



Creativity and Innovation:

A Business Practice to realize the concept of make in India

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Abstract

Creativity and innovation concern the process of creating and applying new knowledge. As such, they are at the very heart of Knowledge Management. This paper first creates a framework for creativity and innovation and further discussed various issues and strategies to implement them. It goes on to explore how our creativity is “blocked” in a variety of ways, including deep-seated beliefs about the world. Finally, this paper takes a brief look at creativity and innovation as a business practice to realize the concept of make in India.

Keywords: Innovation, creativity, design, decision making, organization, knowledge.

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Introduction

The companies that have done the best over the long haul are those who are the most creative and innovative. These organizations don't copy what others do; instead, they may use innovative ideas from others as a spring board to come up with a unique application, product, or service for themselves. They tend to distance themselves from the competition rather than compete with them. If they see another company copying what they do, they create something new and better. In other words, they are able to leverage their creativity and their innovative capabilities to attain long-term success.

Would you like to be one of those organizations? You can be. In fact, all companies can be more creative and innovative no matter what their expertise, product, or service. When you apply creativity and innovation to everything aspect of your business, you are able to stay ahead of a changing marketplace and the competition.

WHAT IS CREATIVITY?

Creativity is a function of knowledge, curiosity, imagination, and evaluation. The greater your knowledge base and level of curiosity, the more ideas, patterns, and combinations you can achieve, which then correlates to creating new and innovative products and services. But merely having the knowledge does not guarantee the formation of new patterns. The bits and pieces must be shaken up and iterated in new ways. Then the embryonic ideas must be evaluated and developed into usable ideas. In other words, there really is a process.

Realize that creativity and innovation are different. Creativity refers to generating new and novel ideas. Innovation refers to the application of an idea and, in many cases, is a collaborative enterprise. Innovation is the spark that makes good companies great. It's not just invention but also a style of corporate behavior comfortable with new ideas and risk. Companies that know how to innovate don't necessarily throw money into R.& D. Instead they cultivate a new style of corporate behavior that is comfortable with new ideas, change, risk and even failure, according to "Americas most Admired Companies," fortune, March 3, 1997.

Creativity is the act of producing new ideas, approaches or actions, while innovation is a new way of looking at and changing them. Creativity is always the starting point for innovation. People who have a gift for creative innovations tend to differ from others in three ways:

- Expertise—specialized technical knowledge in a particular discipline
- Creative thinking skills—flexibility and imagination as they relate to problem solving
- Intrinsic motivation

Innovation = Creativity + Risk-Taking

The ability to "think outside the box" is best supported in a flexible, open, nurturing environment with a leader who sees his or her primary role as supporting rather than directing. Creative people require this kind of environment to invent, imagine, problem solve, and create fresh ideas and concepts. Creative ideas emerge when preconceived assumptions are discarded and attempts at new methods that seem odd or unthinkable to others are explored.

HISTORY OF CREATIVITY AND INNOVATION

On December 17, 1903, a man walked into a restaurant in Norfolk, Virginia, to announce that “there are two loony Yankees down at Kitty Hawk trying to learn to fly.” Little did this man

realize that this curious pair of innovators would achieve the first powered, sustained and controlled flight of an airplane. Orville and Wilbur Wright would survive this flight and many others.

Credit cards first were introduced in the 1920s so that automobile owners could purchase gasoline easily and efficiently. As companies such as American Express and Diners Club made it possible to purchase meals, lodging and merchandise with the swipe of plastic, the concept of the credit card took off.

In 1968, a scientist named Spencer Silver was researching ways to make 3M’s adhesive tape stronger. He failed in that attempt but discovered something new—an adhesive strong enough to stick on many surfaces but that could easily be removed and reused.

In 1977, Post-it® notes hit the market. The concept did not catch on immediately, as consumers could not imagine why they would need such a product. Only when 3M distributed free samples did people understand and appreciate the versatility of the little sticky notes. Once this happened, the consumers’ imagination ran wild. What do the Wright Brothers, the credit card and Post-it notes have in common? Creativity leading to innovation.

Thomas Edison had all the characteristics of a risk taker innovator. He was a divergent thinker, making observations about the natural world. He was not afraid of failure. The lessons learned in one of his failures led to success in another project. In addition to the light bulb, his 1,093 patents included familiar ones such as the microphone & batteries.

The celebrated discoveries of man are not accidents. The minds of men/women were engaged in creative thinking to deliver the visible products we enjoy today. Name them: Bill Gate and the computer, Graham Bell and the telephone, Michael Faraday and electricity, Isaac Newton and physical law of science, the Wight brothers and Aeroplane, Adenuga and Consolidated oil, Atedo peterside and Investment Banking and Thrust Company, Raymond Depokesi and Dear Communications. The list is endless. You too can join them as you begin to “ponder the path of your feet, that all your ways may be established.”

OBJECTIVES

1. To tap into workforce's personal creativity to build organizational creativity that drives innovation.
2. To understand the inputs, acquire tools, create trust, and foster an environment that generates ideas for the organization.
3. To develop a collaborative culture within the organization.
4. To encourage and enable creative decision-making.
5. Implement ideas that drive change by evaluating and communicating effectively through organizational alignment.
6. To encourage risk-taking with a strong, well-communicated organizational identity.
7. Improve business results through structural systems that bring innovation to life.

RESEARCH METHODOLOGY

The methodologies are drawn from the multi-disciplinary perspectives of business management, art, design, and social science research. Our focus is on leadership and team development, creativity, collaboration, and cultivating environments that foster innovation.

THE ELEMENTS OF INNOVATION

Innovation is the successful development of competitive advantage and as such, it is the key to entrepreneurship. The entrepreneurs are the “dreamers”, who take hands on responsibility for creating innovation. It is the presence of innovation that distinguishes the entrepreneur from others. Innovation, must therefore, increase competitiveness through efforts aimed at the rejuvenation, renewal, and redefinition of organizations, their markets or industries, if business are to be deemed entrepreneurial. Fiona Fitzpatrick identified the following elements of innovation:

1. Challenge: What we are trying to change or accomplish-the “pull”
2. Customer focus: Creating value for your customers – the “Push”
3. Creativity: Generating and sharing the idea(s)- the “brain”
4. Communication: The flow of information and ideas –the “life blood”
5. Collaboration: People coming together to work together on the idea(s) – the “heart.”
6. Completion: Implementing the new idea-the “muscle”.

7. Contemplation; Learning and sharing lessons lead to higher competency-the “ladder”
8. Culture: The playing field of innovation includes:
 - Leadership (sees the possibilities and positions the team for action-the role model)
 - People (diverse groups of radically empowered people innovate –the source of innovation)
 - Basic values (trust and respect define and distinguish an innovative organization-the backbone).
 - Innovation values (certain values stoke the fires that make the “impossible” possible-the Spark).
9. Context: Innovation is shaped by interactions with the world

FORMS OF INNOVATION

In a start-up, the entrepreneur is regarded as the key actor in developing a business idea, marshalling resources, and creating an enterprise to bring a new product or service to the market. In a competitive business environment, the entrepreneur and the enterprise should continue to seek out new opportunities and make the necessary arrangement to convert them into new goods and services. Innovation should, therefore, impregnate the entire enterprise for the creation and invention of competitive edge and relevancy in the market place.

Innovation can take several forms:

- i. Innovation in processes, including changes and improvement to methods. These contribute to increases in productivity. Which lowers cost and helps to increase demand.
- ii. Innovation in products or services. While progressive Innovation is predominant, radical innovation opens up new markets. These lead to increases in effective demand which encourages increases in investment and employment.
- iii. Innovation in management and work organization, and the exploitation of human resources, together with the capacity to anticipate techniques.

Innovation centres on people, culture, structure, process and technology. Innovation is the process through which the entrepreneur converts market opportunities into workable, profitable, and marketable ideas. Innovation is an application of something creative that has a significant impact on an organization, industry or society. Entrepreneurship is the continuing generation of Innovation in response to perceived opportunities in the business environment.

TRANSFORMING CREATIVITY INTO INNOVATION

The world is teeming with good ideas, but the percentage of those ideas that are developed into true innovations is comparatively small. True innovators recognize a creative idea's potential. Successful innovators have a sense of timing as well. They know, either through instinct or research, when they've come across "an idea whose time has come."

How to Think Creatively

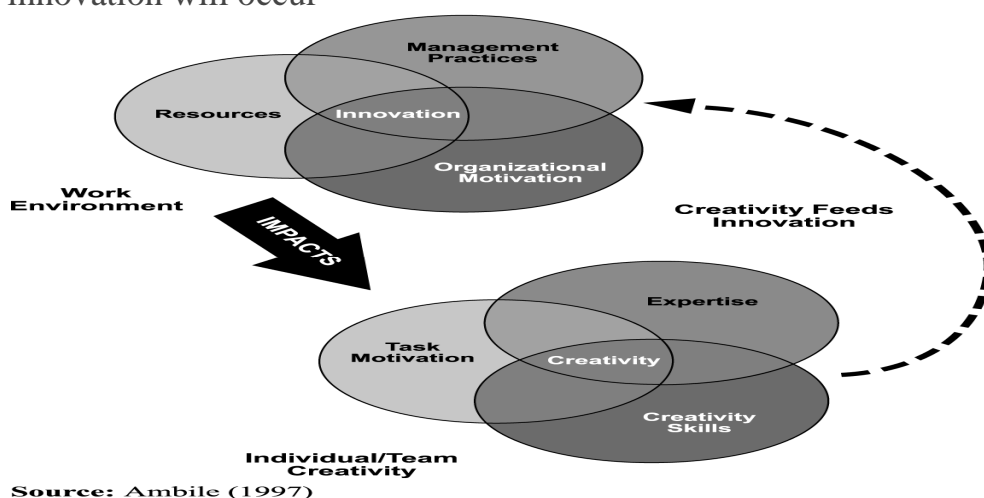
- Use a wide range of idea creation techniques (such as brainstorming)
- Create new and worthwhile ideas (both incremental and radical concepts)
- Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts

Work Creatively with Others

- Develop, implement and communicate new ideas to others effectively
- Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work
- Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas
- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

Implement Innovations

Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

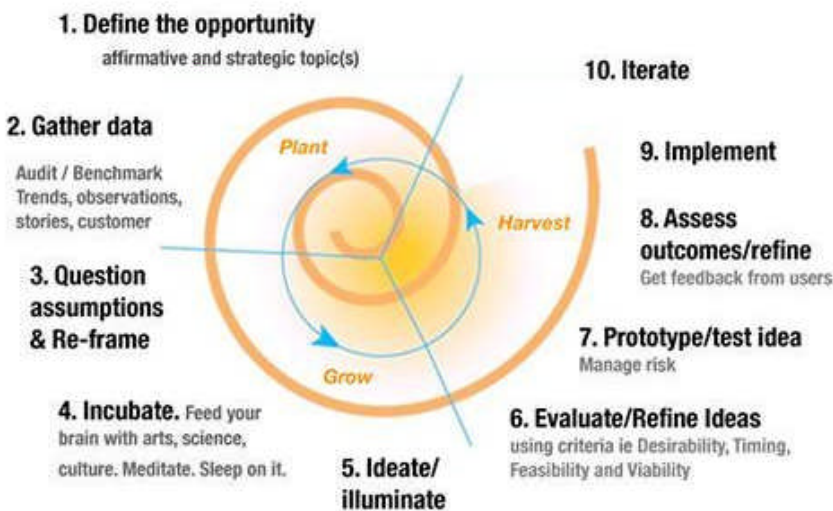


Source: Ambile (1997)

FRAMEWORK FOR CREATIVITY AND INNOVATION

Because creativity and innovation are often confused, it's long been assumed that you cannot force innovation within an organization. It's either there, or it isn't. The introduction of a common language for innovation — design thinking — enables organizations to better measure milestones in their innovative efforts.

In order to employ design thinking, it's necessary to understand it as a system of overlapping spaces, rather than a set of process steps to move through. Those spaces are: *inspiration*, during which the problem that motivates solution-finding is identified; *ideation*, the process of generating and developing ideas; and *implementation*, the activities that enable a creative idea to move from the drawing board to the marketplace. Any design thinking-based project may loop back to an earlier space more than once as a team explores, develops, and implements its idea.



This model synthesizes classic creative problem-solving modalities with principles and practices of art and design.

Design thinking provides a consistent approach to defining challenges. It helps organizations identify problems before they even begin the brainstorming sessions most associated with creativity. Now, organizations can actually *see* what they were missing when previous ideas didn't reach market sustainability.



Using design thinking, organizations can capitalize on creativity by paying attention to the life of the idea after its initial development. To be of value, applied creativity must always lead to innovation — linking a great idea with an actual customer need (or, better yet, the needs of a whole market!). The use of design thinking in this manner also demands the guidance of engaged leadership.

Leaders are critical to the success of any group's long-term innovation strategy. It's their job to ensure that innovation is consistently pursued and their employees don't settle into business as usual. They set the tone for what is, and is not, possible in the business through their attention and action.

You can approach the practice of innovation (creating new products, services, and customer experiences) with a set of practical and rigorous methods, tools, and frameworks.

1. **Define the challenge:** Develop a set of powerful questions to surface opportunities, and frame innovation.
2. **Gather data:** Learn how to gather data through qualitative research such as observation and storytelling to augment traditional forms of data gathering. Tools include Journey Mapping and Value chain analysis
3. **Reframe and clarify the challenge:** Make sense of research by seeing patterns, themes, and larger relationships between the information. Challenge assumptions and illuminate opportunities latent within the organization.
4. **Artful reflection:** Cultivate your intuition and develop aesthetic ways of knowing. The elegant solution wins in the marketplace. **Visualization:** Develop visual thinking skills to de-code images, and communicate ideas visually. Visual literacy transcends the limitations of language, and activates our senses. Tools include Mind mapping, sketching and painting.
5. **Ideate:** Learn six idea generation tools to foster shifts in perception, break out of traditional mind-sets, and generate seed ideas for innovation, including SCAMPER, Metaphorical thinking, connecting the dots, and Edison's invention techniques.
6. **Evaluate:** Identify the criteria you need to evaluate ideas; learn the distinction between critiquing and criticizing an idea; give feedback that enhances creativity rather than crushes it.
7. **Prototyping:** Create a visual tangible representation of your idea and present it to the group for feedback. Create a feasibility and an adoption checklist to get people onboard. **Customer co-creation:** Exploring alternative futures with your internal and external customers

8. **Assess:** Gather feedback from prototype. Assess outcomes, and refine your project. Develop a set of feedback questions to get the information you need, i.e., does this add value to the customer?
9. **Implement:** Create an action plan and test-drive your innovation
10. **Iterate:** Assess results, modify and improve, using this framework.

ORGANISATIONAL CONSTRAINTS AGAINST INNOVATION

A qualitative analysis of the cases brought out the following organizational constraints against innovation:

1. Absence of failure-analysis systems (100%)
2. Lack of patenting initiatives (97%)
3. Lack of recognition for innovations in non-core areas(94%)
4. Poor handling of change management (90%)
5. Informal team formation (81%)
6. Low emphasis on dissemination and commercialization (77%)
7. Inadequacy of rewards and recognition (65%)
8. Procedural delays (58%)
9. Poor documentation and maintenance of records(58%)
10. Easy access to foreign technologies (55%)
11. Unclear norms on linking innovations with career growth (48%)
12. Lack of recognition for contributions by support functions (45%)
13. Ambivalent support from the immediate supervisor(39%)
14. Inadequate systems for the promotion and management of ideas (35%)

Table 1 Global competitiveness: Innovation Capacity Components Index

Country	Innovation Capacity Index		Quality of scientific research institutions		University/industry research collaboration		Availability of scientists & engineers		Utility patents (per million of people)		Public procurement of advanced technology	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Brazil	27	4.0	43	5.13	50	3.6	57	4.4	58	0.5	84	3.4
China	25	4.2	37	5.12	23	4.5	52	4.5	54	0.6	20	4.2
India	35	3.8	27	5.1	45	3.6	3	5.7	57	0.5	88	3.4
Japan	2	5.9	15	5.4	21	4.6	2	5.9	3	260	42	3.9
S. Korea	9	5.3	14	5.5	12	5.1	19	5.1	7	131	2	5.1
UK	14	14.0	7	5.7	9	5.1	32	4.8	18	55	32	4.0
US	6	5.5	1	6.3	1	5.8	6	5.5	1	262	4	4.9

Note: Rank refers to the economy's global rank on each indicator among 134 economies. Scores range from 1, low, to 7 highest, except for utility patents, where the score shows the number of patents per million people.

Source: Inclusive and Innovative India

India's R&D expenditure as per cent of GDP is about 0.8(156 researchers/m population), China 1.2 (500researchers/m), and USA 2.8 (4700/m). Total researchers in India are

about 1.5 Lakh as compared to China's 8-10Lakh and India produces fewer patents in relation to the size of its economy than other countries. Due to these statistics international comparisons rank India very low on the Innovation index.

12 WAYS TO BE MORE INNOVATIVE

1. Allow for Change and Spontaneity

"Working hard to keep your company from becoming rigid helps to keep innovation flowing. The longer you have a business, the easier it is not to try new things—from payment systems to where an afternoon meeting should be held. Changing things up every now and again because of suggestions from your team shows you care about keeping your workplace full of ideas."

2. Take Your Hands Off!

"Hire great people and give them responsibility. Avoid micro-managing in favor of letting your team surprise you with their creativity!"

3. Budget for Innovation

"No one likes to ask for money, but when they have money as an available option, they are willing to go ahead and spend it on things they think will be worthwhile. As the boss, you can enable your team to take new ideas and develop them into profitable ventures. For example, tell them they can spend a few hundred dollars a month on any cool thing they want."

4. Flat Organization

"Everyone, from the CEO to the intern to the secretary, should be pushed to always be thinking about how to make the business better. Reward those who speak up and demonstrate creative thinking. You never want someone in your office to be afraid to share their ideas. Foster that open environment where everyone has the confidence to speak up, and you'll find innovation coming to the surface."

5. Expose Yourself

"Innovation is driven by exposure to new ideas, people and work. One of the keys to being an innovation-driving startup leader is to encourage yourself and your employees to constantly learn."

6. Keep Time for Actually Working

"Especially in creative ventures, it's easy to quickly outgrow being able to work on the cool projects that lead you to start the business in the first place -- turning you into a cranky boss. It's good for your team to see you getting your hands dirty, but it will also keep you in touch with what you really want to accomplish."

7. Empower Your Employees

"Innovation starts with being encouraged to make choices. My employees are always responsible for their decisions, so they weigh them carefully, and when they don't like the possibilities in front of them, they often find ways to do things differently. They feel empowered because their choices matter, and my company benefits from their perspective."

8. Open Workflow

"Promote and encourage an open workflow. If you have an open workflow and hire the right employees, it creates an environment where you trust your employees. If employees feel like they have freedom to be innovative, they will, and that starts with their working environment."

9. Opportunities Knock Softly

"Listen carefully to yourself, your clients, your employees, and the media. You might hear something that will create new ideas to execute. People who care about your business will constantly give advice. Listen to them, write down ideas, and execute the ones you are passionate about. Not only will people feel empowered, but you will be seen as the one with great ideas by being a great listener."

10. Allow Failure

"Let people explore and make mistakes. Be good with failure—as long as there is learning in the end."

11. Rally a Vision

"Without any brand equity, your startup will likely field mediocre talent—unless you're paying them too much or giving away all of your equity. But there is hope. Any team rallied around an articulated vision and stoked with sense of greater purpose can defy the

impossible and achieve great things. Your job is to be both a coach and a cheerleader in one—a very inspiring personality."

12. Hire the Right People

"In my experience, it is much easier to find the people who match our company culture rather than trying to create a new company culture to match our people. As a leader, you have a set of inherent personality traits. Select people who gravitate to and respect those traits, and build a team around them. The innovation-driving culture will come from the people -- not from a preconceived plan."

Conclusion

Creativity is important in today's business world, but it's really only the beginning. Organizations need to foster creativity. Driving business results by running ideas through an innovation process puts those ideas to work — for companies *and* their customers. Creativity is the price of admission, but it's innovation that pays the bills. In order to foster the creativity and innovation that is needed to meet the demands and challenges of today's world, a change in focus is indicated. Creativity and innovation need the right environment in order to thrive, one that gives them time, that allows them to focus and that inspires them. Those institutions that wish to spark creativity, whether they are universities, corporations or governments, must do their part to create environments in which individual designers as well as teams of designers can succeed.

As long as creative minds are free to imagine, innovations will continue to transform the world. What part will technology play in spurring the rate of innovative designs? Will creative designs spring primarily from individual contributions, or will technological community push collaboration to become the standard approach?

Will those that employ designers foster their designs by providing an atmosphere and environment that inspires creative thought? Does an individual designer or engineer still have the potential to become the "trim tab" for his or her generation?

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