



Innovation contexts

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Overview

- Contingency theory of the innovative organisation
- Firm strategy and innovation management
- Managing uncertainty: optimal vs adaptive models of innovation *and* project management



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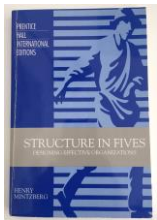
Contingency theory: no single best organisation



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The adhocracy or innovative organisation

- The adhocracy – temporary projects and ad hoc teams – Alvin Toffler *Future Shock* (1970)
- “The context is, above all, one of complexity and unpredictability”
- Flexible, organic, adaptive
- Unit producers of unique products
- Focused on problem solving and innovation
- Horizontal integration
- Coordination by mutual adjustment



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More recent thinking inspired by contingency theory

- Eisenhardt and Tabrizi (1995)
 - Experiential vs compression strategies in new product development
 - Adaptive teams are mechanistic *and* organic
- Edmondson (2012)
 - Stable and dynamic project teams

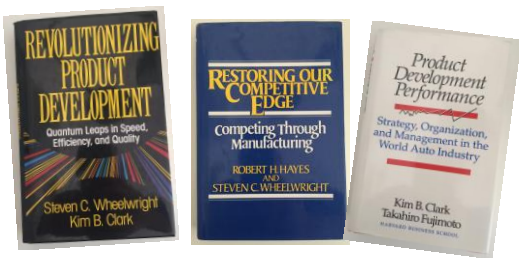
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Contingency theories of project management

- Uncertainty
 - Stinchcombe and Heimer (1985), Loch, Pich and DeMeyer (2006)
- Complexity
 - Davies and Hobday (2005), Shenhar and Dvir (2007)
- Urgency or pace
 - Eisenhardt and Tabrizi (1995), Lindkvist, Söderlund and Tell (1998)
- Integrated framework – The Diamond Model – Shenhar and Dvir (2007) *Reinventing Project Management*

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Firm strategy an innovation management



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Innovation and firm strategy – the intellectual foundations

- Joseph Schumpeter – father figure of innovation studies
 - *Business Cycles* (1939), *Capitalism, Socialism and Democracy* (1943)
 - Capitalism is a process of “creative destruction”: “...incessantly destroying the old one, incessantly creating the new one”, p83
 - “The fundamental impulse comes that sets and keeps the capitalist engine in motion comes from the new consumers’ goods, the new methods of production or transportation, the new forms of industrial organization that capitalist enterprise creates” p83



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Innovation defined

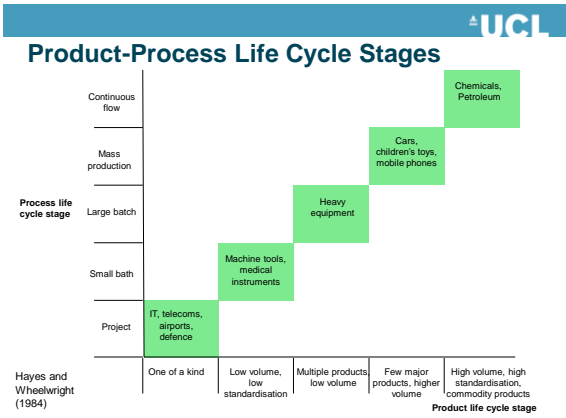
- “Schumpeter identified innovation as the ‘carrying out of new combinations’...Innovations in organizational routine similarly consist, in large part, of new combinations of existing routines”. A novel core “may be surrounded by the same routines that have prevailed for years”, pp130-131
 - Nelson and Winter *An Evolutionary Theory of Economic Change* (1982)
- “An Innovation is a new *idea*, which may be a recombination of old ideas, a scheme that challenges the present order, a formula, or a unique approach which is perceived as new by the individuals involved”. p592
 - Van de Ven, *Central Problems in the Management of Innovation* (1986) *Management Science*

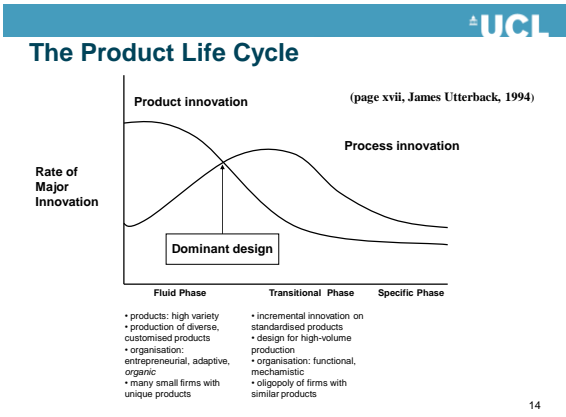


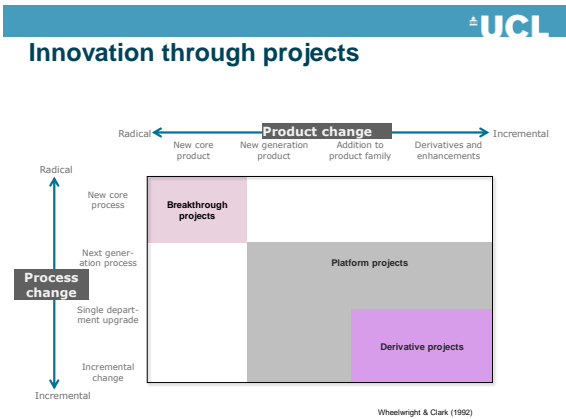
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Concepts of innovation

- Radical or incremental (Freeman 1974)
- Product life cycle – product or process innovation (Abernathy and Utterback 1978)
- Continuous or discontinuous (Tushman and Anderson 1986)
- Modular or architectural (Henderson and Clark 1990)
- Sustaining or disruptive (Christensen 1997)
- Open or closed innovation strategies (Chesbrough 2003)
- More recent concepts:
 - Service innovation
 - Business model innovation
 - Management innovation







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Innovation and uncertainty

“Both in customary usage and in our technical use of the term, ‘innovation’ involves change in routine. We have stressed the uncertainty that inevitably surrounds technical innovation – the implementation of a design for a new product, or of a new way to produce a product. A similar uncertainty surrounds other kinds of innovation – the establishment of a new marketing policy, or a new decision rule for restocking inventories. In general two kinds of uncertainty surround these innovations. The precise nature of innovation actually arrived at is not closely predictable at the start of the endeavor that culminates in the innovation. And the consequences of employing the innovation – changing the routine – in general will not be closely predictable until a reasonable amount of actual operating experience with it has been accumulated”. pp128-129
– Nelson and Winter (1982) An Evolutionary Theory of Technical Change

Horizontal lines for notes

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In teams of two...

- Identify uncertainties associated with innovation

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Horizontal lines for notes

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Innovation and uncertainty in projects

- RAND Corporation
– Cold War and weapons systems projects
– Operations Research: invention and innovation
– Nelson, Klein, Marshak, Marshall, Meckling, etc.
– Klein and Meckling (1958) – two alternative models for innovation projects
• The optimising model
– rational planning, formal processes and analytical techniques at the start to predict future conditions and select the best outcome from a range of alternatives
• The adaptive model
– the goal of innovation and path to achieving it are uncertain
– Intuitive judgement, informal processes and learning gained from trial and error experience to guide the decision making process

Horizontal lines for notes

