment was one where a false step could have disastrous consequences, the organization faced stiff competition, and there were large cyclical ups and downs in the organization's business. The opposite was a safe environment in which there was virtually no threat to the survival and well being of the organization, the organization faced very little competition, and there were virtually no cyclical business ups and downs. A scopeful environment was one with very few external constraints on expansion or diversification and introduction of many new products in the industry. A scopeless environment was one in which the organization's expansion or diversification was totally subject to governmental or other external constraints and very few new products were being introduced in the industry. A complex environment was characterised by rapid change in technical, economic, etc., aspects, "high technology", that is, technological sophistication, and considerable heterogeneity in the organization's markets. A simple environment was marked by great stability, very little technological sophistication, and considerable homogeneity in the organization's market. Finally, a favourable environment was marked by great market buoyancy, growth, and the emergence of new markets, as well as ease with which the organization could take various initiatives. An unfavourable environment, on the other hand, was stagnant or recessionary, and hostile to any initiatives that the organization might wish to take. It is worth remembering that riskiness, scope, complexity, and favourableness are perceived dimensions, and risky versus safe, scopeful versus scopeless, complex versus simple, or favourable versus unfavourable are merely simplified polarities of what essentially are continuous variates.

Since data were secured on both the current perceived environment and the environment three years back (past environment), it was possible to compute correlations between past environment and current PI as well as Past PI and Current environment. From this it would be possible to ascertain which way the casual arrow was stronger - from environment to PI, or from PI to environment. Theoretically, this is important because of the widespread presumption in organizational research that the external environment affects the organization more strongly than the organization's effect on the environment (Thompson, 1967; Khandwalla, 1972; Shortell, 1977). Table 5 shows the correlations.

The correlations in Table 5 tell an interesting story. While past scope may stimulate current PI, the vice versa is also substantially true. That is, a strongly pioneering and innovative orientation in management may get the organization to operate in a scopeful, opportunity rich environment. Even more interestingly, while past complexity has no effect on current PI, past PI has a fairly strong effect on current complexity. In other words, a strong PI orientation eventually gets the organization into a more dynamic, technologically sophisticated, and diverse environment, just as a weak PI orientation may lead to the organization operating in a stable, technologically less sophisticated, relatively undifferentiated environment. The data suggest that PI may more strongly determine what environment the organization operates in than the environment's determining the organization's PI orientation. The choice of PI is, therefore, very much a strategic choice.

TABLE 5

CORRELATIONS BETWEEN PI AND DIMENSIONS OF ENVIRONMENT

<u>Percieved Dimensions of External environment</u>	Correlation with Current PI	Correlation with Past PI
Past riskiness	-.06	
Past scope	.35**	
Past complexity	-.02	
Past favourableness	.20	
Current riskiness		-.11
Current scope		.26*
Current complexity		.35**
Current favourableness		.25*

* Significant at $P \leq .05$ (one tail)

** Significant at $P \leq .01$ (one tail)

Management Goals and PI

Besides external environment, the operating goals of management may powerfully shape the organization's structure and processes (Dand 1959; Kogland & Mee, 1971; Simon, 1960, Porrow 1970).

The argument essentially is that ^{at} the decision making and workflow levels, top level goals get translated into various means for achieving them, which in turn become goals of the next level of management, and so on down and across the organization (Simon, 1960; Khandwalla, 1977, Ch.10).

In this study, the top management indicated the current and past (3 years prior) importance to it of a number of operating goals. A goal was considered operating if the management wished to improve upon its past achievement vis-a-vis that goal. Factor analysis of twelve goals yielded four goal dimensions. The first, performance stabilisation, consisted of the goals of financial strengthening, stabilisation of sales, profitability, etc., and greater customer loyalty for the organization. The second, professionalised growth, consisted of the goals of achieving a higher growth rate, a more formalised organization, and a more professionalised management of the organization. The third, internal effectiveness, consisted of the goals of greater employee commitment to the organization, a higher level of supervisory and managerial skills, and greater operating efficiency. The fourth, better external acceptance, consisted of the goals of greater meeting of national priorities (through exports, production of priority items, set up plants in backward areas, etc.), a better public image, and better relations with the government and its agencies. Table 6 shows the correlations between past goals and current PI, and past PI and current goals. In addition to the four goal dimensions, the correlations of PI with the aggregate of the four dimensions of goals are also shown, since this aggregate represents overall striving by the management.

It is clear from Table 6 that goals of management have a much stronger influence on PI than vice versa. The higher the performance aspirations of top management the stronger in the future is likely to be the management's PI orientation. The data suggest that an innovative thrust in management, so essential in the key organizations of a developing society, is triggered by multi-faceted management ambitiousness that encompasses not only better financial performance, faster growth, higher productivity, a better public image, but also a more professionalised organization. There is even some corroboration of this finding across the oceans. In a research on over a hundred Canadian corporations (Khandwalla, 1977, pp.554-5), the importance to top management of brainstorming, a technique for generating creative solutions, was correlated with the performance aspirations of management that was similar to the overall striving in this study.

TABLE 6

CORRELATIONS BETWEEN MANAGEMENT'S OPERATING GOALS AND PI

<u>Dimensions of Operating Goals of Management</u>	Correlation with Current PI	Correlation with Past PI
Past performance stabili- sation goal	.28**	
Past professionalised growth goal	.29**	
Past internal efficien- cy goal	.35**	
Past external acceptance goal	.33**	
Past management striving	.38**	
Current performance stabilisation goal		.01
Current professionalised growth goal		.04
Current internal effectiveness goal		-.06
Current external acceptance goal		.22**
Current management striving		.06

* Significant at $P \leq .05$ (1 tail)

** Significant at $P \leq .01$ (1 tail)

CONSEQUENCES OF PI

A top management orientation as forceful as PI is likely to have manifold organisational consequences. Some of these uncovered in this study are presented below.

Lower Management Work Culture

One would expect that the top management's operating mode may influence the work norms of lower levels of management. This is because the top management implements its policies through the senior and lower levels of management. Since its policies constitute demands on the rest of management, it is reasonable to expect some effect of these policies in shaping the work culture of the rest of management.

Table 7 shows correlations between past PI and current work norms of senior departmental level management and middle-junior level management. These norms are the same as those stated in Table 4. Each senior management norm score was based on the same 3 items as the top management norm, except that the respondents, who were senior level managers, rated the practices at their level. The middle management norm scores were based on eleven items each, and sought to measure work norms operating at middle-junior levels of management.

There are striking differences in the correlations with the past PI. While PI seems to dampen the achievement ethic at senior levels, it tends to spur it at middle levels. PI has a negative effect on affiliative norms at senior levels and a negative effect on authoritarian norms at middle levels. A possible explanation is that a top management bubbling with ideas may make life difficult for the next level of management, since it must respond to what it may see as whims of the bosses. At lower levels, however, the spirit of adventure and experimentation may lighten the burdensome conformity and rigidity that is the lot of the middle and junior level managers and may even stimulate them to strive for higher task achievement. These effects are particularly likely where a new, strongly innovative top management has taken charge and the culture of innovation has still not percolated to the next level of management groomed by the previous traditionalist management. For instance, in a couple of public enterprises studied by the author, the new chief executives initiated a large number of changes and innovations. These aroused middle level managers from their slumber but left several of the old guard in senior positions wondering about the "adventurism" of the new chief. Conversely, the data suggest that a traditionalist top management, wedded to the status quo, may breed a clubby kind of affiliative, even somewhat task oriented work culture at the next level of management, but a "politicalised", cliquish, conflict ridden, low work ethic, passivity-prone culture at middle-junior management levels. This may be because traditionalist managements tend to handpick assistants (that is, "senior" managers) who can carry out instructions efficiently, thus reinforcing the achievement ethic at that level. Also, tenures of senior managers tend to be long in conservative set ups. This may breed a fairly strong affiliative orientation among

the oldtimers. On the other hand, the slow organisational growth implied by top management conservatism may severely limit growth prospects of middle and junior level managers. The result may be intense competition for the favours of the bosses, leading to a non-~~equi~~ocratic culture of organisational politics, dependency, and favouritism.

TABLE 7

CORRELATIONS BETWEEN PAST PI ORIENTATION OF TOP MANAGEMENT AND
CURRENT WORK NORMS OF SENIOR AND MIDDLE LEVELS OF MANAGEMENT

	Correlation with Past PI
<u>Senior Management Norms</u>	
Achievement and excellence in task accomplishment	-.22
Use of expertise in management	-.05
Dedication to organisation's welfare	-.18
Maintenance of friendly relations with colleagues	-.33*
Power orientation and authoritarianism	.09
Dependency on the bosses	-.17
<u>Middle Management Norms</u>	
Achievement and excellence in task accomplishment	.25
Use of expertise in management	-.14
Dedication to organisation's welfare	.16
Maintenance of friendly relations with colleagues	.04
Power orientation and authoritarianism	-.28
Dependency on the bosses	-.28

* Significant at $P \leq .05$ (2 tails)

Organisational Performance

A mode of management as dynamic as PI may be expected to be correlated with the performance of the organisation. Table 8 presents correlations of past PI with current rated performance of the organisation relative to major rivals on a number of dimensions of performance. The ratings were performed by top level executives and the question on performance was included in a questionnaire other than the one from which PI was compiled. By way of comparison, correlations of past rated performance with PI are also given, due to the possibility that good past performance may embolden management to be innovative.

Table 8 indicates that PI and performance influence each other, although PI may have a stronger effect on performance than performance on PI. PI especially seems to improve the organisation's growth rate, adaptability, and public image. Growth rate and adaptability in turn appear to strengthen PI. Besides this, PI was correlated .33 ($P \leq .05$, one tail) with the perceived successfulness of the organisation in its industry as rated by middle level managers. The data suggest that PI may confer a comparative advantage on the organisation vis-a-vis other organisations in its industry. This is consistent with Maheshwari's finding for 12 Indian public and private sector enterprises that what he called the entrepreneurial style of management (somewhat similar to PI) was correlated with a subjectively rated index of enterprise effectiveness (1978).

PI was correlated .38 ($p \leq .005$) with the real long term growth rate of the organisation's sales/revenues (that is, growth rate over the recent 5 years period after deflating sales figures by the price index).

The foregoing findings suggest that PI is linked to performance, particularly to organizational growth, a finding consistent with the significant correlation of the risk taking orientation of top management with corporate growth rate for a sample of over a hundred Canadian corporations (Khandwalla, 1977, p.660).

TABLE 8
CORRELATIONS OF RATED RELATIVE PERFORMANCE OF ORGANISATION WITH PI

	Correlation with Current PI	Correlation with Past PI
<u>Rated Performance of the Organization Relative to Major Competitors.</u>		
1. Current long run profitability		-.04
2. Past long run profitability	-.01	
3. Current growth rate of sales/revenues		.34**
4. Past growth rate of sales/revenues	.23*	
5. Current morale of employees		.08
6. Past morale of employees	.10	
7. Current financial strength		.07
8. Past financial strength	.05	
9. Current public image and goodwill		.22*
10. Past public image and goodwill	.05	
11. Current adaptability to circumstances		.41**
12. Past adaptability to circumstances	.30*	
13. Current performance stability		.17
14. Past performance stability	.04	
15. Current operating efficiency		.14
16. Past operating efficiency	.16	
Current overall performance (sum of items 1,3,5,7,9,11,13,15 above)		.25*
Past overall performance (sum of items 2,4,6,8,10,12,14 and 16 above)	.15	

* Significant at $P \leq .05$ (1 tail)

** Significant at $P \leq .01$ (1 tail)

Summary and Conclusions

In the research on policies pursued by Indian organizations, an important dimension termed PI has been uncovered that may be indigenous to India, and which may bridge India's past with its future. High values on this dimension imply a top management commitment to innovation, experimentation, creativity, pioneering of novel, sophisticated, high quality products and technologies, flexibility, risk taking, etc, while low values on this dimension imply commitment to the status quo, rigidity, conservatism, and conformity, so deeply rooted in the culture of this ancient land (see Figure 1). As a package, high PI offers the hope of transforming an ancient, tradition-clogged society into a dynamic, modern, innovative one.

Data on the current as well as 3 years prior policies were gathered. Data were also gathered on the current and past contextual conditions (nature of the external operating environment), goals of top management, work culture at top management levels, and perceived performance of the organization relative to other rivals in its industry. By comparing correlations of past values of these variables with current values of PI and vice versa, some tentative inferences about the forces that shape PI become possible. If, for instance, the correlation of past environmental favourableness of environment with current PI is significantly stronger than the correlation of past PI with current favourableness, a tentative inference would be that environmental favourableness shapes PI. If, instead, the correlation of past PI with current environmental favourableness is the stronger correlation, a reasonable inference would be that it is PI that causes the environment to be favourable. If the correlations are of about the same strength, mutual causation could be inferred.

Figure 2 shows the determinants of PI uncovered in this study. PI seems to be shaped more by factors internal to management, such as its commitment to higher performance on a number of conflicting goals, its having an expertise-based, committed, achievement oriented, non-authoritarian work ethic, its policy of vigorous growth, opportunistic diversification and vertical integration, its mix of emphasis on informality, co-operation, autonomy, relatively high pay and perks but simultaneously an emphasis on discipline, accountability, and performance-based reward system, open channels, giving equal opportunity to outsiders in filling managerial vacancies, etc.

PI was also correlated with senior and middle management level work norms, and with the long term real growth rate of the organization. Figure 3 shows the likely organizational, performance, and environmental consequences of PI uncovered in this study, such as the organization operating in a more complex environment, the contrasting effects on work norms at senior and middle management levels, and the positive effect on organizational performance, particularly on its long term real growth rate.

FIGURE 1
 THE TRADITIONALIST - CONSERVATIVE AND THE PIONEERING -
 INNOVATIVE MODES OF MANAGEMENT

Traditionalist - Conservative
 Mode

Business strategy of
 keeping to well-tested,
 traditional, familiar,
 ordinary quality products
 and technologies

Unwillingness to take
 high risks

Emphasis on established
 conventions, procedures,
 and standard practices

Hiring and nurturance of
 compliant personnel

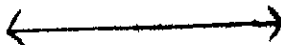
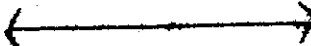
Pioneering - Innovative
 Mode

Business strategy of pioneer
 ing in the country: novel,
 sophisticated, high quality
 products and technologies

Willingness to take calcu-
 lated high risks

Emphasis on adaptability,
 experimentation, and
 innovation in all areas of
 management

Hiring and nurturance of
 creative personnel



One implication of the study is that unlike "professional management", which with its clutch of sophisticated management tools, is a Western import, the pioneering innovative orientation appears to be much more home grown. It appears to be an effective mode of management and since it is indigenous, it may be easier for Indian organizations to assimilate PI than professional, Western-style management.

To make PI more operationally useable, a lot of further work is needed to translate each component of PI into useable management techniques. For instance, what does it operationally mean to "adapt freely to changing circumstances"? How does one pursue a policy of "experimentation and innovation in every area of management?" How does one recruit creative persons at junior management levels? Through further research, we need to understand much better the techniques by which PI managements motivate personnel, resolve conflicts, plan and control operations, co-ordinate activities, set up departments and define roles, acquire crucial market information, market their products or services, raise and allocate financial resources, plan production, and so forth. Some exciting additions to management technology may be in the offing if PI managements are intensively studied. Such additions may importantly modify contemporary management education.

Armed with such a technology, it should be possible to popularise PI to a much greater extent. The result may well be not only faster organizational growth but also faster economic growth in general, and a relatively rapid transition to a culture of innovation.

The findings may have rich implications for organizational design of not only corporations but of non-commercial organizations. Take governmental institutions as an example. In developing countries (such as India), the government is often a dominant institution, directly or indirectly controlling almost every sphere of activity. Given large size, public accountability and visibility, and the weight of traditions, there is usually an inexorable trend towards bureaucratic rigidity and conservatism even in those of its parts that have a developmental mission. PI should be strong at least in these latter parts (examples are district level developmental administration, public enterprises, ministries of health, education, social welfare, the economic ministries, etc.). How can PI be strengthened in development oriented parts of the Government? A look at Figure 2 may reveal numerous ways PI can be strengthened. Reducing various operating constraints on them is one way. Putting at their helm dynamic types that aim high is another option. Providing their top management OD type training that inculcates a professional teamwork culture is a third possibility. Instituting such policies as hiring creative professionals at even junior management levels, encouraging management innovation and experimentation (in lieu

of standardisation of all practices), offering high quality services to clientele, and so forth is a fourth possibility. Exploiting a variety of growth opportunities to diversify activities is a fifth possibility. Aiming at creating an open but disciplined and performance oriented work culture is still another possibility; and so on.

Although the study has been of PI in an organizational context, what implications may it have for a more pioneering and innovative orientation in a society? The determinants of organizational PI uncovered in the study suggest that necessity-is-a-mother-of-inventions may not be a very useful description of the forces that impel a culture to become more innovative. In the study, there was a positive correlation of PI with favourableness of outside environment, not with its unfavourableness, and with its scopefulness, not with stagnation. While an isolated invention or two may be triggered by necessity, a climate of widespread innovation is more likely to be ushered in by an opportunity-rich, relatively constraint-free, autonomy granting, expansive environment. PI is unlikely to flourish in a totalitarian or an excessively controlled environment. A government committed to rapid growth, modest controls, relatively decentralised resource allocation, and incentives for growth and effective management of organizations is much more likely to catalyse PI in social institutions and formal organizations than one committed to status quo, excessive controls, centralised resource allocation, and absence of incentives for growth and effective management.

FIGURE 2
FORCES SHAPING PIONEERING INNOVATIVE ORIENTATION OF TOP MANAGEMENT

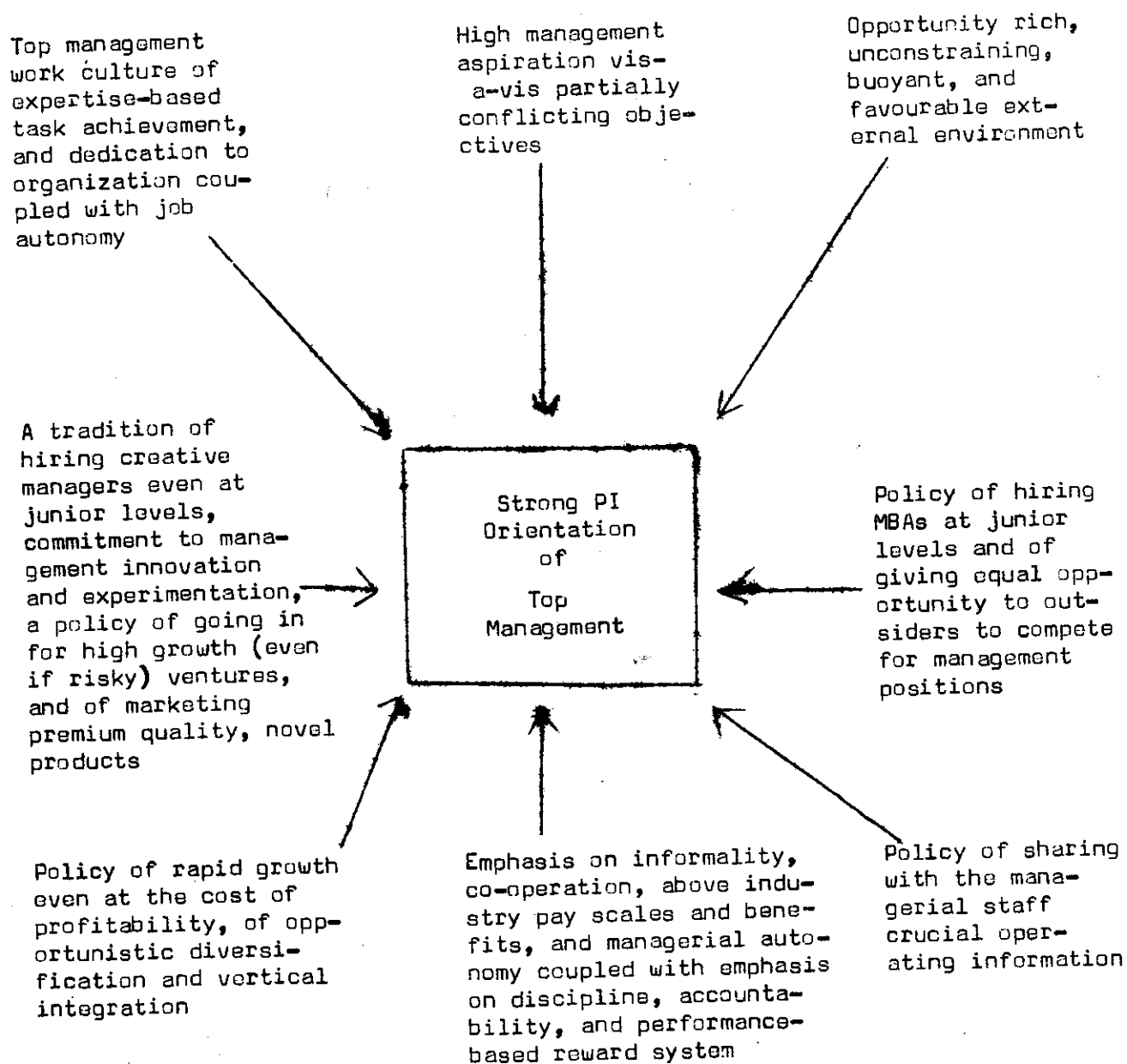
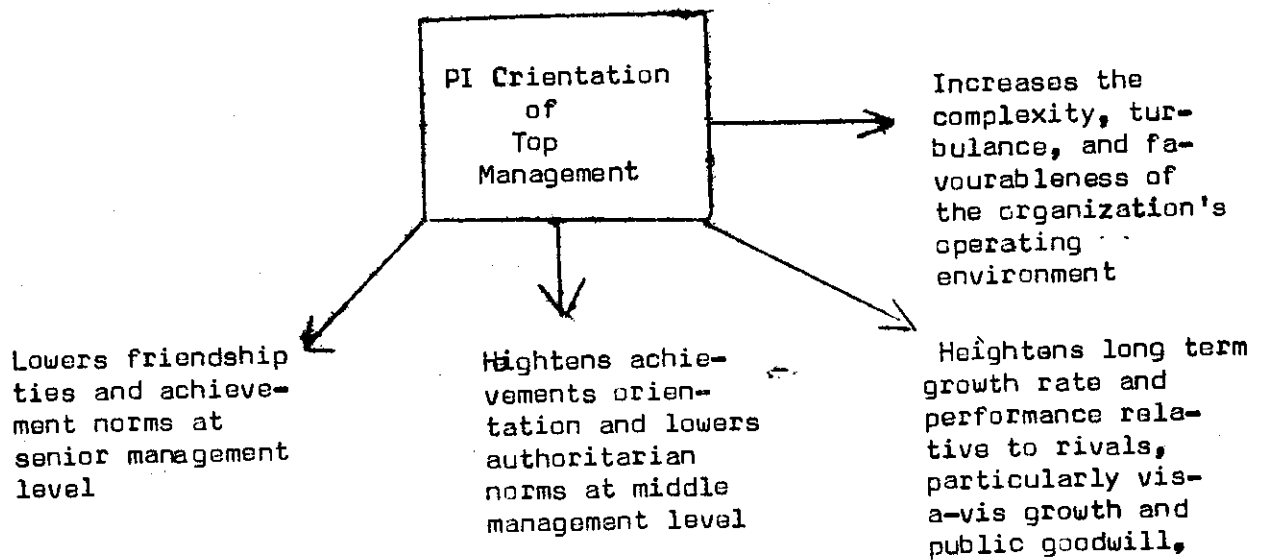


FIGURE 3

ORGANIZATIONAL AND OTHER CONSEQUENCES OF PIONEERING INNOVATIVE ORIENTATION
OF TOP MANAGEMENT

NOTES

- 1 The research team consisted of Professors Praful Anubhai, Uday Pareek, and the author, with Mrs. Rita Moulik assisting the team.
- 2 A heuristic was followed to boil down the 51 policy items to a few manageable, reasonably independent variables. The 51 items were factor analysed by the principal components method to yield 18 factors. These were then orthogonally rotated. Eighteen composites, each corresponding to a factor, were formed by allocating to the composite all those of the 51 variables that had the highest loadings on the corresponding factor. However, variables whose highest loading, positive or negative, did not equal or exceed .40 were eliminated. This procedure was repeated with the 18 composites, resulting in 7 fairly independent composites. The average correlation between these 7 composites, ignoring signs, was .09, the maximum correlation between any two composites being .27.
- 3 The smaller the p-value, the stronger the likelihood of a significant relationship between the correlated variables.

- 4 Eighteen items selected from the motivational climate questionnaire (Pareek, 1979) were used to measure six work-related norms.

The 5 point scale items aggregated for each work norm were:

Task achievement and excellence

- a) Achieving goals or targets set, or excelling them, is the main concern here
- b) Relevant information is made available to all who need it and can use such information for achieving high performance.
- c) Those who can achieve results are highly trusted.

Use of expertise in management

- a) The main concern of the managers here is to develop specialized competence and expertise
- b) Knowledge and expertise are recognized and highly rewarded here
- c) The specialists and the experts are highly trusted here.

Dedication to organization

- a) Managers here have high concern for one another and help each other spontaneously when such help is needed
- b) In resolving conflicts appeal is made to principles and organizational ideals and the largest good of the organization
- c) The main concern of managers here is to help each other develop greater skills for advancement of the organization

Maintenance of friendly relations

- a) Trusting and friendly relations are highly valued here
- b) The ability to get along well with others is highly rewarded here
- c) When confronted by a risky situation, managers here seek their friends for guidance and support.

Power orientation

- a) Instructions are issued by the bosses and are expected to be carried out without delay or protest
- b) Consolidating one's own personal position and influence seems to be the main concern here
- c) In a conflict situation those who are stronger force their point of view on those who are weaker

Dependency orientation

- a) Managers here are mainly concerned about following laid down rules and procedures.
 - b) Managers usually refer the problems to and look for solutions from their seniors
 - c) Supervision here is usually to check mistakes and employees here prefer this.
- 5 The items were based on those included in an instrument developed by Pareek (1979) to measure the motivational climate in an organization.

REFERENCES

- 1 Boyer, Janice M.
1981 " Ideologies, values, and decision making in organizations".
In Nystrom and Starbuck, Handbook of Organizational Design,
Vol.2. New York: Oxford University Press
- 2 Bowers, David G. and Seashore Stanley E.
1966 " Predicting organizational effectiveness with a four-factor
theory of leadership". Administrative Science Quarterly, Vol.
11, 2, pp. 238-263.
- 3 Burns, Tom and Stalker, G.M.
1961 The Management of Innovation. London: Tavistock.
- 4 Cyert, Richard M, and March, James G.
1963 A Behavioral Theory of the Firm. Englewood Cliffs, N.J.:
Prentice - Hall
- 5 Dent, J.K.
1959 "Organizational correlates of the goals of business managements".
Personnel Psychology, Vol.12, pp. 365-393.
- 6 England, George and Mee, Raymond
1971 "Organizational goals and expected behavior among American,
Japanese, and Korean managers". Academy of Management Journal,
Vol.14, 4, pp. 425-438.
- 7 Hellriegel, Don and Slocum, John W.
1974 "Organizational climate: measures, research, and contingencies".
Academy of Management Journal, Vol. 17, 2, pp. 255-280
- 8 Khandwala, Pradip N.
1972 "Environment and its impact on the organization ". International
Studies of Management and Organization, Vol.2, pp.297-313
1977 The Design of Organizations. New York: Harcourt Brace Jovanovich.
1980 "Management in our backyard." Vikalpa, Vol.5,3, pp.173-184.
1981 "The performance determinants of public enterprises: Case studies
of four equipment manufacturing Indian public enterprises".
A study commissioned by the World Bank, Washington, D.C.
- 9 Maheshwari, B.L.
1978 "Decision styles and organizational effectiveness".
Hyderabad: Administrative Staff College of India.
- 10 March, James G. and Simon, H.A.
1958 Organizations. New York: Wiley.
- 11 Mott, Paul
1972 The Characteristics of Effective Organizations. New York:
Harper and Row.
- 12 Moulik, Rita
1982 Psychological and organizational correlates of effective organization.
Unpublished doctoral dissertation. Ahmedabad: Gujarat University.

- 13 Nunnally, Jum C.
1967 Psychometric Theory. New York: McGraw-Hill
- 14 Pareek, Udai.
1979 "MAO scales". Ahmedabad: Indian Institute of Management, Ahmedabad.
- 15 Perrow, Charles
1970 Organizational Analysis: A Sociological View. Belmont, Calif: Wadsworth
- 16 Peterson, Richard A.
1981 "Entrepreneurship and organization". In Nystrom and Starbuck, Handbook of Organizational Design, Vol.1. New York: Oxford University Press
- 17 Schumpeter
1934 The Theory of Economic Development. Cambridge, Mass: Harvard University Press.
1965 "Economic theory and entrepreneurial history". In Hugh Aitken (ed.), Explorations in Enterprise, pp. 45-64. Cambridge, Mass: Harvard University Press.
- 18 Shortall, Stephen M.
1977 "The role of environment in a configurational theory of organizations". Human Relations, Vol.30, pp.275-302.
- 19 Simon, Herbert A.
1960 Administrative Behavior. New York: Macmillan.
- 20 Thompson, James D.
1967 Organizations in Action. New York: McGraw-Hill.

WP 459
VIKRAM SARABHAI LIBRARY
INDIAN INSTITUTE OF MANAGEMENT
VASTRAPUR AHMEDABAD - 380015