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## *Chairman's Statement*

I am happy to note that Dr.V.N.BRIMS has been able to publish this volume of papers on management, for the second year in succession. Dr.VNBRIMS ( Research Centre) was V P Mandal's initiative to recognise the role of knowledge management in educational institutions. Research and development is an integral part of any teaching institution. In fact, teaching unsupported by research is bereft of the substantive inputs required to improve the quality of education. Research efforts have to be directed to extend the frontiers of knowledge and transcend beyond prevailing 'perceived' horizons. The speed of change in our business environment and life in general, calls for increasing the rate of learning. The rate of learning has to be greater than the rate of change if society is to survive the invasion of science and technology and the concomitant paradigm shifts. Business is experiencing a sea change – a move from a centrally planned economy to a market driven system. Market as an arbiter of economic activity is the buzzword today. This will be increasingly true for all walks of life. It is in this context that this volume offers several contributions on various aspects of paradigm shifts in management and related issues. The articles have been contributed by learned members of the management fraternity. A few articles are from related disciplines. I hope this volume will be useful to all stakeholders concerned with management. I also hope that Dr. V N BRIMS will continue its dedicated efforts towards the cause of research activity which, to reiterate, is the foundation and cornerstone of quality education. The brand equity of any educational institute is woven on the loom of time. I am sure that through the dedicated efforts of one and all concerned with Dr.VNBRIMS we are slowly and steadily moving towards the goal of making our management institute the cynosure of all eyes. I appreciate the efforts put in by all contributors and the knowledge management team. I congratulate all of them for this dedicated effort. I hope that the future will see many more activities to enable Dr.VNBRIMS to be a hub of management education not merely for Thane, but to the rest of the World at large.

**Dr.Vijay V. Bedekar**

Chairman

Vidya Prasarak Mandal, Thane

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## Editor's Viewpoint

"Science is wonderfully equipped to answer the question 'How?' but it gets terribly confused when you ask the question 'why'"

– Erwin Chargaff (1905)

"The intuitive mind is a sacred gift and the rational mind is a faithful servant.

We have created a society that honours the servant and has forgotten the gift"

- Albert Einstein

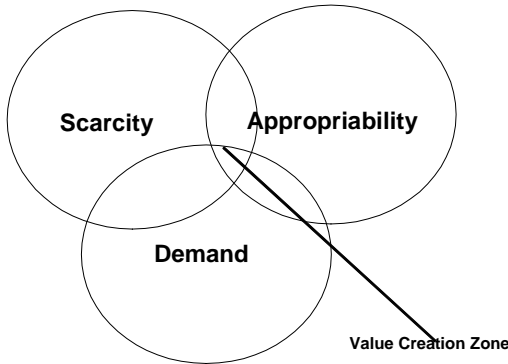
### Changing World

In the last several years the World has experienced a traumatic change almost in all walks of life. The basic tenets or rules governing life has undergone a great change- in fact altered rather dramatically. Till recently maximisation of profits was a sole objective of successful economic management of enterprise. This was regarded as right, appropriate, good and virtuous in the sixties in capitalist societies. Today it is wrong, inappropriate, bad, and not really a virtue even in market driven, materialistic societies. There is a view, all over the World, which talks of, amongst other objectives, ecologically sustainable return on investment as part of corporate social responsibilities. In the same vein what was regarded as crazy, weird, impossible and absurd in the sixties is now easily possible and an ordinary, day to day, routine event. For instance, change in the approaches and attitudes towards environmental management has resulted in the emergence of a new industry -a trillion dollar business (2000). Now, company after company is professing, practising and promoting the cause of recycling, and monitoring industrial effluents which cause pollution. The paradigm shift can be understood and appreciated if it is realised that this industry did not exist in the sixties.

The ability to ride on the crest of the wave of an emerging, likely to dominate, paradigm like the environment industry, depends upon the ability to anticipate. In turn the competitive edge of any enterprise depends upon how a business can leverage the benefits of anticipation. Such leveraging brings bonanza gains because of the scarcity value of the product/service

and the effective demand that emerges. The opportunity to appropriate profits, has to be successfully seized. Paradigm shifts are best cashed on the crest of the wave.

**What makes a Resource Valuable ?**



**The dynamic interplay of three fundamental market**

David J. Collis and Cynthia. A. Montgomery, 1995, 'Competing on Resources', Harvard Business Review, July-August, p120.

**Paradigm Definitions**

A) As per the dictionary, paradigm is a noun and means one that serves as a pattern or model

A set or list of all the inflectional forms of a word or of one of its grammatical categories: the paradigm of an irregular verb.

iii. A set of assumptions, concepts, values, and practices that constitutes a way of viewing reality for the community that shares them, especially in an intellectual discipline.

The word paradigm first appeared in English in the 15th century meaning " an example or pattern," Since 1960, paradigm has been used in science to refer to a theoretical framework. Applications of the term in other contexts show that it can sometimes be used more loosely to mean " the prevailing view of things".

B) Thesaurus explains paradigm as "One that is worthy of imitation or duplication (beau, ideal, example, exemplar, ideal, mirror, model, pattern, standard)

The expression Paradigm comes from the Greek 'Paradeigma' which means model, pattern, exemplar or ideal.

C) According to wordnet the noun, paradigm has four meanings :

systematic arrangement of all the inflected forms of a word a standard or typical example (synonyms: prototype, epitome, image) the class of all items that can be substituted into the same position (or slot) in a grammatical sentence (are in paradigmatic relation with one another) (synonym: substitution class) the generally accepted perspective of a particular discipline at a given time

D) As per Wikipedia, from 1960 the word paradigm has been referred in the context of a thought pattern in any scientific discipline or other epistemological context. Initially the word was specific to grammar; the 1900 Merriam Webster dictionary defines its technical use only in the context of grammar or, in rhetoric, as term for an illustrative parable or table. In linguistics, Ferdinand de Saussure used paradigm to refer to a class of elements with similarities.

E) Oxford English Dictionary defines paradigm as "A pattern or model, an exemplar".

SOURCE : [www.answers.com](http://www.answers.com)

**American Heritage Dictionary**

F) "accepted examples of actual scientific practice, examples which include law, theory, application, and instrumentation together- (that) provide models from which spring particular coherent traditions of scientific research". Further "Men whose research is based on shared paradigms are committed to the same rules and standards for scientific practice" (Thomas Kuhn, The Structure of Scientific Revolutions, 1962 p10)

G) "A shared set of assumptions. The paradigm is the way we perceive the World; water to the fish. The paradigm explains the World to us and helps us to predict its behavior." Further, "When we are in the middle of the paradigm, it is hard to imagine any other paradigm" (Adam Smith, Powers of the Mind, p19)

H) "Paradigm is the basic way of perceiving, thinking, valuing, and doing what is associated with a particular vision of reality. A dominant



paradigm is seldom if ever stated explicitly; it exists as unquestioned, tacit understanding that is transmitted through culture and to succeeding generations through direct experience rather than being taught".

(Willis Harmon, *Incomplete Guide to the Future*, Stanford Research Institute, USA)

- I) "A paradigm is a framework of thought... a scheme for understanding and explaining certain aspects of reality."  
(Marilyn Ferguson, *The Aquarian Conspiracy*, p26)
- J) "A paradigm is a set of rules and regulations (written or unwritten) that does two things:  
(1) it establishes or defines boundaries; and  
(2) it tells you how to behave inside the boundaries in order to be successful."  
(Joel Barker, *Paradigms*, p32)
- K) Paradigm is a composite or combine of "a constellation of values, philosophical beliefs and techniques shared by the members of a given scientific community"  
(Madhukar Shukla, *Competing Through Knowledge*, P.294, Response Books, Sage Publications, 1997)

### **Thomas Kuhn- Founding Father**

The thought regarding 'paradigm' was introduced into this World by Thomas Kuhn a historian of science though the expression appeared in English as mentioned earlier, in the fifteenth century. His innovative book, 'The Structure of Scientific Revolutions'(1962) challenged the prevailing belief that science was a logical adventure and represented linear increments to the improvements in knowledge bases. Science looks for increasingly accurate description and knowability of the universe and continues the search for the ultimate truth about existence itself. Scientists attempt to capture the increments to the chosen destination through known sets of rules of thought. The contribution of each scientist was therefore a slow but steady progress towards the planned destination of increased and improved knowledge of the universe.

"A paradigm is what members of a scientific community, and they alone, share."

(Thomas Kuhn, *The Essential Tension*, 1997).

"Paradigms belong to (and to some extent demarcate) the scientific communities that use them. Kuhn insisted, however, that scientific communities are not characterized by consensus. No set of beliefs is sufficient to insure membership within a scientific community, which is best understood as a community of practitioners". According to J. Rouse, "Kuhn understood a scientific community to include only those actively doing research in the field, not the wider group whose training or study enables them to understand it" (J.Rouse, *Kuhn and scientific practices*, <http://muse.jhu.edu/journals/configurations/v00066./rouse.html>)

The scientific community provides broad guidelines as to the fundamental issues of science.- the structure of the problems and the modus operandi of the study to achieve the end purpose of science that is to say the search for truth and added knowledge regarding the universe.

"In essence, the Paradigm represents [the] collection of ideas within the confines of which scientific inquiry takes place, the assumed definition of what are legitimate problems and methods, the accepted practice and point of view with which the student prepares for membership in the scientific community, the criteria for choosing the problems to attach, the rules and standards of scientific practice" (Thomas Kuhn, *The Structure of Scientific Revolutions*, Chicago, The University of Chicago Press, 1961.)

"Paradigms provide scientists not only with a map but also some of the directions essential for map making. In learning (knowing) a paradigm, the scientist acquires theory, methods and standards together, usually in an extricable mixture."

(T. Kuhn, *Structure of Scientific Revolutions*, 1970,p.109)

(See D.Garber, *Descartes and the Scientific Revolution*, some Kuhnian Reflections, [http://muse.jhu.edu/journals/perspectives-on-science.v009/9.4 garber.html](http://muse.jhu.edu/journals/perspectives-on-science.v009/9.4%20garber.html))

Unlike a normal scientist, Kuhn held, "a student in the humanities has constantly before him a number of competing and incommensurable solutions to these problems, solutions that must ultimately examine for himself."

(Thomas Kuhn, *The Structure of Scientific Revolutions*, 1962).

## Subsets of Paradigms-an Illustrative List

ADDICTIONS, ASSUMPTIONS, BUSINESS ACUMEN, CONCEPT, CONVENTIONS, CONVENTIONAL WISDOM, CUSTOMS, COMPULSIONS, DICTUM, DOCTRINE, COMMONSENSE, DOGMA, EXPLICIT KNOWLEDGE, EXPERIENCE, FRAMES OF REFERENCE, HABITS, INHIBITIONS, INTUITION, IDEOLOGY, MODEL, METHODOLOGY, MIND SET, PROTOCOL, PRINCIPLES, PATTERNS, PREJUDICES, ROUTINES, RIDER, SHREWDNESS, STANDARDS, SUPERSTITIONS, THEORY, TRADITIONS, THEOREM, VALUES, TACIT KNOWLEDGE

## Paradigm – Hard and Soft Sciences

Kuhn's thought on paradigm shift is applicable, to reiterate, 'muttatis muttandis' to all walks of life. However, Kuhn did not visualize, as mentioned earlier, the application of his view on paradigm to areas or faculties other than sciences. Nature of Science is characterized by exactness, precision, measurements, quantification and relationships which can be captured through formulae. In business, decision making starts where formulae ends, the intangibles need assessment and imponderables require an evaluation. In fact, decision making is rarely based on inputs which are either black or white a la science. The inputs are shades of both i.e grey. Of course, launch of a new paradigm does require resort to various kinds of validation. Such validation can be established through well known, rigorous, mathematical models. and scientific methods. Yet, validation originating through mathematical models is not the methodology available to society. Again over the years scientific methods based on other branches of philosophy like dialectics, heuristic models and logical positivism have emerged and are used too. Hence, though with due resistance from certain quarters (including Kuhn himself), paradigms can be thought of existing in society in branches other than the sciences.

## Paradigm Shift

*Paradigm shift* describes a change in basic assumptions within the ruling theory of science. The expression paradigm was deemed to be within the contours of science only. However, it has since become widely applied to many other realms of human experience as well. However, Kuhn himself, to reiterate,

restricted the use of the term to the hard sciences'.

Once a paradigm shift is complete, a scientist cannot posit possibilities like researchers in the field of humanities and other soft sciences. Hence, according to Kuhn a paradigm per se does not exist in humanities or social sciences. However, since the sixties, the idea, regarding 'paradigm' has invaded faculties other than the hard sciences too. The application of paradigms as an input to improve knowability is accepted as applicable even in non-scientific studies or contexts.

## Paradigm Shift and Business

In business, decision making is not governed by one or the other or some of the ideas or expressions presented. Large sized corporations of the US like General Motors, Walmart, Exxon, General Electric are institutions by themselves. They represent not one paradigm but a farrago of paradigms. For instance General Electric is a composite collection of different paradigms stemming from the functional areas of management of diverse businesses operating on multinational basis almost without any geographical boundary -marketing, operations, logistics, finance or the management process and its subsets viz planning, organising, direction, execution, motivation and control. Paradigms may also emerge from inputs, ideas and initiatives originating from different personalities guiding business. The issue is further compounded by the cross cultural combinations arising out of people belonging to different nationalities, disciplines, races, and religions at work.

Again paradigms also emerge from home – as the old adage goes 'charity begins at home'. While paradigm represents a set of rules that prevails till such time as the paradigm is in currency, paradigm shift refers to migration to a new set of rules. "A paradigm shift then, is a change to a new game, a new set of rules" (J.A. Barker, Paradigms, p37, 1993).

Various combinations of games and rules are visualized, from the business point of view viz

Old Game, Old Rules
Old Game, New Rules
New Game, Old Rules
New Game, New Rules

In 1977, IBM / other mainframes computer companies laughed at Apple II. Till then IBM wrote all the rules of the game. Apple emerged in the market and IBM had to watch and adopt Apple rules to play the new game. IBM could not play the PC game with IBM rules. Apple rules, to reiterate, had to be accepted. A new market emerged which did not exist till 1977 – a 100 mn.USD market.

### 1991-Paradigm Shift for India

India in its post independence era was wedded to planned economic development. The country wanted to evolve as an egalitarian society and accepted the tenets of socialism. 1991 represented a turning point-rather a watershed for India. It meant a change over, indeed a volte face, from a society wedded to socialism to a market driven system.

Pre-1991 enterprise in India had developed a set of rules to succeed in the license raj. Post-1991, the environment experienced emergence of new rules - competition in lieu of the erstwhile protection. Many entrepreneurs tried to apply the old rules and tried to manage competition, even in post 1991 period, through government intervention. The suggested rule was 'level playing field' through rejuvenated protection. This was not to be. It had to be 'new game and new rules'. A mismatch between the 'game and rules' creates a friction and unless enterprise adopts and adapts, it will be left behind. There is, a lot of resistance to change which is given vent in different ways by different people in different environments.

### Resistance to Paradigm Shifts

"It is just not possible"

"Here it is not done that way"

"It's too much of a change for us."

"Something similar was attempted rather unsuccessfully."

"It is not so easy."

"Our policies are inhibitors"

"Bureaucracy guides change"

"Let's be practical"

"Do you think we are all fools and did not think about it."

"We do not wish to change or disturb our edifice."

How New Paradigms Emerge ?

### Fiddlers and Tinkerers

A programmer at Apple wanted do fiddle with his apple computer to see whether the spreadsheets generated could provide for results after performing simple arithmetical operations like addition, subtractions, division and so on. The programmer wrote a programme called 'Visicalc'. While the programme was being written the programmer used an accounting text as a guideline. The programme succeeded and the rest is history. It is these kind of tinkerers and fiddlers who contribute to innovation. Similarly the 'Bell' telephone system was revolutionized by a tinkerer in the late nineteenth century.

### New Paradigm

A new paradigm forces society to think in a new direction or provides a new direction to thinking. Either through planning or tinkering, a new paradigm may emanate and eventually establish itself.

Thomas Kuhn, however, had a different, new, lateral thought to offer. He identified the sequence of events in society as static or stable period when science is characterized by normalcy, followed by a period of extraordinary change provoking a paradigm shift.

Thus, during a period of normalcy, when conditions are stable a prevailing paradigm dominates as an accepted dictum. It is assumed that the research so far had already revealed what the universe is all about, the legitimacy of issues, the range of potential solutions and the methodology to be adopted to achieve the end purpose.

### Fate of New Paradigms

However, we live in a World of unborn technical advances. Eureka a la Archimedes and Newton may arrive at any moment to launch a new thought to challenge and eventually replace, sooner or later (usually later), the existing dominant paradigm. A new paradigm is not always welcome because it deconstructs normalcy and destabilizes vested groups' peaceful enjoyment of their dominance either as authors or votaries or patrons of the prevailing paradigm. In fact, serious efforts are made to defend the existing paradigm as the ultimate frontier of research which no new thought can transcend. Efforts are also made to condemn and discredit the emerging

new thought either from inside or outside.

"It is really quite amazing by what margins competent but conservative scientists and engineers can miss the mark, when they start with the preconceived idea that what they are investigating is impossible"

(Arthur C Clarke, Profiles of the Future, p 21).

Again he writes in the same book "When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong"(p 29).

## Mendelian Genetics

It is a well known fact that the Mendelian genetics paradigms (laws of genetics) was formulated in 1866. However, it was not until 1896 the scientific community accepted the outcomes of Mendel's research. It is also said that in the nineteenth century meteorites were thrown out of the Vienna museum as useless pebbles. According to the authorities the perceived pebbles did not fit into the prevailing knowledge paradigm governing the item in question. Several other examples can be given. For instance, new syllabi which captures the state of the art is always resisted because existing 'knowledge authors' will be thrown out of business and have to accept the new order where they may no longer be players- domination being another issue.

### Man's Leaps forward – Impossible without Paradigm Shifts

#### Perceptions then and Reality now

"The phonograph... is not of any commercial value."

-THOMAS EDISON remarking on his own invention to his assistant Sam Insull, 1880

"Flight by machines heavier than air is unpractical and insignificant, if not utterly impossible."

-SIMON NEWCOMB, 1902

"Sensible and responsible women do not want to vote."

-GROVER CLEVELAND, 1905

"It is an idle dream to imagine that... automobiles will take the place of railways in the long distance movement of...passengers."

-AMERICAN ROAD CONGRESS, 1913

"There is no likelihood man can ever tap the power of the atom."

-ROBERT MILIKAN, Nobel Prize winner in physics, 1920

"[Babe] Ruth made a big mistake when he gave up pitching."

TRIS SPEAKER, 1921

"Who the hell wants to hear actors talk?"

HARRY WARNER, Warner Brothers Pictures, 1927

"I think there is a world market for about five computers."

-THOMAS J. WATSON, chairman of IBM, 1943

"The odds are now that the United States will not be able to honour the 1970 manned-lunar-landing date set by Mr. Kennedy."

-New Scientist, April 30, 1964

"There is no reason for any individual to have a computer in their home."

-KEN OLSEN, president of Digital Equipment Corporation, 1977

N.B. The above shifts were discontinuous and represented a quantum leap from an era of continuity, or a period of normal science, to a period of discontinuity, disequilibrium, deconstruction and destabilization.

## Battle of Paradigms – Old and New

However, the arrival of a new thought creates an inequilibrium and if the old paradigm cannot assertively prove itself as an unsurpassable real ultimate frontier of research, the new knowledge paradigm may soon reveal the limitations and gaps of the old order. The need for the new order with the latest, state of the art, knowledge paradigm starts making a dent. In the interregnum there is chaos; may be even anarchy as to the thinking on 'what is the



truth – what we know' or 'what we are yet to know' through the acceptance of new knowledge arrivals. Such periods are characterized by :

- Existing theories and knowledge which are constantly exposed for their weakness and limitations;
- New theories which are put to test to justify their entry. However, the votaries of the old order continue with their resistance to the new emerging knowledge paradigm.
- A crisscross situation which emerges and the old and new orders operate compulsorily in juxtaposition. The frames of thought (old or new) are put to serious test. The new thought is assayed for its role as a new frontier- a period of chaos, disturbance, disequilibrium, destabilization and deconstruction.
- Efforts of some extraordinary individuals like Darwin, Newton, Einstein, Mahatma Gandhi, Martin Luther, M.S Swaminathan, Mahalanobis, et al. there is a push given to the launch and operation of the new knowledge thought. It is with the insight and vision of great individuals that a new paradigm eventually emerges. History bears eloquent testimony to the same.

Thus, the new paradigm is a quantum jump and leads society to a new equilibrium, again a period of normal science till the domination of the latest paradigm is put to test all over again.

As in political revolutions, so in paradigm choice- there is no standard higher than the assent of the relevant community. To discover how scientific revolutions are effected, we shall therefore have to examine not only the impact of nature and of logic, but also the techniques of persuasive argumentation...

Like the choice between competing political institutions, that between competing paradigms proves to be a choice between incompatible modes of community life (T.S.Kuhn, *The Structure of Scientific Revolution*, 2nd ed. Chicago : University of Chicago Press. 1970, p.94).

"Nevertheless, paradigm changes do cause scientists to see the world of their research engagements" differently. Insofar as, their only recourse to that world is through what they seldom do, we may want to say that after a revolution scientists

are responding to a different world" - Thomas Kuhn (1922)

One Paradigm is replaced by another

"...not by deliberation and interpretation, but by a relatively sudden and unstructured event like the gestalt switch. Scientists then often speak of the "scales falling from the eyes" or of the "lightning flash" that "inundates" a previously obscure puzzle, enabling its components to be seen in a new way that for the first time permits its solution"

## **Paradigm Shift**

### **Swiss Watch Industry Illustrated**

In 1968 Switzerland was rated as the top watch making and selling nation. They had dominated the watch market for more than six decades and in 1968 they had more than 65 percent of the World watch market and more than 80-90 percent of the profits of the World watch industry. There was no close second competitor visible at that point of time. However, by 1980 their market share fell, in fact collapsed to less than 10 percent and the profit monopoly had fallen to a meagre 16 percent of the industry's global profit. There was a paradigm shift.

The Swiss approach to making watches- the mechanical mechanism was being replaced by the electronics wave spearheaded by Japanese watch making company SEIKO. In 1968, Japan had less than one percent of the World watch market. Japanese mechanical watches were as good as the Swiss watches. However, Japan wanted to be the key player in the emerging dominant paradigm viz electronics technology of international standard. In 1993, Japan had not less than 33 percent of market share and nearly like percent of profits.

## **Paradigm Shift -Illustrated**

A paradigm shift took place in the knowledge governing the management process for retail business in the U.S. Long queues in the US supermarkets, because of increase in customers, resulted in long checkout queues, delays and accounting problems. The difficulties could be overcome only if the products were coded and the computer could be given the sense of vision to read. Thus, in 1973 through a Universal Product Code, emerged the bar code system. As a result of the new technology and its extraordinary

proress, the structure of marketing forces underwent a radical change – in favour of retailers to the detriment of the giant companies like Procter and Gamble, Gillette, Colgate and Unilever. These mega multinationals, used to take full advantage, sometimes undue advantage, of the situation to browbeat retailers. With the advent of barcode system retailers started ruling the roost. The companies had to pay 'on money' to get their products displayed and sold through retail outlets. New Paradigms usually create an inequilibrium. However, they create an opportunity for innovation and herald a new wave of growth and development opportunities, with power positions amongst stakeholders, inter se, undergoing rather radical changes.

### **1991 and after !**

The nature, extent speed, direction complexity, diversity, and kind of change that is taking place World over is perhaps unprecedented. India is no exception- since 1991, following the changes in approach to the development process of the country. The changes have uprooted deep seated paradigms and all that go with it – mindset, beliefs, attitudes, values, culture, lifestyles et al. The entire Indian nation itself and of course India Inc, is in the process of deconstruction. The old rule books stand scrapped and totally revamped to suit the wind of an emerging market driven environment. Thus, a new paradigm was literally drafted into the country by IMF / World Bank in June 1991 and it had to be nurtured and nourished through appropriate induction and involved acceptance. Every individual, group and institution had to start unlearning the old rules and quickly learn to adapt and contribute in and to the new dynamic, uncertain, turbulent, ever flux, rather cold, competitive environment.

This by no means was an easy task. Indeed it was an arduous proposition for one and all-for bureaucracy (the perceived conscience of the license raj) and enterprise who were thrown into the open to the winds of change, cold competition and collaborations of new, weird, unheard forms of partnerships and organizations.

Thomas Kuhn's concept of paradigm shift, discussed at length in the foregoing paragraphs, is applicable to the environment which can be described as follows :

"The new rules of business, display a great learning experience to operate with strange bedfellows

with symbiotic alliances in the factor market and bitter business battles in the output market." (Dr.V.N.Bedekar research Volume, pp.70 Editor and Leader Dr. Guruprasad Murthy, Published in April,2006)

### **Example**

Godrej Foods sells tomato purpee; so does Hindustan Lever Ltd (HLL), under the Kissan brand. Both brands of puree, however, are produced at the Godrej factory in Bhopal- using the tomato paste supplied by HLL. HLL, incidentally, supplies paste also to its competitor, Nestle, for making tomato ketchup, which competes with its own Kissan Ketchup. (Madhukar Shukla, Competing Through Knowledge, p299, Response book, Sage publications, 1997. )

The rules of the game have changed so much and so fast that there is turbulence and chaos arising out of the actions and interactions of friends and foes who are all the same. It's as if that in a football match while the game is on, the size of ground could change, players could exchange sides, umpires could change rules, goal posts could be shifted, duration of the match can be altered after the game has started and the ground itself could be in motion while the game is being played." (Source :Dr.V.N.Bedekar Memorial Research Volume, p.70,2006)

The transition from a socio-economic order that believed in the tenets of socialism embedded in a mixed economy to a market driven system is a change that was unimaginable. This is a paradigm shift par excellence. Arising out of the shift, business organizations have experienced a traumatic change- the meaning of business, the new view of strategy, the revision in the form of organization, the combination of competition and collaboration and last but not the least the entry and exodus of business from different countries, continents and corners of the globe to make every market a rendezvous of the global electronic village, which can be visited simultaneously by one and all by being there and yet just remain where they already are. All players will be here and yet they will all be there.

### **Knowledge Assets**

The progress of business through emerging paradigms is taking place at an unprecedented speed. Such a scenario requires a lot of resiliency and adaptability to cope with change. The rate of learning by business has to be greater than the rate of change.

Hence a new paradigm for business organisations namely 'learning organisations'. The asset portfolio of countries or companies is now measured in terms of knowledge and knowledge based assets. Even manufacturing organisations have intangibles as a key inpt in their asset portfolio.

This view is validated as presented below by several researchers. Hence, creating knowledge to maximise wealth is the key objective. Knowledge is the prime mover providing impulses to propel individuals and institutions into higher and higher achievement motivational levels.

### **Knowledge – Key Wealth Producing resource**

Maximisation of wealth is no longer the sole objective. Creation of knowledge is the key objective because wealth is a function of knowledge. The speed with which business can identify or create knowledge and transmit it to concerned decisional centres in time, decides the wealth creating prowess. Thus, in the late eighties and nineties US and Japanese companies which are classic models, spent huge amounts on Research and Development.

#### **Intangible Assets**

Several researchers have validated the dictum that knowledge is the key to economic development in the future. It is not untrue to say that knowledge was always a key factor. Schumpeterian economics showed how innovation and economic development are inextricably interlinked. However, in the emerging knolwedge society and learning organisations a few relevant thoughts are presented.

"The value of most products and services depends primarily on the development of knowledge-based intangibles, like technological know-how, product design, marketing presentation, understanding of customers, personal creativity and innovation. Generating these effectively in turn depends more on managing the company's intellectual resources than on directing the physical actions on its people or the deployment of its tangible assets." (J.B.Quinn Inelligent Enterprise, New York, Free Press 1992)

The manufacturing company is traditionally a site for production, and the economist's formulation is a production function: capital plus labour equals output... as R&D investment surpasses capital investment, the

corporation shifts from being a place for production to being a place for thinking. (Kodama, F, Technology and the new R&D, Harvard Business Review, July-Aug 1992, p.70-78)

The Government of India is seized of the situation. With an unparalleled quantity of human assets, India boasts of being the intellectual engine power of the World. The planning commission Task Force had, in its publication India as Knowledge Superpower (June 2001), said in its opening paragraph as follows

"Twenty first century will be the century of knowledge. Only those nations will survive and succeed, which will build themselves by understanding the dynamics of knowledge and create true knowledge societies."

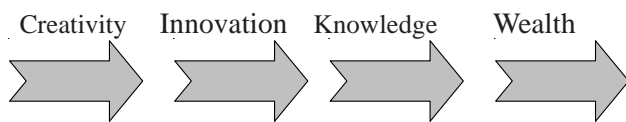
If India has to multiply its wealth producing prowess the human assets of the country must be fully geared to accept the challenges and opportunities of the emerging knowledge society where India as a knowledge superpower will hold the fort and Indians will rule the waves.

#### **Research Volume – 2007**

This research volume is dedicated to the cause of such an emerging event which will rekindle and provoke the resurgence of the intellectual energies and ethos to be the torch bearer to humanity at large. India as a knowledge super-power will be the key source for promoting the 'onward march of human progress.'

#### **Creativity and Innovation**

Wealth producing resources of any society in the future shall be driven by knowledge. And knowledge in turn depends on innovation which stems from creativity i.e the genius of the human brain. Though science will capture many aspects of the human brain into the computers and robots, yet the human genome will continue to reign and rule as the superior, immutable and irreplaceable software with an unimitable and ingenious potential. Creativity of the human brain will be the key contributor to innovation and therefore wealth. The link between Creativity and Wealth is aptly illustrated :



Creativity is :

- \* The result of using imagination in lieu of routine skills.
- \* Capacity to imagine new, useful and viable solutions to problems.
- \* A drive or initiative to see things in a different light or in a form other than they seem.

Lateral thinking

"When a low probability line of thought leads to an effective idea, there is a eureka moment and at once the – low probability approach acquires the highest probability".

-Edward de Bono

## Creativity

- \* has many dimensions such as inventions, discoveries and innovations
- \* Changes life patterns
- \* can make the impossible possible and
- \* leads to innovation and wealth (The Smart Manager, 5th Anniversary issue, February-March 2007pp107 109.)

Innovation is "the process of bringing a new idea-one that solves problems or addresses opportunities-into use"

-Rosabeth Kanter

"Innovation needs courage, courage to think different, courage to invent, courage to discover the impossible, courage to combat the problems and succeed." ( The Smart Manager, 5th Anniversary issue, February-March 2007p 109.)

'Research and Development'-Key to Creativity and Innovation

The driving force to creativity and innovation is the research and development effort. Massive investments are required. Japan is an example which can be cited as role model.

## Research and Development - Japan

Between 1950 and 60, Japan spent a lot of money in Research and Development efforts. This included importing licences and technology. At that stage Japan was not interested in exporting as such. Again for the 15 years ending 1980, Research and Development expenditure went up more than 3 times. Correspondingly for the same period in the US the expenditure increase on account of Research and Development was only 35%. In fact by 1985, nearly 15% of the budget of the Japanese government was concentrated on promoting industrial growth the corresponding figures for the US was only 1%, During the same period (1964-80) the number of researchers in Japan increased by 3 times which was twice the rate of increase in the US. The US patents office, in the late 80's granted nearly 14,000 patents to Japanese nationals.

India is not without shining examples to launch itself in to the knowledge society with India as the engine for the rest of the World. However, many more are required and that too in quick succession to catapult the World's largest democracy – 1 billion or more people, into a new horizon as a World superpower with at least the third highest Gross Domestic Product by 2050 – next only to US and China - may be eventually second only to China and then second to none.

## India- Shining Examples

Ten World Class Indian Management Innovations

- Amul,
- Aravind Eye Hospital,
- Arcelor Mittal,
- Citibank,
- ICICI Bank,
- Infosys Technologies,
- ITC,
- NIIT,
- Reliance Industries,
- Texas Instruments.

(Gita Piramal, The Smart Manager, 5th Anniversary Issue p.27)



## The World's most Innovative Companies

2006 Rank	Company	Margin Growth 1995-05 %	Stock Returns 1995-05 %
1	Apple	7.1	24.6
2	Google	NA	NA
3	3M	3.4	11.2
4	Toyota	10.7	11.8
5	Microsoft	2	18.5
6	General Electric	5.7	13.4
7	Procter and Gamble	4.4	12.6
8	Nokia	0	34.6
9	Starbucks	2.2	27.6
10	IBM	-0.7	14.4

(Business Week April, 2006)

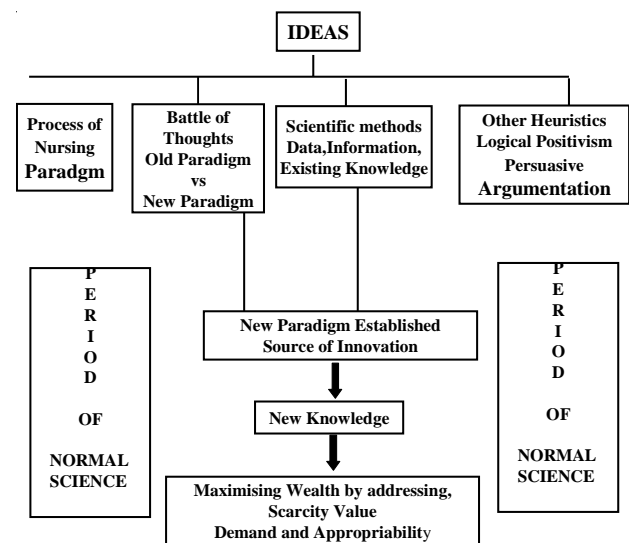
“The next wave is going to be a knowledge based system. Knowledge will become ultimate substitute for all factors of production since knowledge is exhaustible.” – Alvin Toffler

It is the change described in the foregoing paragraphs that is a paradigm shift, a tragic-comic scene hard to believe but really true and being experienced all the time in almost all walks of life all over the World. Yet, as far as India is concerned the democratic form of polity remains immutable and impeccable. India continues to be the World’s largest democracy. It is in this context that this volume presents the contributions from various authors to capture paradigm shifts that affect management. The quality of our management process will decide the future of our country.

The articles in this volume cut across functional areas of management, viz Operations, Finance, Human Resource Management and adjunct areas like Information Technology, Social and Economic issues like Women Empowerment, Leadership, Health Care Systems, India’s East policy, Judicial Decision Making and Knowledge Management. Further, there is a detailed discussion on the concepts underlying the expression ‘Paradigm’ and its role in moulding thoughts on prevailing situations in science, business or life vis-a-vis emerging thoughts, with the potential of bringing about paradigm shifts.

It is hoped that the articles in this volume will add to our knowledge on management and motivate students, teachers, researchers and other stakeholders in management to carry forward the thinking process and develop new thoughts to bring about a paradigm shift by contributing to knowledge through research studies, M.Phil, Ph.D, Post Doctoral and self initiated research studies. The abstract of each article precedes the respective articles alongwith the credentials of the respective contributors. As illustrated earlier, this research volume, in all humility, is dedicated to the cause of Vision India 2050.

### Paradigm Evolution and Establishment Process



“In order, for an organisation to renew itself, it must keep itself in a non-equilibrium state at all times.... A crisis, of course, can mark the start of a company’s demise. But, in general, some form of crisis is needed to generate an entirely new, innovative product concept or to abolish a company’s existing patterns and replace them with a new order.”

**SOURCE:** Nonaka, Creating Organisational order out of chaos, self renewal in Japanese firms, California Management Review, 1988, 303, pp 57-75

**Dr. VN BRIMS**  
**Thanks**  
**All Contributors**  
**to**  
**this Volume**

**A**

# Vidya Prasarak Mandal, Thane

## Our Institutions

- ❑ Dr. Bedekar Vidya Mandir [Marathi Medium]
- ❑ Sau. A. K. Joshi English Medium School
- ❑ B. N. Bandodkar College of Science
- ❑ K. G. Joshi College of Arts
- ❑ N. G. Bedekar College of Commerce
- ❑ V.P.M's TMC Law College
- ❑ V.P.M's Polytechnic
- ❑ V.P.M's Polytechnic IT Centre
- ❑ Advanced Study Centre
- ❑ Dr. V. N. Bedekar Institute of Management Studies

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