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Impact of ISO 9000 on organizational climate

Strategic change management experience of an Indian organization

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Abstract

Purpose – ISO 9000 yields visible and concrete benefits to organizations in the form of sustained product quality, enhanced market image, increased customer satisfaction, and long-term profitability. However, the derivative impact of ISO 9000 on the human side of the organization, especially its impact on the internal human environment, has been only scantily researched. The purpose of this study is to explore how the process of ISO 9000 implementation transforms the components of organizational climate, particularly the climate motives existing in an organization.

Design/methodology/approach – ISO 9000 system was deemed as the independent variable that could induce changes in organizational climate, the dependent variable. Climate was measured both before and after the implementation of ISO 9000, using Pareek's MAO-C instrument. Based on the scores obtained for the constituent climate motives, the patterns of organizational climate that prevailed in an organization both before and after ISO implementation were deciphered.

Findings – Results reveal that as a result of ISO 9000 implementation the dysfunctional organizational climate motives such as control, dependency, and affiliation undergo a u-turn transformation giving way to the functional and conducive climate motives such as achievement, expert influence, and extension.

Originality/value – The study endeavors to throw light on the favorable impact that ISO 9000 may have on organizational climate of organizations. The findings tend to prognosticate that when implemented well the ISO 9000 system could function not just as a quality enhancement instrument but in addition as a useful tool for strategic change management that could truly hold the potential for transforming both the character and performance of organizations.

Keywords ISO 9000 series, Strategic management, Organizational culture, Change management, Organizational processes, India

Paper type Research paper

Adoption of ISO 9000 system (ISO, 1996; ITC, 1996) yields visible and concrete benefits to organizations in the form of sustained product quality, enhanced market image, increased customer satisfaction, and long-term profitability. A plethora of studies have proved that these external benefits do occur for organizations across the world (Brecka, 1994; Brown *et al.*, 1998; Casadesús and Jiménez, 2000; Aarts and Vos, 2001; Gotzamani and Tsiotras, 2001). However, the derivative impact of ISO 9000 on the human side of the organization, especially its impact on the internal human environment or organizational climate, is only scantly researched, either in the west or in the east. A scanning of seven leading databases on peer-reviewed research journals indicates that studies linking the two variables are rarely undertaken. The present investigation conducted as case study of an Indian enterprise attempts to explore and explain how

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the process of ISO 9000 implementation could bring about transformation in the components of organizational climate of an organization. In particular, it tries to portray how ISO implementation process alters the dominant organizational climate motives (Pareek, 1979, 1989) existing in an organization.

Significance of the study

Organizational climate has long been considered an important determinant of an enterprise's potential to perform as a business entity and excel as a human organization predominantly because of its demonstrable influence on organizational effectiveness (Likert, 1961; Franklin, 1975; Kanter, 1983; Mudrack, 1989) as well as its relationship to individual motivation and behavior (Litwin and Stringer, 1968; Bowers, 1976). Reviewing nearly 35 years of consulting field research, Watkin and Habbard (2003) observe that organizational climate and performance are linked and that climate can directly account for up to 30 per cent of the variance in key business performance measures. In his research on emotional intelligence, Goleman (2001) also found that organizational climate is linked to organizational performance. Some organizations even use climate as a proxy measure when performance is difficult to quantify. In such cases, climate assessments provide an invaluable profit and loss statement on how well a company manages its people (Hay/McBer, 2000; Ingles and Menreno, 1998).

Organizations across the world, therefore, are on the look out for methods and measures that could enhance the quality of organizational climate prevailing within them. Popular initiatives such as TQM and Six Sigma are chosen and practiced by organizations to achieve this end and these programs often tend to be successful in inducing favorable changes in the internal environment of organizations mainly because of the human interventions involved in their implementation process (Emery and Timothy, 1996; Powell, 1995). The widely practiced quality system, ISO 9000, though has human components in it, is, however, regarded by organizations as a certification process and hence viewed as having not much potential in moving the human elements of an organization's systems.

But what if ISO 9000 could bring in improvements in the internal environment of an organization, and particularly in its organizational climate? It could, then, be a source of added knowledge and inspiration for strategic change managers to advocate ISO 9000 not merely as a mechanism for product and process quality enhancement but also as a strategic tool for bringing about fundamental changes in the character and human quality of organizations. The present investigation, conducted in an Indian enterprise, attempts to explore the possible influence that ISO 9000 may have on organizational climate and examines whether ISO system has the ability to unleash the productive motives that lie dormant in an organization's human environment and on the other hand help the organization change or control those negative forces that often retard its functioning as a human entity.

Review of literature

The ISO 9000 quality system

ISO 9000 quality system is a series of standards and guidelines developed in 1987 by the International Organization for Standardization, Geneva, for enhancing the basic quality management systems of organizations. Adoption of ISO certification yields a variety of advantages to the organizations in terms of technology, quality, speed of supply, reliability of the products, delivery of services and after-sales services, and

savings in costs (Gotzamani and Tsiotras, 2001; Aarts and Vos, 2001; Casadesús and Jiménez, 2000; Gupta, 2000; Brown *et al.*, 1998;). The process of ISO implementation covers all elements in the systems of an organization (ISO, 1996; ITC, 1996). The operating procedures and processes of the organization right from product design till after sales service have to be standardized on adopting the quality system. The certification process clearly specifies the development of systems, procedures, and work instructions for the organization.

The role of employee involvement in ISO 9000 system

Though widely regarded as a quality certification program, the soul or living principle of the ISO 9000 quality system is the mental attitude and emotional participation of the employees and their commitment to the organization's quality concerns and goals. Without the participation and involvement of employees the system will become inactive (Huarng *et al.*, 1999; Bannister, 1995). Unless the employees are dedicated to the idea of quality, elaborate documentation of the quality system will bring in no benefits to the organization, its quality systems, or the end-users of its products or services (Huarng *et al.*, 1999; Bannister, 1995). Many authors like Cartin (1993), Hunt and Beardsley (1993), Ingles (1994), and Tenner and DeToro (1992) have stressed employee involvement and other human elements as the keys to successful implementation of the ISO 9000 system. In Cartin's view, total involvement of all the organizational participants aligns and integrates the efforts mobilized under the ISO 9000 system (Cartin, 1993). Hunt and Beardsley (1993) view human elements as the chief determiners of the success of the ISO 9000 certification process and argue that it is the willing cooperation and unflagging involvement of everyone in the organization that leads to success of the ISO 9000 implementation process.

Can ISO 9000 system change the internal climate?

Most of the research findings, outlined above, are equivocal in emphasizing the role of employee involvement and commitment in successfully implementing the ISO 9000 system. But, can the enhanced level of involvement and participation induced by the ISO process go further and induce changes in the internal environment (climate) of the organization? Empirical leads indicate that such changes are possible.

Jackson and Ashton (1995), Kumar (1993), and Srivastava (1992) observed that involvement of people at various levels and stages of the ISO process brings about improved goal orientation, openness of communication, willing changes in the organization's structure, and multidisciplinary teamwork across the organization. When improvements in these organizational dimensions occur as a result of ISO implementation it activates a chain reaction within the organization bringing in a host of intangible benefits to the human environment of the organization, particularly in the form of positive changes in the organizational climate (Taylor, 1995; Gupta, 1994). Srivastava (1992) observed that ISO 9000 processes permeate all aspects of organizational functioning including manufacturing and non-manufacturing areas and bring about visible changes in such areas as human resource development, involvement of workforce, teamwork, goal-orientation, and openness of communication. In a survey conducted among 682 organizations, Taylor (1995) found that commitment to ISO 9000 implementation brought about significant improvements in the attitudes and behaviors of the senior executives in those organizations.

In research conducted by Rothery (1992), it was observed that implementation of ISO 9000 system motivates people and enhances their mastery of the business processes performed by the organization. Kumar (1993) observed that adoption of ISO 9000 enhances the levels of employee involvement, horizontal and bottom-up communication, and commitment and motivation of employees at all levels of the organization. Gupta (1994) reported that ISO 9000 implementation brings about several tangible and non-tangible benefits to the organization such as delegation resulting in responsiveness, improved morale of the workers, and job satisfaction. According to Jackson and Ashton (1995), one of the important derivative benefits of ISO 9000 is that the staff throughout the company gets deeply involved in designing an effective system and shares a sense of achievement. This shared activity not only produces effective solutions but also acts as a powerful motivator for enhanced staff performance.

Though the above studies do not link ISO and organizational climate directly, the findings in general lead to the possibility that ISO 9000 system holds the potential to induce changes in the internal human processes of an organization and, thereby, bring about alterations and reconfigurations in the organizational climate, as the latter depends largely on the organization and operation of the organizational processes (Pareek, 1979, 1989; Pareek *et al.*, 1981).

Theoretical framework of the study

Organizational climate is a measure of employees' perception of those aspects of their environment that directly impact how well they can do their jobs. Early studies on organizational climate were conducted at Harvard by Litwin and Stringer (1968). Thereafter, though large numbers of studies were conducted, attempts to define the construct have often proved to be problematic (Field and Ableson, 1982). Despite the fact that organizational climate is a distinctly identifiable element in any organization (Moran and Volkwein, 1992), commonly agreed guidelines on the key elements or components of climate are yet to gain universal acceptance among researchers in the field. Some researchers consider organizational climate as a combination of empirically accessible elements such as behavioral and attitudinal characteristics (Moran and Volkwein, 1992; O'Driscoll and Evans, 1988; Drexler, 1977) whereas others treat climate as a construct consisting basically of shared perceptions (Ashforth, 1985) or as a combination of attitudes and values alone (Moran and Volkwein, 1992)

For purposes of study and analysis, researchers have treated the construct climate differentially – as an individual attribute measurable by a multi-trait matrix (Schneider and Bartlett, 1970), a sub-system phenomenon (Powell and Butterfield, 1978), and an organizational entity (Campbell *et al.*, 1970). Researchers such as Joyce and Slocum (1982), Middlemist and Hitt (1981), and Jones and James (1979) have adopted a multi-dimensional approach in studying and measuring the construct.

Udai Pareek (1979, 1981, 1989, 1993, 1998, 2000, 2002, 2003) who did extensive research in organizational climate for over two decades posits that organizational climate can only be discussed in terms of the various "organizational processes" going on within a firm and the "motives", positive or negative, that are created among members of the organization as a result of the perception of these processes. He designed instruments for measuring organizational climate that are in popular use among researchers in the field. Two of his leading instruments, MAO-B and MAO-C, are widely used in management and organization development programs and have

been retained in Pfeiffer's classic inventories, questionnaires, and surveys for training and development for more than two decades (Pfeiffer, 1989; Gordon, 2004).

In introducing his theory of organizational climate, Pareek explains that there are 12 organizational processes and six organizational climate motives present in any organization, as shown in Figure 1.

In profiling his framework, Pareek explains that the various organizational processes interact with one another and, through the perceptions and feelings of members, get expressed in the form of member motivations or what may be termed as organizational climate motives (Pareek, 1981; Pfeiffer, 1989; Gordon, 2004). Among the six climate motives, a number of them can induce positive effects on the working of the organization whereas the others can cause negative impact on the internal functioning and performance of the organization. Through his research Pareek isolated the positive ones as comprising achievement, expert influence, and extension, whereas the negative motives included control, dependency, and affiliation. These six climate motives, listed below, vary in their strengths and combine in different patterns to produce in each organization either positive or negative organizational climate, depending on the type of climate motives that dominate within them (Pareek, 1981):

(1) *Achievement motive:* the concern for excellence, competition in terms of standards set by others or by oneself, and setting of challenging goals.

(2) *Expert influence motive:* the concern for making positive impact on others , a desire to make people do what one thinks right and urge to change situations and to develop people.

(3) *Extension motive:* concern for others, interest in super ordinate goals and urge to be relevant and useful to large groups.

(4) *Control motive:* concern for controlling and correcting others, desire for staying informed about others' actions and an urge for displaying personal powers.

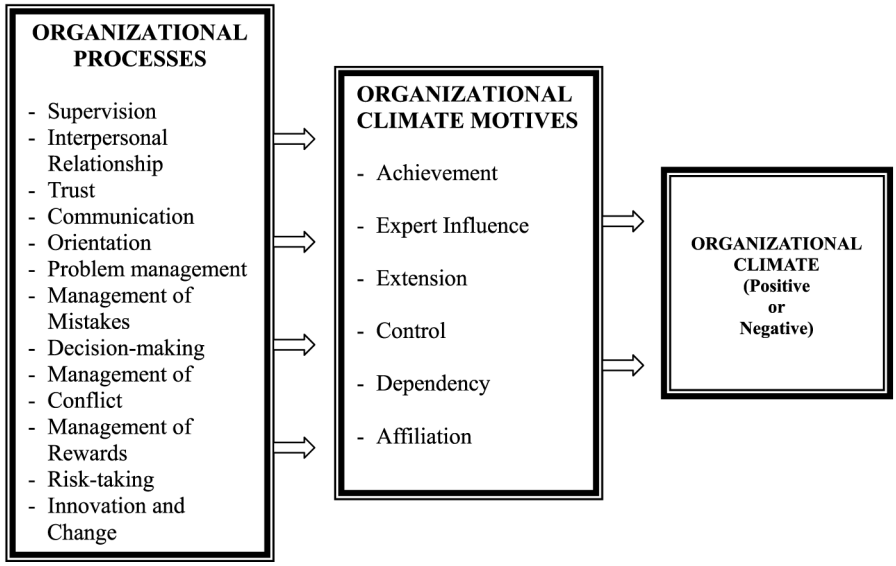

Figure 1.
The organizational climate process

(5) *Dependency motive:* desire for the assistance of others in developing oneself, a tendency to submit ideas or proposals for approval, and the urge to maintain relationship base on other person's approval.

(6) *Affiliation motive:* concern for establishing and maintaining close personal relationship, emphasis on friendship and tendency to express one's emotions.

During his research, Pareek observed that the climate motives expressed by the members vary in their strength or force of expression and developed a scheme of order to represent their significance to the organization (Pareek, 1989, 2003). Among the six, the motive expressed as the most active by the members is called the "dominant motive" and the one that is next most active in the mindset of the employees is called the "back-up motive". Through research he was able to suggest that these two motives reveal the basic character and type of the organizational climate prevailing in any organization. The stronger and positive these motives, the more favorable the organizational climate and higher the potential of the organization as a human entity to perform and excel at its business functions.

Research questions

This study draws upon Pareek's framework of organizational climate and assumes on the basis of the empirical leads outlined that implementation of ISO 9000 would induce changes in the organizational climate motives of an organization. Two major research questions were, thus, framed for inquiry:

RQ1. Does implementation of ISO 9000 quality system bring about alterations or improvements in the component motives of organizational climate prevailing in an organization?

RQ1. Is ISO 9000 system capable of strengthening the positive climate motives and weakening the negative ones prevailing in an organization?

The ISO implementation scenario

The study was conducted in a 40-year old electrical engineering company operating in the state of Kerala in India. The firm was established, in 1963, in technical collaboration with M/s Hitachi of Japan. Through collaboration with a world-class producer the company had steadily acquired and absorbed state-of-the-art know-how of production and quality and was supplying engineering goods to its Indian customers. However, with the ushering in of globalization in India during the early 1990s the company began to experience stiffer competition and lose market share to competitors. Within a few years, performance of the company declined. A turnaround strategy was essential for survival. Though diversification into new product lines and retrenchment of part of the product range were proposed these ideas met with resistance both from managerial segments and labor unions. Meanwhile, faced by pressures for performance and turnaround, management had become more stringent and sometimes arbitrary in its actions and managerial and employee turnover increased and a state of inertia and alienation crept into the hitherto competent managerial and employee teams.

Management, by this time, perceived the prospects of exporting the company's products to international markets but learnt that the European importers increasingly insisted on compliances with ISO 9000 standards. A detailed analysis of the internal

environment by management revealed that the internal operations and systems had deteriorated and were not capable enough to deliver the quality standards demanded by international markets. Top management felt that a thorough streamlining of the operations in the manufacturing process, control of waste, rework, etc. would be necessary if the company were to meet the stringent international standards. Decision was taken, at the top level, to go for ISO 9000 certification and initiate procedures for the same.

ISO implementation – the approach

However, there were bottlenecks. The demoralization that had crept into the minds of managers and employees had cast doubts as to whether the new initiative would produce results. It was, therefore, decided that instead of presenting ISO 9000 as a standardization/certification requirement it would be presented as a strategic necessity for the firm's survival. Regarding the implementation plan, top management was convinced that arbitrary methods of enforcement would be ineffective as the employees were highly unionized. Accordingly, a "participatory approach" was proposed involving all those concerned, at managerial, trade union and employee levels, through proper communication and dialogue regarding the goals and intentions of the ISO initiative. A seven-phase strategic plan was developed comprising:

(1) Planning for ISO system.
(2) Awareness building/mass education.
(3) Training.
(4) Documentation.
(5) Implementation.
(6) Internal audit.
(7) Assessment by Certification Agency.

Quality circles were planned to guarantee the participation of all members. Involvement of managers, supervisors and the officers' associations and employees' unions operating within the firm was activated. As the management was able to project its commitment and forcefulness in approach and since it was well communicated through all internal channels that a strategic resurgence was the life-or-death necessity of the company, it was expected, despite the prevailing inertia, that the ISO initiative would deliver the desired results.

Research methods

The above scenario was read as an ideal opportunity to investigate the linkage between ISO and organizational climate. In designing the theoretical lines of inquiry, ISO 9000 system was deemed as the independent variable that could induce changes in organizational climate, the dependent variable. Organizational climate was measured using Pareek's MAO-C instrument. Each motive was measured separately and the strength of each *vis-à-vis* the others was assessed. Based on the scores obtained for each of the six motives, the most scoring and the next highest scoring motives were isolated and labeled as the dominant and the backup climate motives, respectively. By looking at the dominant and the back-up motives, the patterns of organizational

climate that prevailed in an organization both before and after ISO implementation were deciphered.

Motivational Analysis of Organizations-Climate (MOA-C) questionnaire has high validity and reliability (Pareek, 1981; Pfeiffer, 1989; Gordon, 2004) for each of the six climate motives and compares them against a total possible score of 100. The threshold score indicated by Pareek is 50, and when the score for a motive is greater than 50, the organization is deemed relatively strong in that area of organizational climate. If the MAO-C score goes below 50, the particular climate motive is apparently weak. Based on the comparisons, the MAO-C instrument makes it possible to find out the dominant (highest scoring) and the backup (second highest scoring) climate motives of the organization. Knowledge of the dominant and backup motives helps the organization's management in diagnosing the organizational climate as either positive or negative and in planning change management interventions.

The MAO-C questionnaire measures perceptions of organizational members about the various dimensions of organizational processes. These process dimensions include supervision, conflict management, communication, decision making, problem management, management of mistakes, management of rewards, etc. The ways in which these processes operate in an organization influence the perceptions and motivations of the members and indicate the underlying climate motives prevailing in the mindsets of the organizational members.

Universe of the study

Though the perceptions of both managers and workers play respective roles in defining an organization's climate, the chief agents responsible for controlling and managing the so-called organizational processes are the managers or executives and, therefore, their perceptions of the processes prevailing in the organization play an all-important role in defining and determining the organization's climate. In this study, therefore, MAO-C questionnaire was given to the managers and the inferences were arrived at mainly on the basis of the collective perceptions expressed by the managers of the company. The universe of the study was, accordingly, defined and delimited as all those managers – top, middle, and first-line, belonging to all the functional departments of the organization. This delimitation of the scope of the study to the managerial population excluding the workers of the organization however has to be admitted as one of the limitations of the study.

Before - after data collection

Data collection was organized in two phases. The first phase commenced two and a half months before the implementation of ISO 9000 system – when decision was taken at the top management and the planning was progressing confidentially at the top level. The first phase of data collection was completed in a month's time and well before the ISO decision was officially announced and activated. Of the 103 managers in the company, 87 managers participated in the study and formed the sample of the study. Climate data pertaining to the variables of the study were gathered through the MAO-C instrument.

The second phase of data collection was done six months after the implementation of the ISO 9000 process. The timing of the second phase was crucial. Though internal environmental and process changes had begun to occur well during the process of ISO implementation, the ISO experts and senior executives felt that the true depth and

nature of the changes could be judged only after a certain settling-in period. After about five months, both the ISO experts who had worked with other ISO-implementing companies in India and the company officials (ISO steering committee members) opined that the internal environment in the company had stabilized and that the second phase of investigation could be initiated. In the second phase, all those respondents who participated in the first phase of data collection were given the same MAO-C instrument and their new responses gathered.

Qualitative data – the narrative approach

In addition to the quantitative data gathered through the MOA-C instrument, a number of qualitative in-depth interviews were conducted with 22 (25 percent) of the respondent managers and a series of focus group discussions were organized with three carefully chosen sub-samples of six/eight managers drawn from across the organization. The qualitative data were recorded in narrative format as these were not intended for exhaustive content analysis. However, coding frames and the techniques such as "core questions" and "frequencies of most used keywords" (KWIC) were adopted for processing the qualitative data material. This approach provided much flexibility in exploring context-specific questions and issues that emerged during each of the interviews and discussions. The narrative stock of qualitative data proved to be of immense use in gaining insights into the inner and finer dynamics of the organizational climate situation prevailing in the organization. Furthermore, these interview/discussion occasions acted as highly useful feedback instruments for discussing the findings with the managers and for validating the inferences of the study with them.

Results

(Results of *t*-tests for conducive organizational climate motives are shown in Tables I-VI).

MAO-C data gathered before the implementation of ISO-9000 revealed that the dysfunctional organizational climate motives such as control, dependency, and

	No. of cases	Mean score	Std dev.	Std error
Group 1	87	39. 57	9. 90	1. 062
Group 2	87	61. 16	10. 96	1.175
	F-value 1.2242	*t*-value − 14.8765	2 tail prob. 0.000	Dg. of free. 172

Notes: Group 1 (Pre-ISO); Group 2 (Post-ISO)

Table I. *T*-test for achievement motive – pre-ISO vs post-ISO scenario

	No. of cases	Mean score	Std dev.	Std error
Group 1	87	40. 74	7. 65	0. 820
Group 2	87	51. 45	10. 28	1.102
	F-value 1.8049	*t*-value − 9.2878	2 tail prob. 0.000	Dg. of free. 172

Notes: Group 1 (Pre-ISO); Group 2 (Post-ISO)

Table II. *T*-test for expert influence motive – pre-ISO vs post-ISO scenario

affiliation were the dominating motives prevailing in the organization during the pre-ISO period and that the functional or conducive organizational climate motives such as achievement, expert influence, and extension were rather weakly represented in the climate of the organization. Breakup details of the data showed that control was the dominant motive and dependency the backup motive, with scores of 63.23 and 60.07 respectively out of a total possible score of 100 (Tables IV and V). The affiliation motive was also quite strong with a score level of 56.02 (Table VI). The conducive motive of extension was found be submissive in the pre-ISO organizational climate with a score level as low as 38.51 (Table III). The other two conducive motives viz. achievement and expert influence were equally weak with score levels of 39.57 and 40.74, respectively (Tables I and II).

The pre-ISO qualitative data gathered through interviews and focus-group discussions with the executives also confirmed that control was the dominant motive

Table III.
T-test for extension motive – pre-ISO vs post-ISO scenario

	No. of cases	Mean score	Std dev.	Std error
Group 1	87	38. 51	9. 17	1. 983
Group 2	87	54. 62	10. 66	1. 143
	F-value 1.3517	*t*-value −12.7115	2 tail prob. 0.000	Dg. of free. 172

Notes: Group 1 (Pre-ISO); Group 2 (Post-ISO)

Table IV.
T-test for control motive – pre-ISO vs post-ISO scenario

	No. of cases	Mean score	Std dev.	Std error
Group 1	87	63. 23	9. 95	1. 067
Group 2	87	40. 45	10. 30	1.104
	F-value 1.075	*t*-value 15.0042	2 tail prob. 0.000	Dg. of free. 172

Notes: Group 1 (Pre-ISO); Group 2 (Post-ISO)

Table V.
T-test for dependency motive – pre-ISO vs post-ISO scenario

	No. of cases	Mean score	Std dev.	Std error
Group 1	87	60. 07	10. 02	1. 074
Group 2	87	37. 66	10. 46	1.122
	F-value 1.0904	*t*-value 13.9544	2 tail prob. 0.000	Dg. of free. 172

Notes: Group 1 (Pre-ISO); Group 2 (Post-ISO)

Table VI.
T-test for affiliation motive – pre-ISO vs post-ISO scenario

	No. of cases	Mean score	Std dev.	Std error
Group 1	87	56. 02	8. 41	0. 902
Group 2	87	53. 64	6. 97	0.748
	F-value 1.4548	*t*-value 1.1784	2 tail prob. 0.000	Dg. of free. 172

Notes: Group 1 (Pre-ISO); Group 2 (Post-ISO)

prevailing in the organization and that the administration of the company suffered from a number of weak organizational processes. The top management exercised controls through arbitrary methods and decision styles and the middle managers were compelled to implement superiors' instructions in unilateral and authoritarian ways. This dominance of the control motive often projected a concern for bureaucratic type of orderliness, rules and regulations within the firm and an urge among managers to monitor all events on a coercive rather than proactive basis. *In fine*, there appeared to be insufficient care taken for maintaining effectiveness of the organization in terms of end results.

The reasons why the backup motive of dependency was prevalent across the organization were also discernible from the responses shared by the executives. Approvals from superiors were to be sought on almost all matters of organizational administration and that the superior-subordinate relationships were based largely on the superior's personal appreciation for the subordinate's compliance and obedience rather than performance. The senior executives tended to protect subordinates who did not make any procedural mistakes but complied with the rules and regulations. The general consequence of all these organizational processes was a culture of dependency and compliance, and an organization climate in which the motives of the organizational members were dominated more by a concern for compliance to rules and regulations than search for efficiency and performance.

Regarding the absence or weakness of the conducive motives such as extension, achievement, and expert influence, the executives were broadly of the view that the organizational members in general did not care for the relevance of their contribution to the organization. In most management teams part of the best talents had left the organization and teamwork often suffered leading to performance lags, task fragmentation, and lack of challenge and goal-orientation among members.

It was against the above backdrop that the ISO 9000 system was implemented in the organization with the hope of rejuvenating it in terms of both products and performance. The results of the ISO implementation process on the products, markets, and finances of the organization are not discussed in this study. The impact of ISO on the character and human environment of the organization and the alterations that it brought about particularly in the organizational climate motives were studied in the second phase of the investigation.

The second-phase MOA-C data revealed that there was a fundamental and remarkable shift in the climate motives of the organization. In sharp contrast to the pre-ISO situation, the post-ISO scenario revealed a u-turn in the climate profile of the organization with the functional/conducive motives taking dominant positions and the dysfunctional ones taking lower berths in the hierarchy of climate motives. Achievement is now the dominant motive in the company and extension the backup motive.

Breakup of the post-ISO data shows that the achievement motive has moved from a pre-ISO level of 39.57 to 61.16, the extension motive from 38.51 to 54.62 and the expert influence from 40.74 to 51.45 (Tables I, II and III). The dysfunctional motives that dominated the climate components of the organization earlier have taken a reverse turn with dependency moving down from 60.07 to 37.66 (Table V) and control coming down from 63.23 to 40.45 (Table IV). The affiliation motive, however, appears to be quite constant with only a minor change from 56.02 to 53.63 (Tables VI).

As the score movements revealed wide variations between the pre- and post- ISO scenarios, the six climate motives were independently tested for their variation using the *t*-test method. The results revealed that the three conducive climate motives, viz. achievement, extension, and expert influence and the two dysfunctional motives of control and dependency had undergone significant change as a result of ISO implementation. In the case of the affiliation motive, the change, however, had only minimum impact (Tables I-VI).

The post-ISO qualitative data also disclosed that the organization had undergone rejuvenation in terms of its basic processes and performance norms and in the ways it conducted its business processes both within and outside the organization. The major areas of change reported by the managers centered on such organizational processes as supervision, decision making, problem management, communication, conflict management, and innovation and change. In all these areas, the respondent managers reported visible positive transformations and were of the opinion that there was a real feeling of organizational rejuvenation perceived across all levels and departments in the company and an accompanying sense of heightened enthusiasm among members.

What was more surprising in the disclosures of the managers was the fact that there existed a widely-circulated feeling within the company during the pre-ISO period that the company with its years of inertia, performance dullness and employee alienation would not be able to digest the stringent standardization necessitated by ISO system and hence the quality initiative would be more a wasteful venture and failure than success. The unexpected positive response of the organizational members to the ISO system and the commendable transformation achieved by the organization were truly a surprise to most of the managers and employees of the firm. While the causal roots of this metamorphosis could be more complex and deep-rooted, one common fact agreed upon by all those interviewed during the investigation was that ISO 9000 implementation was the major determinant of this large-scale organizational change.

Discussion

The results of the study indicate that ISO 9000 system can transform and reconfigure organizational climate and that it can enhance the positive components of organizational climate while controlling and keeping the negative ones under check. Empirical studies linking ISO and organizational climate are rare in current research literature. Without the support of empirical literature, thus, an attempt is made with the help of the qualitative data material gathered during the study to explain how the process and approach of ISO implementation induced changes in the climate motives of the organization studied.

Building consensus-based culture

In the organization under study, ISO 9000 standards required that the responsibility, authority and inter-relations of personnel who manage, perform and verify work that affects quality be defined and documented. Through this, the members gained a clear understanding of their responsibilities, authority, freedom of action, and channels of communication as well as the means available to them in dealing with unforeseen situations. This broad-based organizational revamp and collective participatory decision-making process helped in building up a consensus-based culture in the

organization that paved the way for minimizing conflicts and augmenting interdepartmental and inter-personnel cooperation.

Generating participation and strengthening the extension motive

Although employee motivation has not been specifically mentioned as a focus of the ISO 9001 standard, its importance for the effective implementation of quality systems has been recognized (ISO9004-1 guideline). In the organization studied, awareness was created among all personnel regarding the benefit of the quality system and their own part in it. The activities in different areas of work were regularly reviewed through the involvement of all personnel concerned with a view to encourage the employees to identify with the new system, to encourage them to analyze their existing activities, to come up with suggestions, and to propose mechanisms for monitoring and controlling events. This massive involvement of the organizational members enhanced the level and depth of motivation of the entire organizational community. The quality circles formed in the company had a special role to play in this motivational task. The formation of quality circles on the shop floors has been an altogether new experience for the employees and generated an accelerated sense of participation and motivation in their minds. On the organizational climate front, all these had given rise to an enhancement in the score of the extension motive prevailing in the mindsets of the organizational members.

Expert influence development

Clause no. 4.18 of ISO 9001 system specifies training as a key factor in achieving quality. While implementing ISO 9000 system, all the personnel in the organization were trained in the concept and methodology of implementing quality systems and technical and specialized training were imparted to build up competence in their primary functions, such as marketing, design, purchasing, process, and product engineering. Consequently, the workers under the guidance of the supervisors carried out the basic work elements in all these functional areas. This restructured intervention phenomenon helped superiors and their work groups and in improving their working style and interpersonal collaboration that, in turn, contributed to the strengthening of organizational climate characterized by expert influence.

Weakening of the control motive

After the implementation of ISO 9000 system, the executives have perceived a weakening of the dysfunctional climate motives that prevailed in the organization earlier. Implementation of the ISO 9000 quality system enabled the executives and staff in the organization in carrying out their tasks correctly and in identifying, planning, and implementing tasks in ways that yield the right results. It also provided the means for identifying and resolving problems and for preventing their recurrence. All these have resulted in an enhancement in the confidence of staff in doing things right, by themselves. This new style of functioning has enhanced the control of staff over their own operations and helped them in reducing firefighting, and at the same time freed managers and superiors from constant intervention in subordinate operations that they used to practice earlier. This systemic restructuring of operations implemented as part of the ISO 9000 process has contributed substantially in turning around the nature and quality of the organization's climate by weakening and reducing the so-called dysfunctional type of control motive that preexisted in the human environment.

Breaking the dependency motive

ISO 9000 system requires preparation of documented procedures consistent with the quality policy of the organization. In the organization studied, the standard procedure for each type of activity is documented in the departmental procedural manual. This documentation system helps the employees to work in a uniform way, minimizing variability and making task processes predictable. It has also reduced their reliance on superiors for recurrent guidance on repeatable operations. Responsibilities are clear and conditions of internal control are in place. These ISO-induced changes have worked to the benefit of the organization in weakening the dysfunctional organizational climate motives characterized by control and dependency.

Another important area of change in the organization is in relation to the "corrective and preventive" dimensions of the organization's functioning. ISO 9000 system (ISO 9001-4.14) insists that the organization should investigate the causes of non-conformities in the products, processes, and quality systems and record the results. The aim is, in part, to know whether the operators understand the manufacturing instructions and procedures, possess the needed skills for operating the processes and equipment, and possess the skills of taking corrective actions. The organization here has instituted an evaluation system wherein the evaluation and recording of all the above corrective measures are done in consultation with all the personnel involved and by obtaining their views on various methods of preventing defects. This has encouraged a culture of participatory problem solving and multidisciplinary team working among the workforce that in turn has caused a weakening of the dysfunctional organizational climate motives characterized by dependency and control.

Affiliation motive remains same – will it change?

Implementation of ISO 9000 system, however, appears to have made no alteration in the affiliation motive component of the organization's climate. In spite of positive changes in the other climate motives, this dysfunctional motive appears to be quite steady in the organization. The reason for its steadiness, however, could be inferred from the context peculiar to the organization under study. The organization is a 40-year old enterprise located in a semi-urban region and has a history of considerably long employment longevity, as is common in Indian organizations. Majority of the employees joined the organization decades ago and most of them belong to or are residing in areas close to the vicinity of the company. This has enabled them in interacting more closely both within and outside the company and has culminated in establishing long-standing primary bonds not only between themselves but also between their families. This scenario has resulted in the emergence and continuance of stronger levels of the so-called affiliation motive within the organization, in spite of the all-pervasive positive impact of the ISO 9000 system on the organization.

The dysfunctional consequence of the affiliation motive was visible in the company during investigation. It was observed during pre-ISO investigation that the organization was deeply infected with the phenomenon of "groupthink" because of which members were unable to contribute effectively to the decision-making and problem-solving processes in the company. On most occasions, member contributions were limited to seeking avenues for maintaining orderliness and discipline in ways that protect and preserve the good-and-strong relations existing among organizational members. In the post-ISO investigation interviews and focus group discussions, the

executives reported that the renewed sense of efficiency and goal orientation induced by the ISO 9000 system has slowly begun to question the attitudes and behaviors of the dysfunctional cliques in the company, especially in situations where member relations and bonds were working against the efficiency pursuits of the rejuvenated organization. At the same time, they were also of the opinion that the dysfunctional patterns of member relations that still prevailed in the organization would be a major hazard that the organization will have to overcome if the benefits of ISO 9000 system are to be fully utilized.

Organizational and manpower implications

The findings of the study lead to the inference that ISO 9000 system is not just a tool for enhancing quality standards of the products and services of organisations but could be used as a powerful mechanism by company managements for transforming the character and quality of the manpower in an organization. When implemented properly it has the potential to touch upon the negative motives that dominate and interfere with organizational functioning and correct the ills such as excessive and arbitrary managerial controls, employee overdependence on superiors, dysfunctional member relations that run counter to the interests of the organization and the like. It relieves superiors and managers from the need for coercive control and provides employees with the needed autonomy, freedom, and confidence thereby empowering them for self-action at the place of work. It fights interdepartmental conflicts and system inefficiencies and cultivates the climate of system orientation and collaborative thinking among all sections of organizational members.

The study findings further reveal that ISO 9000 implementation generates an essential concern for group efficiency within the manpower resources of a firm and augments the levels of employee involvement, team working, and resource sharing throughout the organization. It cultivates the culture of participatory problem solving and helps extend the influence of experts in the working of teams and task groups. When implemented well, the ISO system builds in automatic systems within the company for developing the skills and proficiencies of its manpower and energizes employees for constructive and motivated performance at work. More than anything else, it infuses among organizational members a sense of accomplishment, achievement, and commitment – the prime virtues that are crucial to the success of today's high performing organizations.

Limitations of the study

The study, however, has limitations. First, though the study was able to show that ISO has an impact on organizational climate, it is not known when the change actually took place. More research may be advised in this line of inquiry. Second, for a wider coverage of the impact of ISO, a larger sample including the workers would have been ideal. Moreover, it is quite risky to draw general conclusions regarding ISO 9000 effectiveness based on one case study alone. More organizations could have been included. The present study could not do this due to limitations of time and resources.

Despite the above limitations, the study has endeavored to throw light on the favorable impact that ISO 9000 may have on the organizational climate of organizations. *In fine*, the findings tend to prognosticate that when implemented well the ISO 9000 system bodes well for organizations not just as a quality enhancement instrument but in addition as a useful tool for change management that could truly

hold the potential for transforming both the character and performance of organizations.

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