

The article claims to have evolved a new methodology of Statistical applications in identifying 'social networks' in organizations or any social setting. The research technique incorporates an innovative use of Principal Component Analysis, thereby ensuring high validity and reliability.

# **Mindset-Correlation:**

## **The Secret Power of Social Networks in Organizations**

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Leaders and Managers of human collectivities have been always concerned about the phenomenon of 'informal organizations' or 'social networks' within the larger group or organizational totality. Plenty of direct and indirect evidences reveal that such networks of people contain the power to enhance or sabotage the course of an organization. Whether the organization is a family, a community, a group, an association, a small enterprise, a work unit, a business corporation, or even a nation; 'informal social networks' play a critical role.

## The Concept and Research

*What a Copernicus or a Darwin really achieved was not the discovery of a true theory but of a fertile new point of view.*

- Ludwig Wittgenstein, Culture and Value, 18e

The research reported pertains to the verification of a new concept named '*mindset-correlation*', evolved out of combining the psychological-organizational concept of 'mind-set' and the Statistical principles and methods of 'correlation' and 'factor analysis'.

The Statistical concept of correlation refers to the co-related movements or behaviour of variables. Human entities also behave, act and interact, or co-relate among themselves. Ideas and perceptions about that aspect of human existence fill volumes of thoughts and ideologies ranging from philosophy and religion to a variety of sciences - including organizational behaviour in management in which the concept of 'informal organization' or 'social network' has been given a critical significance.

The logic of conceptualizing *yet another point of view* - '*mindset-correlation*' - to observe, understand, and if possible, to manage the formation and sustenance of 'social networks' is self-evident. The essential requirements of a research work have been set by collecting empirical data, identifying a Statistical methodology for systematic analysis of the data and derivation of findings, and rendering interpretations and implications based on the findings.

### THE DEVELOPMENT OF THE CONCEPT OF 'MIND~SET CORRELATION'

*"All Science depends on its concepts. These are ideas which receive names. They determine the questions one asks, and the answers one gets. They are more fundamental than the theories which are stated in terms of them."*

- Sir G. Thompson, Nobel Laureate

The concept was developed out of 'Creative Analysis' - by identifying the linkages of concepts beyond the directly denoted ones - of critical ideas about the behavioural, social, organizational aspect of human relations.

People actively search for relations - an obvious reality of existence. The 'belongingness motivation' identified by Abraham Maslow substantiates this aspect. While people in organization or collectivities claim sense of belongingness, interact continuously, work or Jive together; the reality of 'social networks' continues to exist. 'social networks' are 'informal' assemblage of individuals or 'sub-groups' of relatively strong bond within the larger group. The way of formation of 'social networks' seems to be beyond easy explanations. For instance, there could be different 'networks' within a family - extended family comprising blood-relations.

In general, the members as a whole cannot know the details of the 'networks' in the total group. Informal or secretive networks would exist within a 'team' regardless of bottom, middle, senior, top levels of hierarchies of groups or organizations. More or less inevitably, such 'informal networks' might achieve the power to control and govern the movements of 'other' members or other networks in a larger group. A historical overview of significant events that shaped or destroyed societies and institutions reveals the indirect but decisive function of 'informal networks' within groups.

Altogether, 'informal social networks' are a fact of human groups regardless of the apparent nature of culture, community, commitment, belongingness, official membership, and familial relationships.

*The concept of mind-set correlation has the following intentions:*

- [1] to identify the existent 'social networks' in groups, work units, divisions, and levels in organizations
- [2] to identify 'potential' social networks and 'alterations' in existent ones when new members are inducted
- [3] to ascertain the extent and relative positioning of individuals within, across, and beyond the networks
- [4] to identify the nature and extent of the psychological attributes that 'linkage' or 'de-linkage' individuals vis-a-vis networks

[5] to develop strategies to:

- vary or dissolve the pattern of social networks - if required, or
- to improve inter-network cohesiveness', or
- to enable uniformity in perceptions and expressions and behaviours of the group of individuals as a whole, and
- to enable the 'outliers' to adapt to relevant networks

The term 'mind-set correlation' involves three aspects: mind, set, and correlation.

Each of them and their correlates are briefly discussed below.

#### THE CONCEPT OF MIND-SET

##### 1. 'The mind is but mind-sets'

The great philosophers, mystics, and thinkers of the East and the West had spent a great lot of time of their own minds to conceptualize the nature and dynamics of mind. Every human being feel convinced about having a mind within and at the same time unable to derive any perception about its real nature. It is there but it is not there kind of a situation - so that the Zen perspective of Japan regards it as a situation of 'gateless-gate'. There is no mind - or even a mind of 'no-mind' - the essence of Zen proceeds from this point. The Taoist perspective of 'the mind reflects itself' and the Cartesian perspective of 'I think, therefore, I am' denote the possibility of carrying sense-bound impressions, perceptions and cognitions thereof, which are further processed by communication, learning• knowledge-experiences, individual-specific history, culture and climate in the external environment, and so on.

Thus, the derivation of meaning for the term 'mind' provided by the Oxford Dictionary as 'the seat of awareness, *thought*, volition, and feeling; *cognitive*, and emotional phenomena and powers as constituting a *controlling* system.' According to Merriam Webster, mind is the 'element or complex of elements' in an individual that *feels, perceives, thinks, wills, and reasons*; the *conscious mental events* and capabilities

in an organism; the *organizer/ conscious and unconscious adaptive mental activity* of an organism'.

The 'Oxford Companion on the Mind' [Ed. Richard L Gregory, OUP, 1987] takes about 800 pages to provide brief descriptions about the various aspect of the most subtle dimension of human beings. However, whether the Mind is understood by researchers or the direct holders, its expressions, behaviours, and activities are manifested outside. The tendency to become a part of the informal network is in an integral part of the minds of the 'participants' in any group of any type, anywhere in the world.

##### 2. The concept of Set

The term 'set' indicates the required 'mind-set' to 'consider this perspective. The Oxford dictionary defines the term 'set' as: "tendency, inclination; determination [of the mind, character, action, etc.] in a certain direction; settled direction, fixed habit; also, a predisposition or expectation influencing response".

Thus, the semantic import of the terms 'mind' and 'set' indicates a scope to sustain the logic of the concept of 'mind-set' - leading to the statement, 'the mind is but mind-sets'. That is, 'mind is the whole and mind-sets are the parts' [so that, the intangible aspect of mind is denoted by that 'extra' connoted in the adage, 'the whole is not the sum of its parts']. The mind has to facilitate responses to the environmental 'contents' according to the contents in its scope and stock.

An individual who does not 'know' Japanese language cannot respond to a 'No' drama and give a rating on its quality. Thus, in the process of responding to the environment, as the mind reflecting itself, the mental contents too are revealed - indirectly. As these contents are repeatedly reflected, they become somewhat 'reinforced' or 'set' in a certain pattern, thus the concept of mind-set.

It is presumed that mind-sets determine and govern an individual's expressions and responses to events, situations, people, ideas, objects, phenomena, etc. Both the external and internal environment - actually exist within the contents of the mind itself. Given below is a diagrammatic representation of this perspective.

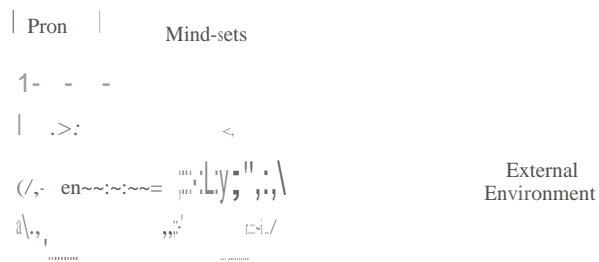


Diagram showing Mind-sets about the 'external environment-sets' and 'internal mind-sets'.

### 3. The relevance of the concept of mind-set

The organizational significance and relevance of the concept of 'mind-set' was derived from contemporary research on 'informal organization' or 'social networks'. The literature is replete with explanations and descriptions, and interpretations based on research and theories about concepts of 'mind-set', and several other themes and topics associated with them, namely; team work, team spirit, commitment, and sense of ownership.

A reported study<sup>2</sup> had identified five kinds of mind-sets; 'reflective mind-set', 'analytic mind-set', 'worldly mind-set', 'collaborative mind-set', and 'action mind-set'. These mind-set concepts explain and interpret the way in which the environment of events and people are perceived, observed, experienced, understood, and acted upon. However, the researchers specify that, "It simply has proved useful in our work with managers, including in our master's program ... Second, we ask you to consider each of these managerial mind-sets as an attitude, a frame of mind that opens new vistas. Unless you get into a reflective frame of mind, for example, you cannot open yourself to new ideas. (.) Think, too, of these mind-sets as mind-sights• perspecti ves"<sup>3</sup>

However, the names, 'reflective', 'analytical', etc place the significance upon the process of reflection or analysis rather than a mind-set itself. That is, when the term 'reflective' is used, whether it is followed by 'mind-set' or 'mind' or some other relevant terms like, 'ability' or 'competency' would not make much difference. For, the focus is on the aspect of 'reflection' than on the mind-set which is defined by the 'contents' than the process [of reflection and analysis - of contents

from the environment]. Whereas, in this study, the term mind-set is used to refer to certain specific 'content', or abilities, knowledge, learning, experience; values, attitudes, perspectives, etc which triggers, governs, sustains a perception, thought, action, or response about specific aspects in the environment. And, that response can be based on reflection, analysis, or action.

However, the focus of the study is not on the nature of mind-sets. Instead, the nature of 'correlations' of mind-sets vis-a-vis certain parameters that engender the existence, survival and sustenance of informal social networks in groups and organizations.

### 4. Relation and Correlation

The concept of 'relation' is relevant because of the reality of 'human relations' which has become the core of phenomenon of the existence, survival and sustenance of humanity.

The statistical concept of correlation is relevant, based on a presumption that a certain significant level of 'correlated ness' should exist among individuals in 'relationship'. There are considerable differences in the semantic import of the terms 'relation' and 'correlation'. Relation does not require an essential or even a peripheral level of compatibility or similarity in psychological, behavioral, organizational, or social role positions between the members involved. 'People' staying together in houses, living in neighborhoods, working together in organizations appear to be related and they think or even feel related. Yet, each one of them would tend to 'belong' to a smaller unit or group, closely knit, and boundaries often maintained under rigorous and mutually compatible mind-sets.

Mind-set correlation would require an essential, much more clear terms of compatibility vis-a-vis the properties, character, and dynamics of relevant mind-sets. Just as in the case of Statistical correlation. In the context of an organization compatibility in terms of mind-sets of competencies, education, experience, knowledge levels, values, ethics, etc might govern the choice of networks.

In short, the relationships demonstrated among members of a larger group might actually contain several informal sub-groups. In other words, from the perspective of correlation of mind-sets, the majority of

'relations' in a group would comprise neutral correlations, no-correlations, or even negative correlations - sometimes, even between just two persons related by marriage. In brief, it is important to discriminate between 'relationships' and 'positive correlation' among people. In other words, the 'real' human relations are based on 'correlations' of mind or mindsets.

## 5. Mind-set Correlation

The semantic import of 'correlation' is about the *'mutually close or necessary relation of interdependence'*. The Statistical theory and method of correlation further establishes the empirical reality of correlation among things and phenomena in the Nature, in the organic world, and even in the world of machines and technologies.

This concept of 'mind-set correlation' is implied in the general usage: 'like-mindedness', 'mutual compatibility', 'friendship' or 'intimate friendship', etc. Sociology and Social Psychology use the terms 'dyad', 'triad', 'tetrad', and 'pentad' to refer to the number of persons involved in such 'friendship groups' - known as 'informal groups' in organizations.

That is, when there are several 'correlated' mind-sets between two, three, or five individuals, they form 'dyads', 'triads', etc. In other words, when a relationship between two or more persons achieves the qualities and properties of interdependence and close mutuality, it is a 'mind-set correlation'

## 6. The Logic of Mind-set Correlation

*'The scale' of observation creates the phenomenon'*

For the human entity, everything needs to begin with perception - about entities, things, phenomena, and above all; people. The growing child's perception evolves about a thing as his or her mind-set or knowledge and experience about the thing increases. Therefore it is presumed that an individual's opinion or 'rating items in a questionnaire would denote certain aspect in the mind that controlled the perception-cognition-thinking about the thing being rated.

This aspect is named 'mind-set' *about that thing being rated*. This may appear very simple. But it is

disregarded. There must be a mind-set behind every action or response. Therefore, behind every perception too. If a person does not know Japanese language, he cannot have the mind-set to comprehend or even be interested in Japanese poetry.

Thus, this thesis is oriented to 'set' the concept of mind-set and mind-set correlation as follows:

1. Mind-sets are the 'contents' of the mind. It may be an attitude, motive, need, preference; or knowledge, learning, insight, idea, cognition, etc that determine and govern an individual's response to people, events, situations, ideas, things, phenomena, etc in the environment

2. Mind-sets assume a significant and critical role in a collective body of people. For, a collective of people cannot function optimally unless there is a 'correlation' among the mind-sets of the constituent individuals.

3. The mind-sets of individuals govern the formation of social networks.

## 7. 'Social Networks' in organization

Leaders and Managers of human collectivities have been always concerned about the phenomenon of 'informal organizations' or 'social networks' within the larger group or organizational totality. Plenty of direct and indirect evidences reveal that such network of people contains the power to enhance or sabotage a critical task or even the course of the organization.

The literature does not show any significant level of research or methods to understand the nature and dynamics of 'social networks'. It seems to be taken as an inevitable reality or explained as a way of 'organizational politics'. In fact, 'to understand the political setup of an organization' is considered to be one of the competencies of managerial or leadership success. Contemporary research on social networks uses one or the other forms of the classic method of 'sociometric analysis'. However, the intention of this paper is not to subscribe or support such political aspect of social networks. Instead, to develop a methodology to understand the process involved.

A major study has identified 'central connectors'

who link most people in social network with one another; 'boundary spanners' who connect an informal network with other networks in the same organization, 'information brokers' who keep the different sub-groups of informal networks together, and 'peripheral specialists' from whom anyone in the network can access knowledge.

The same study used an innovation of sociometry, named 'social network analysis' to identify social networks' However, it finally provides a conventional 'sociogram' based on participant observations, data collected from emails tracked from the systems, and a questionnaire directly implying items relevant to interpersonal relationships.

Such data cannot be subjected to statistical treatment. Moreover, it can give only the external movements of people that form an informal group, most of which can be mere 'relations' and not mental correlations. However, the researchers themselves are ambiguous about the scope of such kind of data collection. For instance, "The survey can be pre-tested on a small sample of employees to determine if they would respond positively or if the poll would be seen as an unwanted intrusion. Safeguards such as guaranteeing confidentiality and crosschecking responses can be built into the process to ensure that employees' privacy is protected and that they are answering honestly."

Obviously people in a work unit cannot be alien to each other. In the world of organizations where team work and team spirit are espoused individuals cannot afford to position themselves as outliers by any of the obvious parameters. Therefore, individuals would team up, play together, enjoy food and entertainments together. However, they would belong to different 'networks'. The concept of 'Mental-Correlation' is derived to explain this phenomenon.

## 8. The Statistics of Mind-set Correlation

The Statistical method of correlation is applicable to estimate the degree of 'association' between attributes, qualities, properties, etc of things and phenomena. In organizational research, no other method seems to have been used so extensively.

In Statistics, the 'coefficient of correlation' is the

most frequently used method to estimate the degree of association among variables. The coefficient is denoted as a number between +1 and -1 calculated so as to represent the linear interdependence of two variables or sets of data. When one variable increases or decreases and the other variable moves in the same direction, the relation of the two series is considered 'positive'; represented by the '+' sign; if the changes in the two variables are in opposite directions the correlation between the two series is 'negative'; represented by the '-' sign. That is the coefficient of correlation [ $r$ ] may range from '+1', through '0', to '-1'. Though the sample size [ $N$ ] is a significant aspect in ascertaining the significance of a correlation coefficient, in general, a value from ' $\pm 1$ ' to ' $\pm .7$ ' is considered as an indication of high or 'significant' correlation.

## 9. The logic of the 'data' on mindsets

In order to identify mind-sets, a logical turning point is introduced. That is, the rating attributed to an external variable *reflects* the corresponding mind-set in the observer who rates it in a scale. This Logic is derived from the axiom 'the scale of observation creates the phenomenon'. Also, most of the mystical perspectives on mind-matter-existence, and ideas of Particle Physics related to the equation about the 'observer and the observed' are considered.

### *The Logic Explained:*

In social sciences, including organization research, various methods are used to study or analyse a certain set of relevant variables. Observations, conclusions, recommendations, and even generalizations may be made on the basis of those variables. Thus, it is presumed that the mind-sets of the respondents too are correlated [vis-a-vis the variable studied - and being correlated].

For instance, if a person rates 4 out of 5 about a certain music, it is also an indirect rating of his or her 'musical mind-set' -the 'contents' about music already impressed in the mind. If another person rates the same piece of music '2', it is the rating of his mind-set, which is 'poorer' [vis-a-vis the scale]. Similarly, if 14 out of 17 individuals rate it '3' there is a certain degree of Statistical correlation among the mind-sets of the 14 vis-a-vis the remaining 3 individuals who rated it 2, 1,

and 5. If five more individuals rate and their ratings are 2, 2, 5, 5, and 5; then, there are three groups, correlated at different 'mindset-levels' [vis-a-vis appreciation of the given piece of music]. If there are ten pieces to be rated, the resultant data can generate a 7x 10 correlation matrix of the mind-sets [of the sample of respondents]; unlike the usual matrix of the 'scores of the variables' being rated.

The data on mind-sets are the '*other side*' of the data normally collected through any questionnaires. *The source that produced the data.* Normally the data collected is a perception about a certain thing here the same data is 're-interpreted' as data on the corresponding mind-sets. In other words, the currently used measures of organizational variables, or any variables in social science research can, therefore, be treated as mind-set scores. The logic may be diagrammatically represented as given below:

**The Intent and Objectives of the study**

The intent of the study was to discover clarity and empirical evidence for establishing the concept of 'mindset-correlation!' as a core dynamics of 'social networks', so that creative strategies may be evolved to achieve optimum performance out of the collective of people in an organization.

- To identify a Statistical method for empirical verification of 'Mindset-Correlation'.
- To verify 'Mindset-Correlation' as a critical factor in the formation of 'social networks' or 'informal organization'.

The aspect being observed and rated



- To evolve creative interpretations of the findings of the study with a view to understand and manage 'social networks' or informal organizations within companies.

**THE VERIFICATION PART OF THE STUDY**

For the verification of the concepts, three different sets of data were used.

One set of data was directly about the mindset-factors based on a questionnaire about mindset-factors - that is, 'mental blocks to creative attitude'. This was supplemented with observation notes. The procedure was replicated in another data of the same kind, but collected from a different organizational setting. And, in the third trial, the Statistical method of identifying 'mindset-networks' was replicated in a data collected from a public sector organization. This data pertained to the organizational environment, which were re-interpreted as mindset-factors to meet the requirements of verifying the methodology.

The details are briefly given below under subheads Trial-1, Trial-2, and Trial-3.

**Trial-1**

**The sample and the data: IT Services Company**

The data consisted of the scores on a questionnaire on seven 'Mental Blocks to Creative Attitude.'. The questionnaire consisted of 40 items converging into the seven blocks. The sample consisted 25 software engineers and management graduates of the 'leadership team' of a large IT Services Company having global operations, employing about 12,000 people. The leadership team belonged to their 'prestige' division. The data were collected on a special instance of their undergoing a three-day process workshop in which the researcher worked as a program assistant.

Mind-sets about other aspects in the environment

The mind-set that enables a perception of the aspect observed and rated

The researcher could get a significant opportunity in connection with assisting a three day process workshop on creative leadership, a residential, highly interactive, day-night training program. The participants in the workshop were closely observed during the workshop, which extended to late nights sometimes extending up to 0300-0400 hrs continuously for three days.

#### Trial-2

The sample and the data:

##### A Family Trust managed Enterprise

A stock data on mental blocks collected from a sample of 22 top management people of a 'family trust' owned medicine manufacturing [Ayurvedic] unit and hospital complex of international repute was used. The procedures of Statistical analysis were applied on that data.

#### Trial-3

The sample and the data:

##### A Public Sector Oil Refineries

The original data consisted of responses from 382 people representing the managerial and workmen category of a large Oil Refineries Company in the Southern state of India, collected in the context of implementing ERP. The company has been taken over by another larger company, but a 'subsidiary' status was not granted. This parent company 'insisted' that ERP should be implemented. Therefore, the ERP consultants suggested the company to conduct a study vis-a-vis the acceptance of the project.

The questionnaire was designed by the ERP consultants, containing 18 variables, namely; 'Competition', 'Motivation', 'Customer Service', 'Commitment', 'Organizational Gain', etc.

From the perspective of this study, those organizational variables are taken as the factors of relevant mind-sets [vis-a-vis the logic explained elsewhere]. That is, when an individual makes a response to an item, say, on 'Customer Service', he or she can attribute a rating, fully knowing the implications of putting a '2' or '3' on a 5-point scale only by some relevant mind-set. That is, conventionally, these variables are perceived as factors of the organization [or the external environment], whereas,

this study considered them as the self ratings of one's own mind-sets [vis-a-vis those organizational factors].

From out of the total data a sample was selected, consisting of three groups of managers, three groups of workmen, and one group comprising the ERP project implementation team. The managers and the workmen were grouped [by the management and consultants] on the basis of the 'consequences' of the Project for them. For instance, the teams of managers or workmen belonged to certain departments where the ERP had the maximum relevance, and other teams of the minimum.

#### The Statistical treatment of the data

The Statistical treatment, mostly using the SPSS package, consisted the following steps:

1. Calculation of Mean, Mean percentage, SD, Correlation, and Principal Components
2. Transposing the data so that the columns become rows and the rows become columns. That is, the 'variable' in the data becomes the individual 'respondent' rather than the seven 'mental blocks' in the questionnaire or 'organizational factors'.
3. The method of Principal Component Analysis was applied on this transposed data.
4. The components or groups of 'respondents' with high 'factor loadings' were identified [in the case of the first two sets of data]
5. In the case of the ERP data, those 'respondents' with low factor loadings were dropped from the data; which, then was re-transposed and Mean, Mean percentage, SD, and Principal Components were calculated.

#### THE RESULTS

##### Trial-1: IT Services Company

1. The Principal Component analysis revealed 'six groups' and one 'outlier'. The components here are the 'groups of individuals' as the variables involved are individuals or individual mind-sets. Diagram 1 in the appendix shows the 'networks'. The individuals that comprise a network do not belong to any specific work units, instead they are 'Project Leaders in



different sections. Table 1 in the appendix shows the components and the factor loadings. Each of these components is considered a *'mindset-network'* from the perspective evolved in this study. Each mindset-network showed a unique pattern of Mean and SD as well as inter-correlations and corresponding 'factor loadings'.

The direct observations as well as 'observation records' confirmed the networks of the participants. During the three days of observation period, the individuals who sat together, formed discussion groups, enacted skits were the same as those identified in the 'statistical procedures'. After a gap of two weeks, three of the participants who were in 'good equation' with the observer] were contacted and were briefed about the work and the findings. The names of individuals in every 'network', who among them would occasionally move around with some one else from a different network, who all were 'outliers', who all had linkages with more than one network, etc were sent via email to the three, who were senior Project Leaders with an average of 6 years experience in the company. All the three independently rated the accuracy of our findings above 90 per cent. [in fact, thanks to them that this very research paper was initiated out of their insistence - who have had direct experience of the 'groups' and therefore, surprised about the accuracy of the 'predictions'].

2. The coefficients of Correlation and 'factor loadings' were used to plot the extent and degree of linkages between individual members in the mindset-networks. The 'rotated component matrix' provided significant factor loadings by which 'mind-set network groups' were identified [Diagram 1].

3. As there are different 'subgroups' [mindset-networks], correlations were calculated for the 'sample' of each of the subgroups. The number and pattern of rating of correlated respondents revealed that the mindset-networks are differentiated by unique compositions of Means and SDs as well as inter-correlations. This finding has been used to evolve a concept of *'mindset-level'*. That is, in a large group there can be different subgroups [with members correlating at 'different' levels of mind-sets]. That is, in the context of the study, the 'test' scores are differentially distributed in the sub-groups. For

instance, network 'A' would have 'low' scores, network 'B', 'medium' scores, network 'C', 'high' scores, and network 'D' somewhere in between, and so on.

In the study, the 'high-medium-low' in the Means scores of different 'mindset-networks' show the different levels of 'mental blocks'. The questionnaire pertained to seven common mental blocks that are created by socialization processes [that is, by interpersonal 'relations' and 'correlations'].

The seven blocks were the following:

- [1] Anxiety about the unknown/unclear/ambiguous - which can include the mind-set of 'others'.
- [2] Conformity or obsessive allegiance to norms, conventions, etc - which can include conformity to the norms of one's own mindset-network
- [3] Rigidity - in thinking, perception, observation etc; that is, rigidity of the very structure of a given mind-set.
- [4] Fear of Rejection/non-acceptance/conflict/ Touchiness/fear of humiliation
- [5] Fear of failure or being defeated, subdued, not accepted etc
- [6] Myopic about one's own possible-probable potential and competencies
- [7] And, lack of sensitivity - to the specialties and uniqueness of people

The concept of 'mindset-level' is formed on this difference in levels of correlated groups.

As the factor analysis reveals different sets of 'mind-set correlated networks', it implies that there could be differences in the aspects in which each of the networks is formed.

The IT sample could be divided into low-medium-high of mental blocks. That is, for instance, 'fear of being defeated' can be at different levels; the 'fear of unknown' can assume different levels or kinds of unknowns. Those in similar levels [of mental blocks] would seek - and find - correlatable mind-sets. If not, they would remain 'outliers'. The scores of these items and observed behaviour-interaction patterns seemed to

have significant parallels. The collateral observations about social events and phenomena also supported the 'mindset-networks' - identified on the basis of 'factor loadings'.

#### Trial-2:

##### Family Trust managed Company

The trial-2 results refer to the sample of 22 top people in a family-Trust owned and managed - and the largest - Ayurvedic medicine manufacturing unit cum hospital complex in a southern State of India.

1. The Principal Component Analysis revealed five subgroups and two 'outliers' [outlier: a person who avoids acceptable or expected behaviour - vis-a-vis the 'social network']. The Statistical results are given in Table 2 in the Appendix.

2. The 'role positions' of the respondents are given in diagram 2 and the five 'mindset-network' groups and two 'outliers' are represented in diagram 3 in the appendix. The nature of composition of the groups is not restricted within the family or 'role positions' in the family and in the organization.

3. The Mean and SD scores of the members in the various mindset-network groups clearly indicated differences. The nature of differentiation of subgroups revealed certain compatibility with the relative role positions of the respondents in the organization.

4. Several sources of information, from insiders as well as outsiders confirmed the 'networks' identified by the method of mindset-correlation. Three 'factory workers' who were with the 'family' for 30-35 years accepted the group structure, but appeared to disagree with a few 'linkages' [which were about some of the close relations].

#### Trial-3:

##### Public Sector Oil Refineries Data

The intent of the Trial-3 verification process was to find evidences to ascertain the validity and reliability of the innovative application of Statistical tools. In the process of 'test standardization' and 'item analysis', the test items that show poor inter-item correlation, item-total correlation, and factor loading would be dropped by successive iterations. For instance, a test that begins with 150 items may end up just 40, after dropping items that show poor internal consistency. The procedures and results revealed in Trials 1 and 2,

led to a conclusion that the method has the potential to eliminate 'poor responses' from a data. It was presumed that, there would be critical differences in the basic Statistics and factors between 'before-drop' and 'after-drop' versions of the data. The data consisted of 18 organizational variables in the context of ERP implementation in a public sector oil refinery.

The Statistical procedures consisted of the following main steps:

1. Finding out the Mean, Mean percentages, SD, Correlation, and factor analysis of each of the seven [3 manager sample, 3 workmen sample, and one project team] team data separately.
2. Transposing the data [so that the 'variables' now become 'respondents'].
3. Principal Component Analysis of the transposed data
4. Dropping items [individual mindsets] showing low 'factor loading'
5. Transposing the data back to its original format and repeating step 1

#### THE FINDINGS

The objectives of the study pertained to searching for a Statistical procedure to verify Mindset-Correlation and to prove that social networks have a basis on correlated mindsets.

1. The observed behaviours of the sample of 25 IT professionals were found to be in significant levels of conformity with the structure and composition of 'mindset-network' groups identified by the Statistical procedures

2. The analysis of data in trial-2, support the findings on the first sample. The results in trials 1-2 show that subgroups or social networks are formed out of the Correlation of their mindset-factors - and *not* by their positions or membership in the organization. The results show significant relative differences not only in the Mean and SD but the composition of 'mindset-correlations' also.

3. Significant differences have been observed in the Mean, Mean percentage, SD, and salience of 'organizational factors' between 'before-drop' data and

'after-drop' data. This suggests that the method can be used to identify proper respondents for research or human development intervention programs.

#### CONCLUSIONS OF THE STUDY

1. The 'mindset networks' [or 'social networks'] can be identified by Statistically significant methods.
2. 'Mind-set Correlation' determines the number, structure, and pattern of 'social networks' in a group.
3. There are 'mindset-levels' by which the mindset-networks are differentiated from one another, within a given larger group. The 'levels' might include *mutually opposing* positions.
4. The idea of data conversion to 'mind-set scores' seem to be of great advantage to identify social networks and to devise strategies to achieve better correlation among them by training those subgroups, or outliers to achieve clarity and understanding vis-a-vis the required mind-sets to finally evolve a 'collective-mindset' for the entire group or organization.
5. The concept of 'mind-set' is advantageous to understand and manage perceptions about interpersonal behaviours in organizational settings.

#### IMPLICATIONS-INSIGHTS- RECOMMENDATIONS

Several insights, implications, and recommendations could be detected during the various stages of data analysis and report writing. However, they could not be clearly distinguished because of their high 'inter-correlations'.

#### IMPLICATIONS

1. The method of Mindset Correlation is an easy and Statistically reliable methodology to identify the 'social networks'.

In today's competitive setting, where the team members may vary from one meeting to another, where

members may vanish anytime and new ones join, the existing methods of team formation are ineffective. This method offers stable and reliable 'team formation' by mental equation or mental con-elation - knowledge and competencies being ensured more or less compatible.

2. The method identifies the mindset attributes by which 'social networks' are formed.

The conventional methods do not seem to clarify the factors that bind people together in a 'social network'. This methodology helps identifying networks conveniently, quickly, and Statistically.

The method of mindset-correlation can be of strategic advantage for HR practices as well as creating a collective mindset of company values and objectives. The method can ensure 'integration' of group or team, uncovering the nature of 'disintegrating' network processes.

3. The advantage of data 'conversion' into 'mind-set scores'

In normal organizational studies, this procedure would help identify the non-correlated respondents [provided the names are indicated], and they could be specially trained, educated, and informed vis-a-vis the variables under observation.

In the ERP data, for instance, the sample of 100 was reduced to 37 and when the scores of these were factor analyzed, it provided a different set of factors but with higher factor loadings. The core advantage is in identifying the proper respondents. In any research there could be 'invalid' or inappropriate data, because of the individual variations in 'mindset-levels' - of knowledge about the thing being rated, because of the role of mind-sets in rating process [as shown in this study].

Individuals would vary in their relative states of mind-sets, that they would rate a questionnaire on the basis of ambiguous information or transient perceptions or carelessness. Such data are 'spurious'. Now, if we assume that at least a reasonable percentage of people do give rating 'sincerely', honestly, etc there is a possibility of getting the correct data. But how such respondents or responses can be identified? The

Table showing the reduction in sample consequent upon mindset score analysis:

### 1. Manager Teams

Group- I Manager Team		Group-II Manager Team		Group-III Manager team	
Before-drop	After-drop	Before-drop	After-drop	Before-drop	After-drop
39	24	44	25	28	19
[100%]	[62%]	[100%]	[57%]	[100%]	[68%]

### 2. Workmen Teams

Group-I Workmen Team		Group-II Workmen Team		Group-III Workmen team	
Before-drop	After-drop	Before-drop	After-drop	Before-drop	After-drop
91	28	100	37	33	13
[100%]	[31 %]	[100%]	[37%]	[100%]	[40%]

### 3. ERP Team

Before-drop	After-drop
36	19
[100%]	[53%]

feasible way is to take the data as a reflection or representation of corresponding mind-sets. If we take it thus, then that reinterpreted data - that is, the scores on the mind-sets of people, can be factor analysed to identify the non-correlated ones.

One side, it is factor analysis done on scores of ratings on the external variables, and on the other is factor analysis done on the scores of the corresponding mind-sets.

#### 4. The Need to Perpetuate the 'initial mindset-level'

The founder or entrepreneur begins with another person or a group of persons who are correlated with him - a collective mind-set is formed. As the number increases, the degree of collective-ness of mind-sets decreases. The time spent, as well as the focus on recruiting 'right' people [of correlated or correlatable mind-setting] diminishes. Gradually, there occurs a realization that the newer members are of a 'different correlation'. And this is taken as a 'natural consequence of individual difference' and the entrepreneur & top team stabilizes and reinforces focus exclusively upon

profit making and profit maximization. Corresponding rules, norms, and regulations are implemented and managers or supervisors would be appointed - or machines installed - only to monitor compliance. Selection process reduces to a verification of the bio• data rather than the biography. Discussion on values and attitudes end up as an academic one.

Organization management is actually people management. And people management is managing their mindsets. The focus of the HRD activities may include identifying correlation parameters and using them as reference scales in selection, training, and development.

#### INSIGHTS

#### Differentiating between Company and Organization:

Thinkers and gurus in management frequently mention the great significance of organizational commitment, sense of ownership, team-spirit, tuning with the values, beliefs, mission, vision etc in creating and sustaining organizational effectiveness. Here, people might comprehend the language and the implications of the mission, values, etc but they cannot 'feel' it or they have different responses and mindsets about it.

For instance, what is an IT *Company*? A registered name, location, building and infrastructure, and a

number of computers. But, what is an IT *Organization*?

A group of people having certain learning, knowledge, competencies, and mindsets.

## COMPANY

### Organization [of people]

Company is an invisible entity, an intangible entity for the people or organization. The owners and top management is managing or leading a company using an organization of people. Every organization is registered as a 'company'. Thus, organization is different from 'company'. The management is actually asking for commitment to the company. There is no clarity.

Employees [read, organization] may *relate* themselves with a company by their official perceptions about it in their conversations to signal their social identity - but cannot *correlate* with it. The critical question is whether the mission-vision-objective-values belong to the company [owner, top management] or to the organization of people.

Therefore, from the perspective of mind-set correlation, the term organization cannot replace the term company. If the term organization is to be used, it should refer to the assemblage of people who 'work' for the company, sharing a 'collective mind-set'.

#### Company

Legal Identity  
[by correlates of entrepreneurial 'mind-sets']  
Intangible  
For profit maximization  
Company/ top management objectives  
Stable phenomena

#### Organization

Employment Contract  
[by correlates of survival and individual motivations]  
Tangible, visible, direct experience  
For survival/self-expression  
People objectives  
Emergent\* phenomena  
[\*Occurring as a consequence of something -Oxford]

## RECOMMENDATIONS

### 1. Correlating Company Values and Organizational values [mind-sets]:

The IT Company core values, beliefs, philosophy, etc are dear to its founder director or for some others

too, but located in unknown and undeclared spaces of the organization.

Perhaps, it could be a creation of the 'copy department' of an advertising company.

However, they are seldom verified with the organization - people. For instance, none of the participants in the leadership workshop could recall even half of the list of beliefs and core values of their 'organization'.

The mind-sets of the top management, owners, and shareholders should be correlated to the 'organization mind-set'; that is, the collective mind-set of the whole of people. This in turn, requires:

- [1] identification of members who do not correlate at same 'mindset-levels'
- [2] identification of the 'levels' of mind-sets of those who correlate with it, and
- [3] training and educating the mind-sets of those who showed Statistically poor or no correlation.

That is, people do not belong to the company, especially if it is large. People cannot feel a 'sense of ownership' of the company. Whereas, people may accept and be open to develop and sustain a 'sense of belongingness' to their 'organization of people'.

It is likely that a significant number of people have migrated from their developmental attachment and early experience environment to impersonal, mechanical city-town settings; shifted from joint family 'culture' to nuclear family responsibilities, and adapt with constantly optimized demand from the workplace. The greater part of wakeful time is spent in organizations. In such a setting, people need social networks within organization. And to do so, they have not much of 'organizationally relevant' parameters other than their mindsets brought forward from

backgrounds of immense diversity. Their untested disagreements with company policies and procedures, biased perceptions about people and events, and related individual specific variables determine the type of network and its subtle activities. Forced by

Social, economic, and familial needs of survival and sustenance they would work according to role requirements, though.

## 2. The 'Collective mind-set': A required core competency of an organization

'Team-work' may be present, inevitable too by the sheer requirement of a job or work. Team work can even be made a norm of an organization. If the semantic import is extended to the referent reality, team work means, to work in a team - where the focus is more or less exclusively on the 'work' itself. The logic of this is actually very peripheral. The members would appear always 'at it'. They would talk about the work in the discussion rooms, corridors, and cafeteria.

In the context of the spirit or 'inspiration' of a team, it is surely not within the mind of one or two individuals, but with all the members. In other words, team spirit has to become the 'collective mindset' of inspiration. Establishing a 'collective-mindset' may resolve the blocks of 'fear of failure' and 'fear of humiliation', 'fear of unknown, ambiguous, strange people', and mitigates the shock of 'unexpected' reactions and responses, if any.

## 3. Improving Test Reliability

This method, above all, suggests ways to improve test reliability - a critical requirement for any effective test or questionnaire - by improving the 'validity of data'.

The procedure involves transposition of data, and applying Factor Analysis to identify the respondents by the values of 'factor loading'. For example, in the analysis reported here, the cut off value was fixed at .6, when the procedure of Principal Component Analysis was done. Then, items with low factor loading, '-ve' loading, and those that do not fall within any components or groups are to be dropped. Again, transpose the remaining data [after deletion of the poor items] for the normal or required Statistical analysis.

## The Contribution of this Research

1. Many of the significant organizational requirements; like selection and recruitment, induction training, training needs analysis, etc. and monitoring and review of change management programs can be rendered more complete and firmly focused by the 'method of mindset correlation'. Statistical estimation of mind-set correlation and creating relative uniformity of levels of mindset-factors are important for Joint ventures, M&As, multi-cultural locations.

2 The 'method of mind-set correlation' would identify all the main and subsidiary networks, with their relative degree of correlation vis-a-vis the positioning of *every member* in a work unit or organization. Moreover, it can be done for organizations of tens of thousands of members in one shot, within few hours of data collection. Whereas, conventional 'Sociometric' methods and techniques cannot be applied to larger groups, and it would consume indeterminable time and effort.

3 This methodology can be of great advantage to create a 'collective-mindset' for the total organization. It might help looking at organizational reality from a different perspective.

4. As any reliable and valid research requires an 'appropriately informed' sample that responds 'correctly' and 'completely' vis-a-vis the variables being assessed or measured, this methodology will help, first of all, to identify the 'proper respondents' so that the intent and objectives of a study is achieved in a more Statistically significant way. Social science research in general and Organizational research in specific may be immensely benefited by the application of this methodology.

5. The 'method of mind-set correlation' helps identifying [1] the existent 'social networks' in groups, work units, divisions, and levels in organizations; and the extent and relative 'positioning' of individuals within, across, and beyond the networks [2] 'potential' social networks when new members are inducted, [3] the nature and extent of the psychological attributes that 'linkage' or 'de-linkage' individuals vis-a-vis networks and the very organization itself.

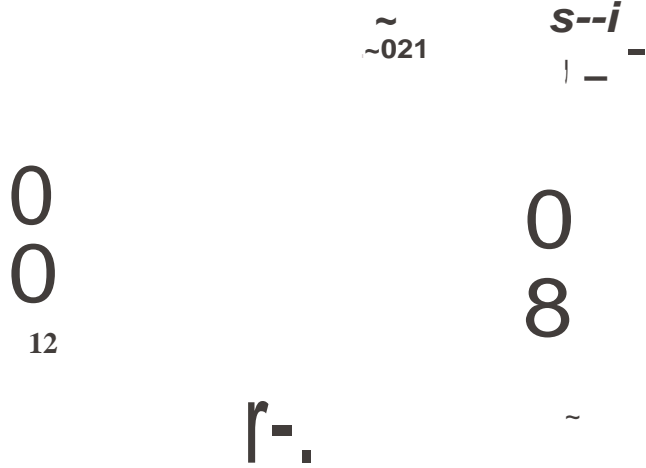
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**Appendix  
Diagram I**



**Division Head**

Relatively large number of 'extra-network linkages' - possibly due to the nature of the group that comprised the 'top team' of the major Division of the IT company

**Legend**

'mind-set networks' [subgroup) of individuals within a group  
ARROWS show 'extra'-network linkages of members, with members in other networks

**D** 'Negatively' correlated with a mind-set network -  
despite membership in it. NOT an 'outlier'.



Table: 1

Showing the factor loadings and components [SPSS output] for Trail-I Sample

*Mindset-Network t: IT Leader-Manager sample*

Respondents [Test sheet number[	Groups [Components]					
	1	2	3	4	5	6
13	.967					
05	.763					
25	.725					
23	.713					
03	.695					
[Dn. Head] 07	.690					
17		.975				
24		.890				
12		.851				
08		-.841				
20		.794				
18			.950			
09			.912			
22			.781			
04			-.740			
19			.610			
15				.931		
06	.632			.633		
21				.620		
11					.977	
14					.752	
02	???					
01						-.994
10						-.729
16						.656

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 20 iterations.

Diagram 2

Trial 2

Family Trust Company top Management Sample

RoLE Posmoxs of the 22 respondents in the organization - grouped under 'networks' [marked by the covering boxes with individual members in small boxes inside]

Married into the family [Male], Senior Physician

Managing Trustee, Chief Physician-Head of Organization, Son of the fou

Chief Personnel Manager, Outsider, Recruited from Government Service

1+-\_\_\_, Married into the family [Female], Head of Estate & Plantation Division

Chief Marketing Manager, Outsider.

Nephew of the founder, Head of Hospital

Married into the family [Female], Western Medicine

Daughter of the previous Managing Trustee, Finance Head

General Manager, Electrical & Building Maintenance, Outsider.

Human Resource Manager, Outsider.

Diagram 2 Contd ...

— —,~| Husband - Wife, Physicians, **Outsiders**

0

W

r-;-1; ~-~| Physician, **Outsider.**

Head of Manufacturing Unit, Different location, **Outsider**

17 **Married** into the family [Male], Physician. !

Notes:

Except the indicated, the remaining individuals are 'outsiders' to the family, but in the 'second level' of top management, but participate in decision making.

The numbers are merely those in the 'test sheets' Seven belongs to the family

Diagram 3

TRIAL-2

Family Trust owned Ayurvedic Medicine Manufacturing Unit and Hospital Complex Mindset-networks identified on the basis of 'factor loadings' on principal components.

*Mindset-network Groups*

[!]

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Outlier  
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4

Legend:

000

'Social networks' of individuals with correlated mind-sets

D

'Negatively' correlated with a network, though a

1-  
...1

'No-correlation' with any network: 'Outlier'

Notes:

8,19,3, 11,13,4,7, and 17 belong to the 'family' '6' and '8' are outsiders to family, and members in *two* networks with equal 'level'. Unlike the 'arrows; in Diagram 1, the two are shown included in two separate networks.

**Table 2**

Trial-2 Sample: Family Trust Owned Company Factor loadings in different components or 'mindset-networks' [SPSS Output]

**Rotated Component Matrix**

	Component				
	1	2	3	4	5
13	.947				
05	.907				
11	.872				
16	.798				
14	.695				
03	.692				
21		.881			
19		.881			
15		.864			
22		.742			
18		.739			
10					
07			.966		
12			.839		
09			.748		
02			.742		
04			-.737		
17					
20				.859	
<b>08</b>		.620		.728	
<b>06</b>				.629	.607
01					.842

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 13 iterations.