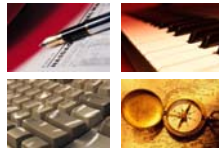


Management of Technology

B03-3. Technology Strategy



- Code: 166125-01
- Course: Management of Technology
- Period: Spring 2013
- Professor: Sync Sangwon Lee, Ph. D

Contents

- 01. Technology Strategy
- 02. Strategic Technology Management
- 03. Practices of Technology Strategy



03. Practices of Technology Strategy

- Types of Technology Strategy (Goal of R&D/Technology Development)
 - Fail-safe strategy
 - Metabolic innovation
 - Incremental innovation
 - Exploitation
 - Low risk, low return
 - Safe-fail strategy
 - Metamorphic innovation
 - Radical innovation
 - Exploration
 - High risk, high return

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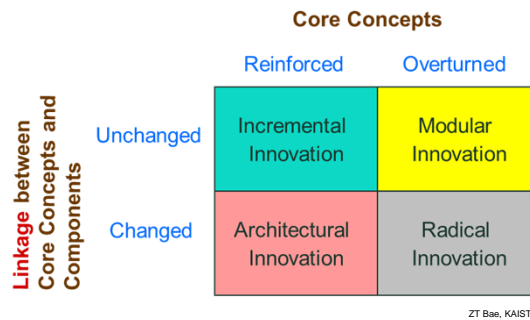
03. Practices of Technology Strategy

- Types of Technology Strategy (Sustaining/Disrupting Existing Markets)
 - Sustaining innovation
 - Capacity enhancing
 - Disruptive innovation
 - Capacity destroying

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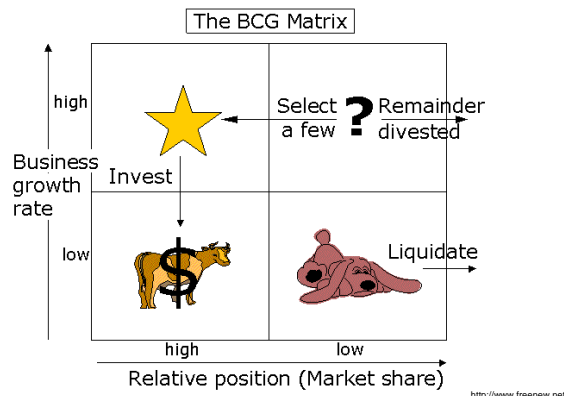
03. Practices of Technology Strategy

- Types of Technology Strategy (Innovation Objects)
 - Incremental innovation
 - Radical innovation
 - Architectural innovation
 - Modular innovation



03. Practices of Technology Strategy

- Practical Types of Technology Strategy (Product Portfolio Matrix)
 - Star: Researching on product/process technology → differentiation
 - Cash cow: Researching on productivity/efficiency → cost
 - Problem child: Researching on product → strategy selection
 - Dog: Researching on substitute → product withdrawal/response



03. Practices of Technology Strategy

- Practical Types of Technology Strategy (Product Life Cycle)
 - Initiation: Shipping new product → research on product innovation
 - Growth: Star product → research on product/process innovation
 - Maturity: Cash cow product → research on process innovation and strategy-selection
 - Decline: Dog product → research on substitute and product withdrawal



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03. Practices of Technology Strategy

- Practical Types of Technology Strategy (Market Penetration)
 - First-to-market strategy → Market leader
 - Follow-the-leader strategy → Market follower
 - Application engineering strategy → Market follower
 - Me-too strategy → Market follower



<http://blog.daum.net/wild1015>

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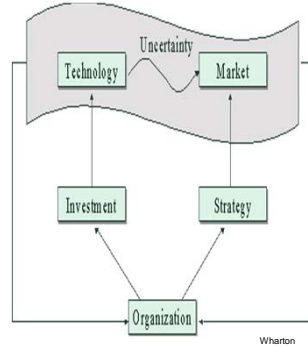
03. Practices of Technology Strategy

- Radical Innovation
 - Exploration of new technology
 - Discontinuous technology innovation
 - Destruction of capability
 - Disruptive innovation

구분	점진적 (Incremental) 혁신	획기적/급진적 (Radical) 혁신
기간	단기 (6개월-2년)	장기 (대체로 10년 이상)
진행경로	선형적 / 연속적 [개념화 → 상용화]	비선형적 / 불연속적 / 산발적
사업화	불확실성이 낮아 처음부터 완벽하고 세부적인 사업계획 수립	초기에는 (불확실성이 높아) 기술학습과 시장학습을 통해 발전하다가 불확실성이 점차 감소하면서 사업화 실행
조직구조	사업부문 내에서 활동 (필요한 경우 Cross-functional Team 구성)	R&D, Incubating 조직, 목표중심적 프로젝트 조직 등 (외부조직도 적극 활용)

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- Wharton Model



Wharton

03. Practices of Technology Strategy

- High Impact Innovation
 - = Technology innovation to make big changes in the fields of economy and society.
 - = innovation with technological advance

03. Practices of Technology Strategy

- High Impact Innovation
 - Two factors to select high impact innovation

구 분	하이임팩트혁신의 선별 기준	
	경제적 측면	사회적 측면
세부 기준	① 신규 산업/시장 창출	① 국가 인프라 구축
	② 기존 사업/시장 대체 및 확대	② 국민 생활 질적 변화
	③ 세계 시장 진출 (수출 주력 품목)	③ 국가 이미지 향상 및 표준선도
	④ 기타 경제적 파급효과	④ 기타 사회/문화적 파급 효과

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03. Practices of Technology Strategy

- High Impact Innovation
 - Promoting balance of strategies
 - Organization management
 - Competition and cooperation are needed.



- Technology management
 - Exploiting existing technologies and exploring new innovative technologies should be balanced.

