

# Creativity and Innovation in Business

## Introduction

Organizations are increasingly recognizing the vital need to engage in the ongoing processes of experimentation, creative problem solving, innovation and continuous improvement, as they face unprecedented challenges in today's dynamic, complex and uncertain global business environment, typified by highly demanding customers. The current and emerging issues including flexibility and speed in responding to customers, improved operational efficiency to lower costs, effective management of diverse workforce and sustainability puts pressure on managers to develop and deliver solutions that satisfy various stakeholders of the organization. Hence, managers have to train their minds to develop a habit of imaginative creative thinking in order to meander on the 21<sup>st</sup> century business platform. As Albert Einstein has said :

*"We cannot solve our problems with the same thinking we used when we created them."*

Thus, creativity and innovation are the cornerstones of modern business, industry and contemporary society.

*Creativity implies bringing together of two previously unrelated planes of thought.*

*- Arthur Koestler*

Creativity can be regarded as the quality of products or responses judged to be creative by appropriate observers and it can also be regarded as process by which something so judged is produced. Creativity is not about inventing something totally new, it is about making new synergistic connections. Anyone can learn and develop creativity through practice and by giving oneself permission to be playful, inquisitive, flexible and versatile. Individuals have to be made aware of their creative styles and preferences and their cognitive skills. They need to be motivated to flourish in a stimulating climate. Encouraging people into adventurous ideas helps promoting and provoking creativity. Pipe dreams are fine, however, an idea is only truly innovative if the right brain produces it and the left brain endorses it. The right brain has attributes that contribute to creativity, images, colours, intuition and emotion while the left brain has attributes for evaluation, logic, reasoning, analysis and realism. Hence, a right balance has to be struck between the two so that the product that results from the balance is innovative and acceptable. Although creativity and innovation are interlinked, they differ on at least four counts namely: process, risk, starting points and end results.

*Innovation is the introduction and implementation of new ideas, goods, services and practices that are intended to be useful.*

The main driver for innovation is often courage and energy to better the world. It is the process of bringing a new idea – one that solves problems or addresses opportunities into use. While creativity involves the production of novel and appropriate ideas by individuals or small groups, innovation refers to the successful implementation of creative ideas by the organization. The goals of innovation can vary between improvements to products, processes and services and apply to any organization, thereby dispelling the popular myth that innovation deals mainly with new product development. Although innovation in businesses remains focused on research and development, many innovations can emerge through other routes and practices.

*Thus, creativity is the act of producing new ideas, approaches or actions, while innovation is the process of both generating and applying such creative ideas in some specific context.*

***“Creativity is thinking up new things. Innovation is doing new things.” - T. Levitt***

***“Innovation combines factors in a new way, or that it consists in carrying out new combinations.” - Joseph Schumpeter***

Creativity and innovation are the levers that enable transformation in difficult situations and they do bring in a lot of change and turbulence. However, economic growth stems from corporate turbulence not stagnation. Industries that have displayed excellence in managing innovation have assumed market leadership, transformed into triumphant organizations and brought about transformation of societies and nations.

- ⇒ **Nokia** has turned from modest beginnings of riverside mill in Finland to a global telecommunications leader.
- ⇒ **Apple Computer Inc.** has used no fewer than seven types of innovation to launch the iPod, lapped up worldwide sales of USD 32 billion in 2008 and unique, admired company reputation in the consumer electronics industry during 2009.
- ⇒ **BMW** that initiates new car design by relocating staffers from scattered locations and multifarious functions to the automaker Research and Innovation Center called FIZ, recorded four-wheeler vehicle sales of over 1.3 million units and indisputable recognition for performance and luxury.
- ⇒ **Japan** spent a hundreded times more money during 1950s in importing licenses and technology than it did in exporting them. However, Japan tripled its R&D expenditure in the period 1965-1980 and spent almost 13% of the budget in promoting industrial growth. Japan ability to acquire, create and utilize new knowledge has catapulted it from a post-war devastated nation to an economic superpower, topping in high-tech industries, work ethics and R&D growth.

Most researchers and managers realize that creativity at individual level represents only part of the challenge. The superior objective is to create an organizational environment that nurtures and thrives with creativity and innovation. Many organizations have bureaucratic processes, layers of rules and authority, corporate norms and reward systems that discourage novel thinking and the challenge is to build an organizational structure and systems that foster creativity and innovation. Further, organizational designs and protocols that simultaneously cultivate ethics and creativity may be more readily adopted by firms than restricted designs aimed at addressing only one of these goals. The objective is to encourage managers to promote creativity by identifying assumptions and generating path to achieve innovative solutions that answer to impeachable ethical standards.

**Peter Drucker had said :**

***“The enterprise that does not innovate inevitably ages and declines. And in a period of rapid change such as the present, an entrepreneurial period, the decline will be fast.”***

Innovation and Creativity in all spheres of life and profession will dictate how we build a competitive edge over other cultures and countries. A firm may also engage in preemptive R&D in a race to gain exclusive rights to a new product or an unassailable position by patenting a new technology. By seeing something before it happens and preparing for it, there is a possibility to gain head start in this highly competitive world with depleting natural resources and rising population.

## **Global Scenario**

Competitive advantage today comes from continuous, incremental innovation and refinement of a variety of ideas that spread throughout the organization. This kind of continuous innovation is possible only when organizations are able to design mechanisms which help them to reflect, review and critique their existing operations and offerings on a regular basis and use this learning for developing better business solutions. As a top executive of the Royal Dutch Shell Group of Companies observes, *“The ability to learn faster than your competitors may be the only sustainable competitive advantage.”* Learning involves creation of knowledge that enables an organization to innovate, and innovations frequently emerge from the blending of multiple perspectives, such as customer’s needs and the designer’s knowledge base, or a combination of two unrelated different disciplines. Consequently, innovation is fostered in organizations that promote integration of multiple perspectives by linking the various organizational parts more closely and by linking the organization more tightly to its customers. If successful, innovation defines the industry standards for quality of products and services. A technological innovation might have an added advantage of creating proprietary knowledge. A patented product or technology allows the innovating company to restrict entry of competitors and mould the market structure to its own advantage. Hence, business organizations world over are spending a significant amount of their turnover on innovation and often the programs of organizational innovation are linked to organizational goals, business plan and market competitive positioning. National competencies in research are also an important input into firms’ technological capabilities. Particularly in large firms, R&D laboratories actively seek support, knowledge and skills from

national basic research activities like those in universities. In many countries, national advantages in natural resources and traditional industries have been fused with related competencies in broad technological fields and that then become the basis for technological advantage and competitive edge in new products. Innovation therefore involves attempts to deal with an extended and rapidly advancing scientific frontier, fragmenting markets flung right across the globe, political uncertainties, regulatory instabilities, and a set of competitors who are increasingly coming from unexpected directions. The spreading of net wide and picking up and making use of knowledge signals are essential for effective management of innovation. The World's most innovative Companies dazzle with new ideas and prove beyond doubt how business is a force for change.

### **The World's Most Innovative Companies** (Source: Business Week, 2009)

<b>Rank (2009)</b>	<b>Company</b>	<b>Particulars</b>
1	Apple	iPhone, iPod, iPad
2	Google	Google Voice, Google Search, YouTube
3	Toyota	Automotive industry – Corolla, Prius, Scion brands
4	Microsoft	Windows Vista, Windows XP, SQL Server, MSN
5	Nintendo	Interactive entertainment products - Video Games
6	IBM	IT products and services
7	Hewlett-Packard	Printers, PCs
8	Research in Motion	Blackberry smart phones
9	Nokia	Mobile Handsets, GSM
10	Wal-Mart	Retail Stores

Businesses pay much attention to formal R&D endeavours for breakthrough innovations and developed economies are known for their impressive investments in R&D. The term research and development covers three activities viz. basic research, applied research, and experimental research. R&D comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture, environment and society, and the use of this stock of knowledge to devise new applications.



**Top R&D Investing Countries** (Source: OECD Factbook, 2008)

Rank	Country	R&D Investment as percentage of GDP
1	Sweden	3.7
2	Finland	3.5
3	Japan	3.4
4	Korea	3.2
5	Switzerland	3.0
6	United States	2.8
7	Austria	2.7
8	Denmark	2.6
9	Germany	2.5
10	France	2.3
42	India	0.7

**R&D Investment in terms of USD**

Rank	Country	R&D Investment (Billion USD)
1	USA	517
2	Japan	180
3	Germany	82
4	France	58
5	UK	48
6	China	47
7	Canada	27
8	Italy	23
9	Spain	14
10	Russia	11
13	India	6

The driving force for creativity and innovation is obviously the research and development efforts requiring massive investments, however, a recent global research underscores the importance of culture. The research conducted in 759 public companies from 17 countries including USA, Germany, Japan, India, and China, revealed that radical innovation is correlated to future market orientation, willingness to cannibalize and a tolerance for risk (Source: Tellis et al., *Innovation in companies across nations: New metrics and drivers for radical innovation*, 2007). Moreover, the capability to continuously innovate and transform industry standards is dependent on more than just the quality of an organization's accumulated knowledge-base. This implies that to leverage on invisible knowledge in the market, an organization requires knowledge that is deeply embedded in its social architecture. It resides in those specialised relationships among groups and individuals that frame an organization's operating practices – in its particular norms and attitudes; in

its information flows; in its ways of performing tasks, making decisions and formulating goals; and in the way in which its people and teams have learned to behave and interact with each other. As one CEO of a reputed steel company puts it, “We have no issues allowing people to freely visit the plant; we will be giving away nothing because they can’t take it home with them.”

Global Innovation Index is a global index produced jointly by the Boston Consulting Group, National Association of Manufacturers, USA and The Manufacturing Institute, and measures the level of innovation of a country. It is part of a large research study that considers both the business outcomes of innovation and government’s ability to encourage and support innovation through public policy. The following is a list of top ten countries that scored high on innovation index:

### Global Innovation Index (March, 2009)

Rank	Country	Score
1	South Korea	2.26
2	United States	1.80
3	Japan	1.79
4	Sweden	1.64
5	Netherlands	1.55
6	Canada	1.42
7	United Kingdom	1.42
8	Germany	1.12
9	France	1.12
13	China	0.73
15	India	0.06
16	Russia	-0.09
17	Mexico	-0.16
20	Brazil	-0.59

### Gandhian Engineering

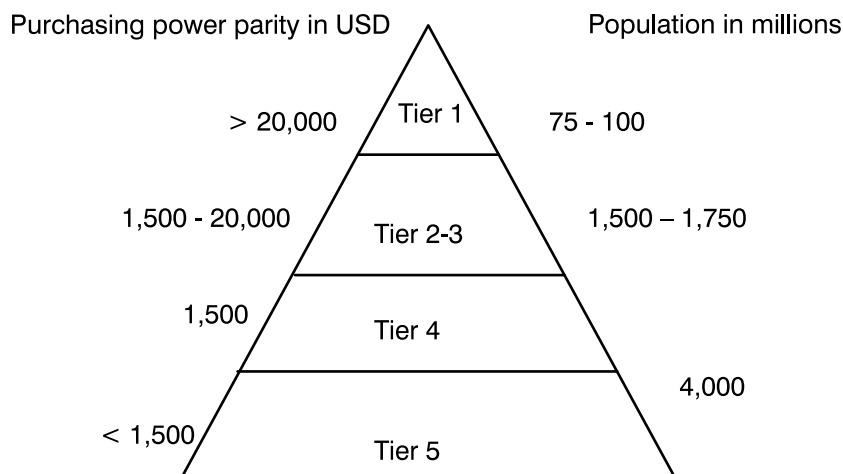
According to Dr. Mashelkar, President of Global Research Alliance, innovation is about doing things differently, making a big difference, making the impossible possible and the best manifestation can be through the example of Gandhiji and hence the term ‘Gandhian Engineering,’ that goes beyond simple inclusive growth. Innovation leaders convert problems into opportunities, grow small ideas into major businesses, and develop a strong hindsight, foresight and insight.

***Gandhian Engineering is about: “Getting More from Less for More and More.”***

The engineering challenge is always to get more from less, for example, decades back, computer occupied one full room while today’s laptop is even more powerful and occupies space of less than a square foot. Gandhian engineering says, if the laptop costs \$1000, not many people can afford it and hence, it needs to be thought through how laptop of \$100 can be made available without compromising on performance so that we start traversing at the bottom of the pyramid, yet profitably. Another example is that of an artificial foot. An artificial foot in the US can cost anywhere

between USD 12,000 to 18,000 which means that people at bottom of the pyramid would require at least 15 years to buy an artificial foot. Now, the challenge is to make the USD 12,000 foot affordable at \$ 30 and yet 10 times better in terms of performance since the Indian foot needs to subsist in rugged conditions. The innovation of Jaipur foot is one such attempt to align with the changing paradigm.

The concept of 'Bottom of the Pyramid' pioneered by the management guru C. K. Prahalad establishes the economic pyramid depicting the distribution of wealth and capacity to generate incomes in the world. More than four billion people live at the bottom of pyramid on meagre income; however, by focusing on the bottom of pyramid consumers' capacity to consume, private-sector businesses can create a new market.



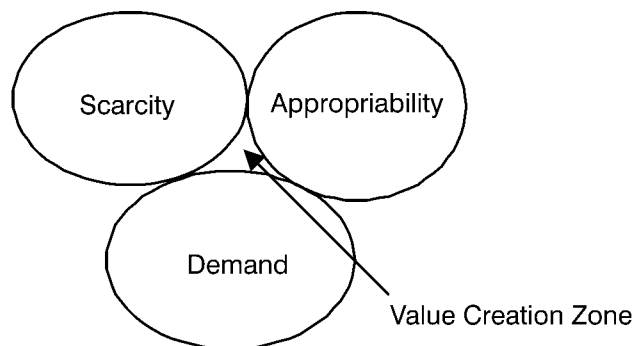
### **The Economic Pyramid** (Source: C. K. Prahalad, The fortune at the bottom of pyramid)

If we take nine countries – India, China, Brazil, Mexico, Russia, Indonesia, Turkey, South Africa, and Thailand – collectively they are home to about 3 billion people, representing 70 percent of the developing world population and combined GDP of USD 12.5 trillion—certainly not a market to be ignored! Moreover, with cell phones and televisions, the bottom of pyramid consumer has unprecedented access to information as well as opportunities to engage in a dialogue with the larger community. Both current market size and growth rates bear testimony to the fact that the bottom of the pyramid market is a critical factor in worldwide wireless growth and the proliferation of wireless devices from Grameen Phone in Bangladesh to Telefonica in Brazil indicate the budding opportunities for business. The critical requirement is the ability to invent ways that take into account the variability in cash flows of bottom of pyramid consumers that makes it difficult for them to access the traditional market for goods and services oriented toward the top of the pyramid. The bottom of pyramid as a market provides a new growth opportunity for the private sector and a forum for innovations although old and tired solutions cannot create markets at the bottom of pyramid.

Each firm possesses a unique bundle of resources – tangible and intangible assets and organizational capability to make use of those assets. A firm can develop competencies from these

resources and creative augmentations can translate as sources of competitive advantage. Typically, the dynamic interplay of the three fundamental market forces viz. scarcity, appropriability and demand, determines the value of a resource or a capability. The resources are more valuable when they are critical for meeting a customer's need better than other alternatives, are scarce, drive a key portion of the overall profits and are durable or sustainable over time. In other words, the resources that contribute to competitive superiority are the most valuable ones.

### **What makes a resource valuable?**



Innovator is one who looks at something that everyone sees, but sees something that no one has seen. Many have seen the whole family of 4 or 5 in India riding a two wheeler but when Ratan Tata saw it, he wanted to change this and that is how USD 2000 Nano car was born. Nano is a transformational innovation that has not only innovation and passion but also compassion, an excellent example of Gandhian Engineering. Bajaj Auto also subsequently announced a small car project to be developed in tripartite joint venture agreement of Bajaj, Renault and Nissan. Bajaj small car intends to utilize 70-80 percent of parts from its two and three wheelers with a design focused on delivering fuel economy. Thus, innovation at bottom of the pyramid markets can reverse the flow of concepts, ideas, and methods. For an MNC that aims to stay ahead of the curve, experimenting at bottom of pyramid markets is increasingly critical and no longer an option.

### **Creativity Techniques**

Although creative activity may be present in most decision making situations, the potential contribution of explicit creativity techniques often remains unexplored. Creativity techniques have the potential to provide an unusual solution that is required by complex organizations and complex technology. There are several techniques for exploiting human creativity. However, they can be structured into four main categories:

- Free Association: Brainstorming, Synectics, Black box technique

- Forced Relationship: Catalogue technique, focused object technique

- Analytical: Attribute listing, Grid analysis

- Eclectic Approach: Combinations or extensions of other techniques

Creativity then, is the capacity to imagine new, useful and viable solutions to problems. It is a drive or initiative to see things in a different light or in a form other than they seem.

*"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

It has been argued that in order to enhance creativity in business, three components are needed viz. expertise, creative thinking and motivation (Source: Amabile T., *Creativity and role of the leader*, HBS, 2008). Further, creativity is also seen as an important element in the recombination of elements to produce new technologies and products, and consequently, economic growth.

## **Innovation Models**

Early models viewed innovation as a linear sequence of functional activities and the two versions commonly promoted were 'technology push' and 'market pull.' However, these models faced numerous criticisms since they ignore many feedbacks and loops that occur between the different stages of the process. Much recent work recognises the limits of linear models and tries to build more complexity and interaction into the frameworks since most innovation is messy, involves false starts, dead ends and out of sequence jumps (Tidd et al., 2009). The current generation of innovation concept sees innovation as a multi-actor process which requires high levels of integration at both intra and inter-firm level and which is increasingly facilitated by IT-based networking. Another similar taxonomical approach subtly describes the models of innovation for the knowledge economy as science-based, user-based and integration-oriented. The scientific approaches seem to conquer new ground all the time and are significant at the upstream stages wherein they are of direct value in developing process and product innovations. The user-based innovation implies that the user is motivated to find a solution that fits exactly with his or her specific needs and circumstances. Integration-oriented innovations are more close to the current, complex business scenario in which modularity is both a solution to growing complexity and a new method for management of innovation.

The influential work of Clayton Christensen (Source: *The Innovator's Solution*, HBS Press, 2003) focuses on two distinctive categories viz. sustaining and disruptive, based on the circumstances of innovation. In sustaining circumstances when the race entails making better products that can be sold for more money to attractive customers, evidence shows that the incumbents are likely to prevail, while in disruptive circumstances when the challenge is to commercialize a simpler, more convenient product that sells for less money and appeals to a new or unattractive customer set, the entrants are likely to beat the incumbents. A sustaining innovation targets demanding, high-end customers with better performance than what was previously available. Disruptive innovations, in contrast, do not attempt to bring better products to established customers in existing markets. Rather, they disrupt and redefine that trajectory by introducing products and services that are not as good as currently available products. However, disruptive technologies offer other benefits – they are simpler, more convenient, and result in to less expensive products that appeal to new or less-demanding customers. Since the processes start coalescing

within a group that is confronted repeatedly with doing the same task, the engine that propels accomplishment in well managed companies gradually becomes less dependent on the capabilities of individual people, and becomes instead embedded in processes. Furthermore, the ability to create successful disruptive growth businesses can become ensconced in a process as well that can be termed as 'disruptive growth engine.' Thus, a disruptive business model that can generate attractive profits at the discount prices required to win business at the low end is an extraordinarily valuable growth asset.

## Corporate Experiences

**Google** a fastest growing company ever, has recorded almost nil attrition rates in India since 2004. The secret behind this is innovative working environment which lets great minds think indigenously. In fact, 20% of the time is reserved for innovative pursuits and there is Google news created by the principal scientists of Google to enable employees to pursue innovation.

**General Electric** files more US patents than almost any other US firm year after year. It is one of the world largest companies with revenue of USD 180 billion and leading producer of items from light bulbs and dishwashers to locomotives and power plants. The famed former CEO, Jack Welch said, GE is a place where people have freedom to be creative, a place that brings out the best in everybody.

**Sony** is the leading company in consumer electronics, introducing some 1000 products each year; 800 of those products are new versions of old products while 200 are totally new. When Walkman was introduced in 1979, thousands of companies around the world started making and selling pocket-size audio cassette players. Sony managed to maintain its leadership by continuously introducing upgraded models of Walkman at a phenomenal rate between 1979 and 1992 it had introduced 227 new models of Walkman, that is, about one new model every three weeks.

## Leadership for Creativity and Innovation

Leaders can influence levels of motivation by shaping technological development climate. Doing so, this climate can have a significant impact on the attitudes of employees, technical staff and managers towards innovation. If a strategic leader is able to communicate and create a positive consensus around objectives, then there is increased likelihood to attain better motivation levels and development. Strategic leadership contributes to increase innovative efforts and innovation with positive results. Similarly, involvement in team work provides a strong positive relationship with higher motivation to innovative efforts. Also, evidence shows that successful leaders of business innovation score higher on dimensions of transformational leadership. According to Burns (Source: Leadership, Harper & Row, New York), transforming leadership occurs when one or more persons are engaged in such a way that leaders and followers raise one another to higher levels of motivation and morality. Transformational leaders achieve superior results by operating in four Is, namely, idealized influence, inspirational motivation, intellectual stimulation and individualized consideration.

## **Future Trends**

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. The progress of business through the paradigms of creativity and innovation is taking place at an unprecedented speed and the rate of learning by business has to be greater than the rate of change. Hence, individuals, groups, institutions and business enterprises have to try and ingrain the key principles of creativity and innovation in business and personal lives and survive in the whirlwinds of change, cold competition and collaborations of new, may be weird, unheard forms of partnerships and organizations.

## **Dr. V N BRIMS Annual Seminar and Workshop**

The theme of the annual seminar for 2010-11, creativity and Innovation in Business, will be addressed from various angles. The approach will be to relate creativity and innovation to management process viz. planning, organizing, directing, staffing, action and control. Creativity and innovation as affecting the functional areas of management viz. operations, marketing, finance and human resource management, will also form part of the deliberations of the annual seminar. All those concerned with management - students, teachers, researchers, writers, practising managers, people at the helm of business organizations and academic institutions will be the focus group expected to contribute to the seminar. Research ideas, papers, experiences of practising managers and researchers on the theme of creativity and innovation will be invited from the network of stakeholders associated with management. The workshop scheduled for 23rd October 2010 will be a platform to initiate the learning process and the knowledge developed will facilitate value addition to our know-how on the theme. Students, teachers and others will be encouraged to research upon various aspects of the theme to make presentations and other related contributions viz. writings, case studies, video-clippings et al. The annual seminar, scheduled for 12th February, 2011, will present a galaxy of speakers on the theme of creativity and innovation with multifarious perspectives cutting cross different segments of society and management viz.

1. Creativity and innovation for social, economic and technological development
2. Creativity and innovation for environmental protection, projection and promotion
3. Creativity and innovation in different sectors of the economy viz. primary, secondary and tertiary
4. Creativity and innovation in various functional areas of management and also across the different steps in the management process
5. Creativity and innovation in the context of liberalization, globalization and privatization
6. Creativity and innovation in the context of learning organizations and knowledge society and
7. Last but not the least creativity and innovation interface to the hapless and helpless billions of people at the bottom of the pyramid so that the World is a safer, better and happier place to live for one and all.



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### **Vidya Prasarak Mandal, Thane**

Dr. V. N. Bedekar Institute of Management Studies (DR VN BRIMS)  
Jnanadweepa, Chendani Bunder Road, Thane (W) 400601