

PERSONAL VALUE SPACE OF SCIENTISTS WORKING IN INDIAN R&D ORGANIZATIONS: AN EMPIRICAL ANALYSIS

Santanu Roy¹

Pusa Gate, K.S. Krishnan Marg
New Delhi 110 012, India

E-mail: santanu@nistads.res.in; rsan58@yahoo.co.uk

Sunil K. Dhawan¹

Pusa Gate, K.S. Krishnan Marg
New Delhi 110 012, India

E-mail: sunilkdhawan@yahoo.com

¹ National Institute of Science - NISTADS
Technology and Development Studies
New Delhi 110 012, India

Abstract:

The present study attempts to examine the value system of scientists working in a research and development (R&D) laboratory functioning under the Council of Scientific and Industrial Research (CSIR), India, a public-funded research organization system. The focus of the study is on, first, the examination of selected items that are viewed as high/low in importance in the value space of scientists; and second, relating the value system with the background demographic data of the scientists. A 61-item questionnaire developed for the purpose was used to collect information on the scientists' value system classified into five groups of items – goals of the R&D organization, groups of people, ideas associated with people, personal goals of individuals, and ideas about general topics. The results indicate that the majority of scientists are 'moralistic' perhaps due to the work environment in the organization that has helped them to develop a moralistic view with increase in their length of service. The view that scientists should adopt a 'pragmatic' approach and look for success as the ultimate objective of scientific life is not supported by our research. The study results hold implications for the management of R&D organizations.

Keywords: value space, primary orientation, secondary orientation, Indian scientists, R&D organization

PERSONAL VALUE SPACE OF SCIENTISTS WORKING IN INDIAN R&D ORGANIZATIONS: AN EMPIRICAL ANALYSIS

Introduction

Value may be defined as an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. It is an individual's concept of a transitional goal (terminal or instrumental) that expresses interests (individualistic or collectivist or both) concerned with a motivational domain (like enjoyment, achievement, self-direction, maturity, security or social power) and evaluated on a range of importance (from very important to unimportant) as guiding principle in his or her life. The value system of the members of an organization gets reflected in the organizational culture that refers to a system of shared meaning held by members that distinguish the organization from other organizations. Various research studies on organizational development have emphasized this aspect and its probable impact upon organizational performance. Therefore, a proper stock of personal value space of the organizational members is a desirable objective that would help the organization in effective management and utilization of its people.

The study reported in the paper examines the value system of scientists working in a research and development (R&D) laboratory functioning under the Council of Scientific and Industrial Research (CSIR), India, a public-funded research organization system. The particular R&D laboratory is located in the southern part of the country. The focus of the study is on the examination of the value system of the scientists in terms of their primary and secondary value orientations. The value space of the scientists is seen as consisting of two modes – primary and secondary. The primary mode consists of two components – conceived values and weak values. Conceived values are further sub-divided into three parts – operative values, intended values, and adopted values. The secondary mode of value space consists of pragmatic, moralistic and affective orientations.

Council of Scientific and Industrial Research (CSIR), India

The CSIR is an autonomous society under the Societies' Registration Act passed in 1860. The Prime Minister of India is its ex-officio President. The Governing Body is the highest policy decision-making body of CSIR. The CSIR Headquarters at New Delhi

coordinates the activities of the laboratories. The Council enters into bilateral agreements in the fields of pure as well as applied sciences with scientific organizations of various countries.

The CSIR has in its fold 40 national laboratories and a number of field stations working in different fields of R&D spread all over the country. Each laboratory of CSIR, headed by the Director, has two Councils: Research Council that looks after its long-term and short-term R&D strategies, and Management Council that looks after its administrative functions.

Conceptualization of the Value Space

A value is a broad general belief about some way of behaving or some end state that is preferable to the individual. Examples of values could be: leading an exciting life, having a comfortably rich existence, being courageous, being honest and ethical, living in a peaceful world, having personal freedom, etc. Values guide actions and judgments in many different situations and beyond people's immediate goals to a more ultimate end state of existence. According to Posner (2004), a value is a belief or a philosophy that is really meaningful to a person. Values can range from the commonplace, such as the belief in hard work, self-reliance, and punctuality, to more psychological values, such as concern for others, trust in others, and harmony of purpose.

Values are a form of belief, or personal conclusions we have made about what is true or not true or what is beautiful and good about the world. Beliefs are organized within our minds into a more or less organized system referred to as a value system. An individual's core values form his personal value space that leads to judgments and decisions, causing actions and results. Schwartz (1992) has defined a value space or value system as a set of values that we hold and the conflict, compatibility and hierarchical relations among them. Values influence our choices, but our choices also influence our values. According to Kelman (1958), the process of changes in values is slow but it often begins with changes in behaviour.

Values are conceptualized as importance attached to or preference for things, persons, or ideas (Bond, 1988; Schwartz, 1990). Value may be defined as 'an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conductor end-state of existence' (Rokeach, 1973). According to Schwartz and Bilsky (1987), a value is an individual's concept of a goal (terminal or instrumental) that expresses interests (individualistic or collectivist or both) concerned with a

motivational domain (enjoyment, achievement, self-direction, maturity, security, prosocial, restructure conformity, and social power) and evaluated on a range of importance (from very important to unimportant) as guiding principle in his or her life.

A distinction has been made between desired values and desirable values – what people actually desire as compared to what they think they should desire. It has been suggested to view values as desired so as to relate it to behaviours (Hofstede, 1984). Rokeach (1973) has classified values into two categories – terminal and instrumental. He has used the term terminal values for desirable end-states of existence and instrumental values for desirable modes of conduct. An individual may hold values from both the categories. A person's value system may consist of several conflicting values. According to Rokeach (1973), both terminal and instrumental values are interconnected. However, one mode of behaviour may be instrumental to the attainment of several terminal values. On the other hand, several modes may be instrumental to the attainment of one terminal value.

Values have been a subject of investigation and debate in the literature (Ali and Al-Shakis, 1985; England and Lee, 1974; Sikula, 1971). The construct of value can be studied as dependent as well as independent variable. Value, as a dependent variable, can be thought of as a result of various personal, social and cultural factors whereas the impact of values, as an independent variable may be identified and interpreted on almost all kinds of behaviour. Maslow (1959), Young (1957), Secord and Backman (1964) and Inlow (1972) in their definition of values have emphasized the importance of culture in the understanding of values. Other researchers conceptualizing the value space include Kelly (1969), Young (1957), Morris (1956), and Rokeach (1971, 1973). Dutta (1971) has defined values as the preferred mode of orientation towards specifiable categories of human experiences.

Most authors agree about beliefs being basic to attitudes and values. An individual's belief system is formed through interaction, learning in various ways and various forms. Most human behaviours being learnt, most beliefs are acquired through the process of learning. In a given societal system, culture would take a certain form which would determine the self-concept and personality through the process of socialization. Societal system would also determine occupational role and status through stratification. Occupational role, self-concept and status are important variables influencing values which are inherited from culture through socialization.

The value system of an individual, developed as a part of the socialization process, may get altered as and when the individual has traumatic experiences or passes through any

pleasant events. Thus, the occupational role or work life is the greatest conditioner of one's values. Needs, interests, beliefs, attitudes, personality and the like influence one's decision-making and one of the main function of values could perhaps be visualized as providing standard for decision-making. According to Ronen and Shenkar (1985), for innovative and technology based organizations that span across geographical boundaries, it is not just technology and database systems that represent knowledge innovation management (KIM), but more intangible elements, such as workplace practices, cultures, employee attitudes and mindsets that determine the success or failure of transferring KIM practices across borders.

Values are particularly important for understanding individual-level behaviour in organizations because they affect the way people behave and the way they perceive the world. An understanding of values gives us a framework for appreciating how people feel about their jobs, their supervisors, their pay, and many other important organizational variables. Awareness and understanding of personal values is helpful because what a person values is a good predictor of what he/she chooses to invest his/her energies. For instance, one person may be more interested in getting things done in a timely and pragmatic manner while another finds it more important to maintain friendly relations with co-workers.

Organizational Culture and Values

Organizational culture has been defined as 'shared managerial beliefs and assumptions about employee nature and behaviour' (Aycan *et al.*, 2000, p.196). Organizational culture is a set of values, behaviour and norms that make things done in an organization. In every organization, there is a set of values, assumption and beliefs that determine what is expected from each employee and how to set things done in that environment. Therefore, values are at the heart of analysis of culture. Organizational cultural refers to a system of shared meaning held by members that distinguish the organization from other organizations.

Values operate at two levels - social and individual. On social level, values are acquired by the individual through socialization from culture. Since culture is influenced largely by the social system, the values are also influenced by the societal system. These values form part of self; they are influenced by status; and also influence and get influenced by one's occupational role. Occupational role is a very important determiner of values since the demands of the job, including the work organization and work morality (Singh, 1969), are vital to values.

The Present Paper: Context and Framework

As mentioned earlier, the present paper is an attempt to understand the value system of scientists working in a CSIR laboratory in India. For the purpose of the present study, the definition and concept of value system as developed by England (1975) have been used. The value system of scientists has been seen as consisting of two modes - primary and secondary. The primary mode consists of two compounds - conceived values and weak values. Conceived values are further sub-divided into three components: Operative values (those which have a relatively high-probability of being translated from the international state into actual behaviour); intended values (those which are viewed as important but may have only a moderate probability of being translated from the international state into actual behaviour); and adopted values (those which less a part of the personality structure of the individual and affect behaviour largely because of circumstances).

The secondary mode of value system consists of the following: pragmatic (those who generally characterize the concepts they see as high in importance as successful); moralistic (those who characterize the concepts they see as high in importance as right); affective (those who characterize the high important concepts as pleasant); and mixed (those who do not fall into any of the about three groups). This conceptualization of value space is similar to Lewis's (2000) conceptualization. According to him, the term 'values' is synonymous with personal evaluations and related beliefs, especially personal evaluations and related beliefs about the 'good', the 'just', and the beautiful, personal evaluations and beliefs that propel us to action, to a particular kind of behaviour and life.

Methodology

The sample of respondent scientists working in the concerned R&D laboratory was chosen using systematic random sampling with every third scientist from the standard random list. A modified 61-item questionnaire, originally developed by England (1975), was used for the purpose of ascertaining the scientists' value system. The items were classified into five factors - goals of an R&D organization, groups of people, ideas associated with people, personal goals of individuals, and the ideas about general topics. The respondents were asked to judge each one of the 61 topics indicating the degree of value attached to each item – important, pleasant, right, or successful.

The personal value questionnaire (PVQ), originally developed by England (1975), was modified to suit Indian R&D organizations. It contained 64 concepts such as new technology, leadership dynamics, skill, achievement, etc. The respondents were asked to rate each concept on two types of scales. The first scale referred to the importance given to a concept by attaching a score of 3 to high importance, a score of 2 to medium importance and a score of 1 to low importance. For the second scale, the respondents were asked to specify which of the three descriptions - successful, right, or pleasant - best indicates the meaning of the concept and rank it as 1. Again, they were asked to indicate which description least indicates the concept's meaning to them and rank it as 3. The remaining description was ranked 2.

Primary Orientation

To ascertain the primary orientation of the scientists, three conditional probabilities were first calculated as follows:

- Probability (success/high importance) or $P(S/HI)$.
- Probability (right/high importance) or $P(R/HI)$.
- Probability (pleasant/high importance) or $P(P/HI)$.

Afterwards, the largest conditional probability was compared with its complement, e.g., $P(S/HI)$ is the complement of $P(S/HI)$, and the values of the two probabilities were compared.

If the largest conditional probability was greater than its complement, then the decision rule was as follows: Operative values of scientists were those concepts which were seen as high in importance and fitted their primary orientation. Intended values were those concepts which were seen as high in importance but did not fit their primary orientation. Adopted values were concepts which fitted the primary orientation of the scientists but were seen as medium or low in importance.

Finally, joint probabilities for the pragmatic and moralistic group of scientists were calculated to understand the degree of pragmatism or the degree of moralism present in an individual scientist.

Results

Table 1 provides the primary orientation of the scientists and their background data. It shows that the respondents are quite experienced with an average length of total service of about 17 years. A majority of these scientists have spent almost their entire career span in the laboratory itself. Thus, we are dealing with a sample of scientists who are quite experienced and their value system must have been strengthened with increase in age and length of service.

It is observed that the primary mode of value system is dominated by moralistic orientation (47.8%). This shows that Indian scientists have a strong feeling of 'right-wrong' as 'proper-improper' look at the tasks/items that they perceive as important. In other words, while at work, Indian scientists are more concerned with the fact whether the correct path has been followed or not, whether what has been carried out is as per rules or not. This is followed the group of scientists who have a pragmatic orientation (28.7%) and mixed orientation (23.5%). In fact, what is perhaps required in a productive organization is pragmatism so that the culture that prevails in the organizational system could lead to more output or achievement orientation. However, our data do not reflect this picture.

Table 1: Background data and the primary orientation of scientists (N=115)

S. No.	Background data	Pragmatic	Moralistic	Mixed	Total
1.	Total sample	33	55	27	115
	%age	28.7	47.8	23.5	100
2.	Age (years)				
	Mean	39.27	42.08	41.16	41.24
	S. D.	8.56	10.12	7.45	9.31
3.	Length of service (years)				
	Mean	15.28	17.47	16.49	16.74
	S. D.	10.42	10.08	7.43	9.65
4.	Service in the laboratory (years)				
	Mean	13.18	14.39	15.02	14.21
	S. D.	11.01	9.52	8.41	9.74

It is also observed from Table 1 that pragmatic people are somewhat younger compared to the moralistic or mixed group of scientists. However, the difference is not statistically significant. Despite this, one wonders whether the environment of the R&D laboratory induces even the pragmatically oriented scientists adopt to the moralistic orientation.

Table 2 presents the relationships between joint probabilities for the pragmatic and moralistic group of scientists (indicating the degree of pragmatism and moralism in the sample) and the background data of the respondents. The correlations presented indicate that

with increase in age of the pragmatic group, their degree of pragmatism decreases, whereas for the moralistic group, with increase in length of service and service in the laboratory, their degree of moralism increases. This, in a way, perhaps reflects the general climate prevailing in the laboratory. The environment in the laboratory might be promoting a culture that allows scientists to look at important tasks mainly in its right-wrong context, in line with what had been stated earlier.

Table 2: Correlation coefficients between joint probabilities and background data

S. No.	Background data	Pragmatic orientation (N=33)	Moralistic orientation (N=55)
1.	Age	-0.39*	0.21
2.	Length of service	-0.22	0.36*
3.	Service in the laboratory	-0.19	0.42

Note: * $p < 0.05$

Table 3(a) presents the items of high importance (75 per cent or higher) and Table 3(b) the items of low importance (25 per cent or lower) of the PVQ. It is observed from the Tables that a majority of items belonging to the factor 'goals of an R&D organization' have received high importance rating from the scientists (except social welfare). Thus, while defining or setting goals of the organization, the scientists attach a somewhat higher importance to new technology, organizational efficiency, leadership dynamics, employee welfare and organizational stability.

Table 3(a): Concepts of high importance

Goals of an R&D organization	Groups of people	Ideas associated with people	Personal goals of individuals	Ideas about general topics
New technology	Organization	Skill	Achievement	
Organizational efficiency	Users of technology	Cooperation	Creativity	
Leadership dynamics	Co-workers	Trust	Dignity	
Employee welfare		Honour	Success	
Organizational stability		Ability		

Table 3(b): Concepts of low importance

Goals of an R&D organization	Groups of people	Ideas associated with people	Personal goals of individuals	Ideas about general topics
Social welfare	Headquarters	Prejudice	Leisure	Conflict

Association Scientists as managers Administrators Purchase department	Aggressiveness Compassion Conformity	Influence Power	Conservatism Force Emotion Religion Change compromise Property Authority Risk
--	--	--------------------	---

The second factor of the PVQ, namely ‘groups of people’ has three items in the high importance list and four in the low importance list. In the former category are co-workers, users of technology, and the organization. Interestingly, the item ‘me’ has not appeared in the table. It contradicts the popular belief that Indian scientists are egoistic in concern and prefer to give high preference to themselves. Administration, finance, and purchase departments (the ‘control’ units) have found low ranking. This may be a reflection of scientists’ anguish over the control activities adopted by the organization over their tasks and activities. Likewise, ‘headquarters’ that coordinates and controls various activities performed in different constituent laboratories of CSIR, has received low importance.

Examining items related to the third factor ‘ideas associated with people’, it is observed that scientists have attached higher importance to socially desirable items like skill, cooperation, trust, etc. whereas they have attached a low priority to socially less desirable items like prejudice, aggressiveness, etc. One should be cautious in interpreting this result. It is possible that the items of high importance are the ‘ideal’ ones that the scientists perceive should get higher priority in laboratory functioning and items of low importance are the ones that reflect the true conditions prevailing in the laboratory.

‘Personal goals of individuals’, the fourth factor of the PVQ reflect the desires of individual scientists. Somewhat higher feelings have been attached to success, achievement, creativity and dignity, whereas leisure, influence, and power are seen on the lower side. A lower rating for influence and power might reflect upon a situation where power is concentrated only in a few hands, out of bounds of the common laboratory scientist.

It is observed from Tables 3(a) and 3(b) that no item related to the fifth factor of the PVQ, ‘ideas about general topics’, has appeared in the high importance category. Items such as risk, authority, charge, emotion, etc. have been viewed as of low importance. This raises several issues for future studies. Are scientists risks averters? As it that scientists find it difficult to cope with the changing environments, nationally and globally? Is it that scientists do not wish to take responsibility and try to avoid conflicts?

Table 4 provides the significant correlations among the five factors of PVQ and the background information of the respondents (separate analysis were carried out with different groups of scientists based on their primary value orientation). For the mixed-oriented group, no significant association has been observed. For the pragmatic group, negative correlations are observed between ‘goals of R&D organization’ and all the three background data parameters. It indicates that with increase in age, total length of service and service in the laboratory, the concern or importance attached to various issues related to the goals of the R&D organization decrease. Perhaps for this group, persons who wish to complete their tasks with success as the primary motive, finds an imbalance between their values and the goals or the ways goals one sought to be achieved. This might result in creating confusion in their mind regarding organizational goals and objectives and as such their clarity about goals goes down. For the moralistic group of scientists, the significance correlations are observed between ‘groups of people’ and age, and ‘groups of people’ and service in the laboratory (both positive). This indicates that with increase in age and service in the laboratory, the importance and value attached to the different groups of people they are associated with like co-workers, users of technology and other similar groups, increases.

Table 4: Significant correlations between factors of PVQ and background data

S. No.	Factors of PVQ	Age	Length of service	Service in the laboratory
1.	Goals of an R&D organization	-0.36* (Pragmatic)	-0.39* (Pragmatic)	-0.35* (Pragmatic)
2.	Groups of people	0.29* (Moralistic)		0.32* (Moralistic)

Note: * $p < 0.05$

Discussion

The study reported in the paper has probed into the value space of Indian scientists in terms of their primary value orientation as well as their secondary mode of value system. The results indicate that a large majority and scientists are moralistically oriented, that is, the orientation that views important items in right-wrong or proper-improper context. In fact, it has been a part of Indian culture to view things in proper-improper categories. The religious ideologies which are incorporated in the Indian minds right from early childhood in a vast majority of households, primarily concerns whether a right path has been followed or not. This may ever dominate our value space at a later stage of life. The view that scientists should

adopt a 'pragmatic' approach and look for success as the ultimate objective of scientific life is not supported by our research.

The results also indicate that the degree of pragmatism of the scientists goes down with increase in age, whereas the degree of moralism goes up with increase in service record in the organization. This is in line with Hamner's (1980) thinking. According to Hamner, when a person enters an organization, one of the first things he attempts to do, either consciously or unconsciously, is to break down the old norms and values that he carries with him and replace them with new norms. Thus, it is possible that the prevailing culture of moralism pressurizes the new entrants in the scientific community to adapt into the 'set-culture'. The way scientists react to this 'socialization' process (in Hamner's language) depends upon individual characteristics and motivation. A scientists may start looking for 'alternatives' (one extreme) or he may try to 'converge' himself into the set-culture (other extreme). However, circumstances often compel them to follow the middle-path, that is, to remain in the organization and whenever opportunities arise, react or act in an antagonistic manner.

It has been observed that a vast majority of items related to organizational goals like new technology, organizational stability, and employee welfare have received high importance rating as also associated groups of people like users of technology and co-workers; socially desirable traits like skill, cooperation, trust, honour and ability; and personal goals like achievement, creating success, and dignity. Socially less desirable issues like prejudice, aggressiveness, leisure, conflict, etc., have received limited relevance in the behaviour of scientists.

Conclusions

The study was designed to understand the personal value space of R&D personnel in India. Some of the results could have significant bearing upon the management of these R&D organizations. First, it has been observed that the work culture prevailing in some of the R&D organizations in India promote moralistic orientation among the scientific community. It is apparent that long years of working in the laboratory have not been able to orient scientists towards a pragmatic approach while dealing with life and work. Second, most of the concepts concerning goals of the R&D organization, for instance, new technology, organizational efficiency, organizational stability, and employee welfare, have been perceived to be high in the priority of the scientists. This indicates that the scientists are concerned

about new technology and the growth and development of their organization. Social welfare, on the other hand, has received a low priority in such a scheme. Third, it has been observed that socially desirable concepts like skill, cooperation and trust have been perceived to be high in importance and socially less desirable concepts like prejudice and aggressiveness, have been perceived to be low in importance. This perhaps could be due to the tendency of people to ascribe socially desirable qualities to themselves. Fourth, a few of the personal goals rated as high in importance are success, achievement, creativity, and dignity. These are in line with a scientist's perception of himself as a creative individual. By a similar logic, he rates leisure as low in importance. Interestingly, factors like influence and power have been rated low. It gives rise to the issue whether or not scientists in a laboratory are interested in acquiring power or influencing others, or whether they are simply not in a position to do so due to the autocratic style of functioning of the laboratory management. Fifth, it is significant that none of the items concerning ideas about general topics have been rated high. These concepts, generally considered vital for managerial decision-making and organizational restructuring like risk, authority, change, and emotion, have received low priority. Perhaps, R&D managers need to ponder over the question whether traditional managerial issues are valid or not for scientists in a research laboratory.

The methodology adopted in the study has been used earlier by England (1975) in industrial and service sector organizations in seven countries including India. Roy and Dhawan (1984) had carried out a study on the personal value system of Indian corporate sector managers using England's (1975) 62-item original questionnaire. In the present case, however, the questionnaire was modified to suit Indian R&D setting. Therefore, it cannot be said with certainty whether these results could be replicated in non-R&D and non-technological organizations.

To sum up, the present study has attempted to provide an insight into understanding of the value space of Indian scientists and its relationship with their historical past. The study results have several implications for the management of such R&D organizations. Most often, R&D managers, and managers of technology organizations, function unmindful of the value space of their intellectual workforce. It is important to understand the primary and secondary value profiles of their scientists and engineers, and to appreciate what are the issues that they are comfortable to work with and what issues distract them from their immediate task environment. Policies that could be so successful in one organization might totally be off the mark in some other organization or perhaps in a similar organization but operating within a different cultural milieu or country. A proper understanding of the value space of the people

whose performance is vital for survival and growth of an organization could, therefore, serve as a guidepost for the management of these organizations.

References

1. Ali, A. and M. Al-Shakis (1985). Managerial value system for working in Saudi Arabia: An empirical investigation. *Group and Organisation Studies*, 10, 135-151.
2. Aycan, Z, R.N. Kanungo, M. Mendonca, K. Yu, J. Deller, G. Stahl and A. Khurshid (2000). Impact of culture on human resource management practices: A 10-Country comparison. *Applied Psychology: An International Review*, 49(1), 192-221.
3. Bond, M.H (1988). Finding universal dimension of individual variation in multinational studies of value: The Rokeach and Chinese value surveys. *Journal of Personality and Social Psychology*, 55, 1009-1015
4. Dutta, R. (1971). *Values in Models of Modernization*, Vikas, Delhi
5. England, G.W. (1975). *The Manager and his Values*. Mass Ballinger, Cambridge.
6. England, G.W. and R. Lee (1974). The relationship between managerial values and managerial success in the United States, Japan, India, and Australia. *Journal of Applied Psychology*, 59, 411-419.
7. Hofstede, G. (1984). *Culture's Consequences: International Differences in Work-Related Values*, Sage, Beverly Hills, CA.
8. Inlow, G.M. (1972). *Values in Transition: A Handbook*, John Wiley, New York.
9. Kelly, J (1969) *Organisational Behaviour*, R.D. Irwin, Homewood.
10. Kelman, H.C. (1958). Compliance, identification and internalization: The processes of attitude change, *Conflict Resolution*, 2, 51-60.
11. Lewis, H. (2000). *A Question of Values: Six Ways We Make the Personal Choices that Shape Our Lives*, Axios Press, Crozet, VA.
12. Maslow, A.H. (1959). Preface. In: *New Knowledge in Human Values* (A.H. Maslow, ed.), Harper and Row, New York.
13. Morris, C.W. (1956). *Varieties of Human Values*, University of Chicago, Chicago.
14. Posner, R. (2004). *The Power of Personal Values*, The Values Center, <http://www.gurusoftware.com/Gurunet/Values Center.htm>
15. Rokeach, M (1973). *The Nature of Human Values*. The Free Press, New York.
16. Rokeach, M. (1971). Longrange experimental modification of values, attitudes and behaviour. *American Psychologist*, 26, 453-459

17. Ronen, S. and Shenkar, O. (1985). Clustering countries on attitudinal dimensions: A review and synthesis, *Academy of Management Journal*, September, 435-454.
18. Roy, S. and Dhawan, S.K. (1984). Indian Managers and their Values, *Indian Journal of Industrial Relations*, 19(3), 367-378.
19. Schwartz, S.H. (1990). Individualism-collectivism: Critique and proposed refinements. *Journal of Cross-Cultural Psychology*, 21, 139-157.
20. Schwartz, S.H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries, in M.P. Zanna (Ed.), *Advances in Experimental Social Psychology*, 25, 1-65, Academic Press, Orlando, FL.
21. Schwartz, S.H. and W. Bilsky (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology*, 53, 550-560.
22. Secord, P.F. and C.W. Backman (1964). *Social Psychology*, McGraw-Hill, Tokyo.
23. Sikula, A.F. (1971). Values and value systems: Importance and relationship to managerial and organizational behaviour, *Journal of Psychology*, 78, 277-286.
24. Singh, L.C. (1969). *A Comparative Study of Meaning of Occupational Titles Between and within Two Language Groups in India*, Central Institute of Education, Delhi.
25. Young, K. (1957). *Handbook of Social Psychology*, R & K. Paul, London.