Innovation, Business Models and Entrepreneurship

Technology Forecasting

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The Emergence of Technological Forecasting

The concept is more than 100 years old.

Future Research : WW II

Scope is much larger : 3 to 25 years

Multidisciplinary

It evaluates technological trends creatively

Technology Monitoring

- Monitor signals of technological change (Bright)

- Journals and Magazines
  - E.g. New Scientist and Scientific American

The "S" Shaped Logistic Curve

- Pearl Function

$$y = \frac{L}{1 + ae^{-bt}}$$

Where y is the dependent variable whose growth is to be forecasted , L is the upper limit to growth, and a and b are parameters.

Gompertz Function

$$y = Le^{-be^{-kt}}$$

Envelope Curves and Trend Extrapolation

- Envelope curve is generated by successive technologies.

- Efficiency of light source since 1850

   $y = -128.71511 + 0.06851t$

- Top speed of combat aircraft since 1909

   $y = -118.30568 + 0.0640t$

Delphi Method

- Iterative Approach

- Right selection of panel members

Morphological Analysis

It performs a systematic exhaustive categorization and evaluation of the possible alternative combinations of subcapabilities which may be integrated to provide a given functional capability.

Building Bricks Example

	1	2	3	4	5
Material	Natural clay	Metal	Plastic	Waster Materials	
Forming Process	Extrude	Mold	Press		
Bounding Process	Heat	Chemical	Molecular		
Properties	Opacity	Thermal insulation	Elasticity	Aesthetics	
Form	Rectangular	Spherical	Interlocking	Cubical	Aesthetics

Thank You