invention innovation diffusion trilogy

characteristics

author:	Schumpeter, Joseph A.
country:	United States
period:	1939
type:	model
role:	consultant
activity:	analyse
topic:	strategic management, innovation & risk and technology & operations
abstr. level:	environment
perspective:	rational
status:	final
module:	innovation
comments:	1

description:

According to the Austrian economist, Joseph Schumpeter, technological change was a major determinant of industrial change. Schumpeter believed that the economic cycles in capitalistic economies, are the result of rule changing innovations. Innovation is a two headed beast: the introduction of revolutionary products and services by successful entrepreneurs is the fundamental force driving sustained long-term economic growth, but destroys the power of established institutions and organisations in the short term. Schumpeter argued that an industry's economic structure changes from within. He named the process of industrial transformation through radical innovation as creative destruction:

'*Every piece of business strategy acquires its true significance only against the background of that process and within the situation created by it. It must be seen in its role in the perennial gale of creative destruction.* '

The Schumpeterian trilogy divided the technological change process into three distinct phases:

1. INVENTION

the technological change process including the conception of new ideas.

2. INNOVATION

the innovation process that involves the development of new ideas into marketable products and processes. "The doing of new things or the doing of things that are already being done in a new way."

3. DIFFUSION

the diffusion stage in which the new products and processes spread across the potential market.

assets:

- trilogy matrix
  ProvenModels • editor PM • version 0.1 • 49 KB
- trilogy of invention innovation diffusion
  ProvenModels • editor PM • version 0.1 • 28 KB
- trilogy process
  ProvenModels • editor PM • version 0.1 • 48 KB

pros:

- These distinctions highlight that innovation is more than a new idea. A successful technological innovation requires the entire process of invention, innovation, and diffusion. Market penetration and market success are the end result of this process.
- Technological change contains three objects of innovation: the introduction of new products (product innovation), new production processes (process innovation) and new management methods and practices. Radical innovation often requires all three.
- The real impact of new technology occurs at the diffusion stage. Measurement of impact is primarily a measurement of how the economy changes as new technologies are introduced and used.
- In his later work, Schumpeter hypothesized that concentrated industries were more suited to support rapid technical change. He argued that monopolies are better able to bear the risks of an uncertain innovation process and have the resources for sustained research effort. Economists later recognized that this relationship between market structure and technological change is reciprocal and nonlinear.

cons:

- The Schumpeterian trilogy of invention, innovation, and diffusion is a linear model of innovation. A cybernetic point of view stresses the importance of feedbacks between the different stages of innovation and the interactions between companies and other institutions.
- Schumpeter's true focus was the study of business cycles. He employed innovation to explain the nature of the business cycles, not to study organisational innovation as such. Although his trilogy can be used on a micro-economic level, the model's intent is on a meso-level.
- In addition, Schumpeter's work on business cycles was heavily criticised after its release: he placed insufficient emphasise on the role of non-economic institutions such as the legal system; his theoretical basis was weak, empirical data did not support findings, etc.
- Numerous theoretical and empirical studies researched Schumpeter's hypothesis that concentrated industries were more suitable for rapid technical change. However, no consensus has emerged on accepting or rejecting the hypothesis.

references:

- Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process

http://www.amazon.com/gp/product/0879912634?ie=UTF8&tag=provenmodels-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=08799
Joseph A. Schumpeter • 1939 • McGraw Hill • United States • ISBN 0879912634

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