

## **The Business of Civil Engineering: Spotlight on Innovation and Entrepreneurship**

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India's housing market is at the crossroads. The sale price of any housing product is much more than the cost of its construction. The buyers do not even know that they are paying much more than the cost of construction. In this scenario, I am building and selling housing at price points a fraction above the actual cost of construction keeping my profit to a minimum. Naturally, there is intense demand. Now my competitors have only two options: either to lower their prices so as to compete with me or to leave me with an open field in the market for housing.

What I am doing is clearly innovation and entrepreneurship. But what are the sources of innovation? What are entrepreneurial strategies? Let us look at them in a systematic way. We start by looking at the sources of innovation.

A. Source: The Unexpected.

1. The Unexpected Success;

2. The Unexpected Failure;

### **3. The Unexpected Outside Event.**

#### **B. Source: Incongruities.**

- 1. Incongruous Economic Realities;**
- 2. The Incongruity between Reality and the Assumptions about It;**
- 3. The Incongruity between Perceived and Actual Customer Values and Expectations.**

#### **C. Source: Process Need.**

**Successful Innovations based on Process Needs require five basic criteria:**

- A self-contained process;**
- One 'weak' or 'missing' link;**
- A clear definition of the objective;**
- A clear specification for the solution;**
- Widespread realisation that 'there ought to be a better way', that is, high receptivity.**

#### **D. Source: Industry and Market Structures.**

- 1. Changes in the Industry Structure.**

#### **E. Source: Demographics.**

- 1. Changes in Demographics**

#### **F. Source: Changes in Perception.**

#### **G. Source: New Knowledge.**

**The Primary Characteristic of Knowledge-Based Innovation is that it has the Longest Lead Time of All Innovations. Knowledge-Based Innovation Requires**

- 1. Careful Analysis of All the Necessary Factors;**
- 2. Clear Focus on the Strategic Position;**
- 3. Need to Practice Entrepreneurial Management.**

**Certainly**

- 1. Innovation is Work;**
- 2. To Succeed, Innovators must Build on their Strengths;**
- 3. Innovation has an Effect on Economy and Society.**

**The New Venture needs to have**

- 1. Market Focus;**
- 2. Financial Foresight;**
- 3. A Clear Answer to the Question: 'Where can I Contribute?'**

**There are Four Specifically Entrepreneurial Strategies:**

- 1. Being 'Fustest with the Mostest' to quote a general in America's Civil War;**
- 2. 'Hitting Them Where They Ain't' to quote another general in America's Civil War;**
- 3. Finding and Occupying a Specialised 'Ecological Niche';**
- 4. Changing the Economic Characteristics of a Product, a Market or an Industry.**

**Finally, Strategy is an Innovation when it creates a Customer by**

- 1. Creating Utility;**
- 2. Pricing;**
- 3. Adaptation to the Customer's Social and Economic Reality;**
- 4. Delivering What Represents True Value to the Customer.**

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