Jugaad: An indi-genius problem-solving approach

ABSTRACT

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“Jugaad” can be defined as an immediate, inexpensive, and innovative solution to a problem, for which no inexpensive solution is available. Here, the resultant product or a part thereof is used for a purpose other than what it was designed or created for. An existing available solution from one domain is explored or modified for its utility in another field. For example, Miticool refrigerator (Clay fridge) made by Mansukh Prajapati from Gujarat which is inexpensive, fully biodegradable, does not require electricity, and does not generate any environmental waste. Jugaad has often been called innovative trick, hack, makeshift or temporary solution, quick-fix, cheap alternative, pseudo-original problem solving, etc.

The term “Jugaad” meaning “put-together,” is used colloquially for innovative solution-focused problem-solving techniques. It draws its origin from Punjab in India where farmers would put together unrelated discarded auto parts and use an irrigation pump as an engine to come up with an assembled indigenous vehicle called jugaad. The concept gained momentum from similar creative use of discarded material and scant resources for purposes entirely unrelated to the purpose of their original design. This cost-effective, alternative concept of Jugaad has drawn attention from management schools for frugal innovations. Jugaad dwells more in flexible creative solutions by agile users than in the structured teaching of academic institutions. These frugal innovations have been recognized even in Hindi films; be it Amir Khan’s portrayal of the innovator ‘Phunsukh Wangdu’ in ‘Three Idiots’, Akshay Kumar’s ‘Pad-man’ or Hrithik Roshan ‘Super 30’.

PSYCHOSOCIAL CONTEXT OF JUGAAD

The triad of Jugaad is depicted in Figure 1. This triad

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of scarce resources in the context of recognized needs energizes creative self-interest to come up with contextual and workable solutions, in other words … Jugaad.\[^{[6]}\]

**PSYCHOLOGY OF JUGAAD**

Psychological principles behind jugaad may be described as under:

1. **Solution focused problem solving** – This psychological approach focuses less on deficits and encourages entertaining solutions, validating these, and implementing. It resounds more with *Jugaad* principle of ‘Looking for possibilities in adversity’ i.e. converting constraints into an innovative invite or changing perspective or creating new for viable solution.\[^{[4]}\]

2. **Zeigarnik effect** – A psychological phenomenon explained by Bluma Wulfovna Zeigarnik as a tendency to remember unfinished or incomplete tasks more than the completed and the need to keep in mind and complete to eventually release the tension. These may be used to channel the thoughts constructively to get the job done somehow.\[^{[7]}\]

3. **Industrial altruism** – There is a huge proportion of customers at the bottom of the economic pyramid which was not tapped due to lack of inside and understanding of cost structure to the poor masses. It was assumed that they do not have the appetite or paying capacity for aspirational products and technology and uplifting them was primarily the responsibility of government or the Non-Government Organizations (NGOs). However, in the context of the open international market, e-commerce, and social responsibility, many industries have come up with the idea of profit-purpose merger for earning revenue as well as the goodwill. They are excited to take business challenges which are humanitarian in nature, benefit larger masses, and touch the heart of the clientele.\[^{[8]}\]

4. **Creative thinking in a constrained environment** – Creative thinking is any idea which has not been examined or put to the test earlier. Any such idea or solution which may look ridiculous at outset when deliberated may lead to a different perspective or an innovation. Creative thinker therefore is imaginative, flexible to many options, divergent, and lateral in approach. A fertile creativity in a resource scarcity often has given way to *Jugaad* innovations.\[^{[9]}\]

**STAGES OF JUGAAD PROBLEM SOLVING**

*Jugaad* problem solving can be broken down into four sequential stages. These are (i) yearning for the solution/product, (ii) experimentation and learning, (iii) exploring options, and (iv) choosing the most suitable solution. The sequential flow diagram is depicted in Figure 2.

**TYPES OF JUGAAD**

*Jugaad* may be either product or process oriented. While the product-oriented Jugaad is coming out with an innovative product like *Jugaad* Vehicle or *Mitticool* refrigerator, process-oriented *Jugaad* is utilizing a principle or process used in one context/product to another context/product, for example, using motorcycle engine for generating electricity to light residences in remote villages and room heating using a cooking gas cylinder.\[^{[6,10]}\]

**INDUSTRIAL IMPACT OF JUGAAD**

*Jugaad* has brought a significant conceptual change in industrial philosophy and has compelled many big movers in the market to think on five Fs [Table 1] for a larger captive customer.\[^{[11]}\]

**DRAWBACKS OF JUGAAD**

The quick-fix approach utilized in *Jugaad* problem solving might have the following drawbacks: \[^{[6]}\]

1. Possible compromise of safety. These products are not

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**Figure 1: The Jugaad Triad.** It has 3 components as under: 1. Scarce resources - *Jugaad* is inevitable in developing countries and less developed parts of developed nations. The people there are aware of technological solutions or resources required to solve any given problem, but find them too expensive or often simply unavailable. Thus, they are forced to look for alternatives. 2. Recognized need - There is a compelling need for solving the given problem, but resources other necessary wherewithal is lacking. 3. Creative self-interest - There are people available with experience of the given problem, who can contemplate alternative solutions. They are possibly result-oriented and utilitarian by way of attitude. They are likely to have the ability to think about the thought-patterns related to both the problem and possible solutions.
Table 1: Industrial impact of Jugaad (5Fs)

| Term       | Nature of Impact                                                                                                                                 |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Frugality  | Manufacture of items with economic prudence and austerity; without unnecessary frills may yield product which is less costly and appealing to larger group of customers |
| Flexibility| It gives room for adequate creativity, curiosity, and ingenuity to come with a cheaper alternative of a costlier product without compromising its efficiency/purpose |
| Fruitfulness| An economic viable option reaching larger masses is going to reap much longer benefit to the company be it revenue or customer sensitivity |
| Fertile minds| This concept is going to bring primacy of fertile minds and fresh thinking in an environment of automation and inflexible systems |
| Forerunner | A large change in the world always begins with a small thought process. This concept will give way to multitude of options and perspectives for better upgrades and outcomes |

Figure 2: Flow diagram – Stages of Jugaad

- Year: Fell need for a product-based solution in a scare resource scenario
- Learn: Gathering knowledge pertaining to function of the product
- Spurn: Trying out alternatives, risk taking with options
- Churn: Producing final Jugaad product

CONCLUSION

Jugaad, though an innovative and indigenous problem-solving method, is sometimes undermined by safety and legal considerations. However, jugaad has managed to catch worldwide attention for its merit and has prompted many manufacturers toward low-cost innovations, customer-centric flexible approaches, and frugal, creative breakthroughs. It carries the potential for the world, especially for developing countries and marginalized populations. As a way of thinking and problem solving, Jugaad is here to stay.

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