

Management of Technology

B01-1. Management of Technology



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- Course: Management of Technology
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01. Status of MOT

- Management
 - The process of getting things done with and through others
 - Goal proposition and its practice by not me but others
 - (Hard) Task-oriented
 - Vision, mission, performance, planning, forecasting, MBO(management by objectives), ...
 - (Soft) People-oriented
 - Motivation, leadership, communication, coaching, ...



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01. Status of MOT

- Management
 - Changes of role and action are needed.
 - Doing → managing



<http://www.almarkt.co.jp>

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01. Status of MOT

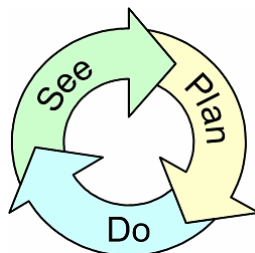
- Manager
 - A person who allocates human and material resources and directs the operations of a department or an entire organization
 - A person whose achievements is evaluated by others' performances



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01. Status of MOT

- Manager
 - The right of management
 - Plan → do → see



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01. Status of MOT

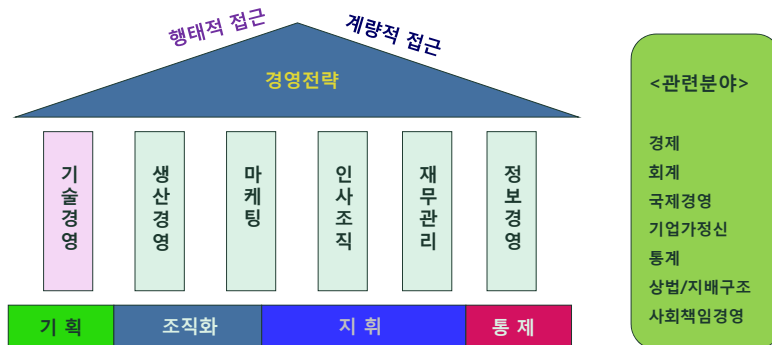
- House of Management
 - Enterprise activities
 - Technology development → production → sales
 - Enterprise resources
 - Manpower + capital + information



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01. Status of MOT

- House of Management



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01. Status of MOT

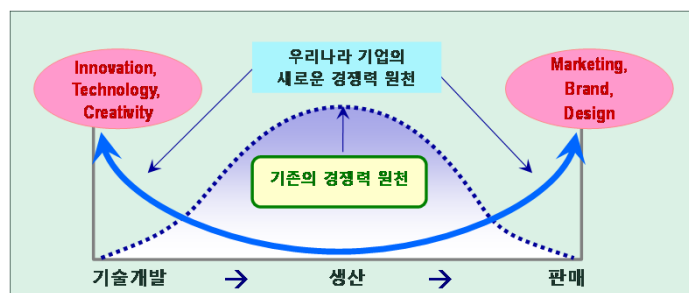
- Enterprise Competitiveness
 - Sources of enterprise competitiveness
 - Technology innovation
 - Marketing



- Peter Drucker
 - The business enterprise has two and only two basic functions:
 - Marketing (value capturing)
 - Innovation (value creation).
 - Marketing and innovation produce results; all the rest are costs.

01. Status of MOT

- Enterprise Competitiveness
 - Smile curve
 - Movement of sources of enterprise competitiveness



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01. Status of MOT

- Survival Inequation



Seokcheol Yoon

- Determinations
 - Value of production is determined by consumers.
 - Price of production is determined by market.
 - Cost of production is determined by producers.

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01. Status of MOT

- Survival Inequation



Seokcheol Yoon

- Consumer benefit = product value – production price
 - → Generating purchasing when value > price
- Producer profit = product price – product cost
 - → Generating production when price > cost

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01. Status of MOT

- Survival Inequation
 - Maximizing profits by
 - Value creation by production innovation
 - Cost reduction by process innovation
 - Price advance (= markup)



01. Status of MOT

- Survival Inequation
 - Roles of technology innovation
 - Product innovation → value creation (economy of scope)
 - Process innovation → cost reduction (economy of scale)



<http://blog.naver.com/gojump0713>

01. Status of MOT

- Status of MOT in Enterprise
 - Goal of MOT
 - = Goal of management = making profits
 - Rapid changes of technology
 - → Technology is a very important decision-variable



01. Status of MOT

- Status of MOT in Enterprise
 - Activities of enterprise vs. management



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01. Status of MOT

- Features of MOT
 - Strategic activities
 - Upstream of management is very important in dynamic and innovative environments.
 - Input of resources occurs in MOT before all other activities.
 - Qualitative management is needed.
 - MOT is more qualitative than production management or marketing.



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01. Status of MOT

- MOT
 - Management of Technology (MOT) is set of management disciplines that allows organizations to manage their technological fundamentals to create competitive advantage.
 - Typical concepts used in MOT are technology strategy (a logic or role of technology in organization), technology forecasting (identification of possible relevant technologies for the organization, possibly through technology scouting), technology roadmapping (mapping technologies to business and market needs), technology project portfolio (a set of projects under development) and technology portfolio (a set of technologies in use).



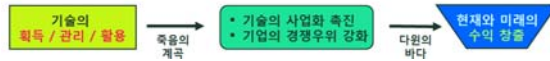
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01. Status of MOT

• MOT

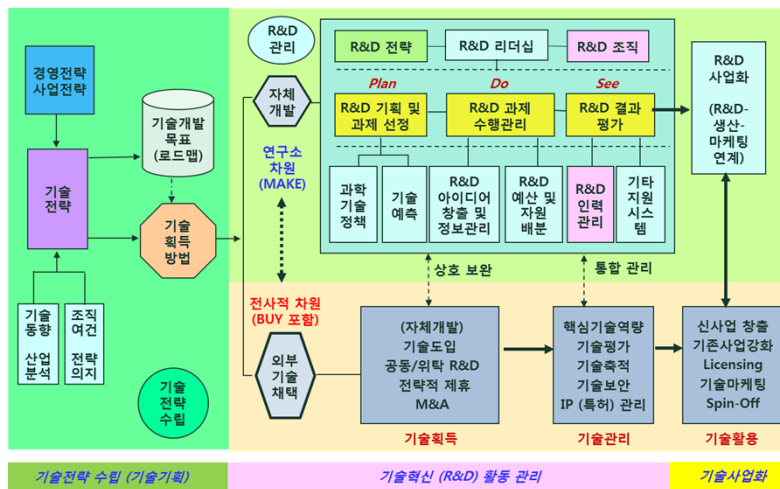
- Various management activities
- 1) By effective acquisition/administration/utilization of technology
- 2) To facilitate commercialization of technology
- 3) To strengthen competitive superiority
- 4) To maximize profit-making of the present and the future

- 기술의 효과적인 획득·관리·활용을 통해, 기술의 사업화를 촉진하고 경쟁우위를 강화하여, 현재와 미래의 수익창출을 극대화하기 위한 제반 경영활동
 - 기술획득 ⇒ 자체개발 (R&D) 및 외부기술채택 (Outsourcing) [기술혁신]
 - 기술관리 ⇒ 기술역량 축적, 기술평가, 기술자산 관리 및 보호
 - 기술활용 ⇒ 기존사업/제품 강화, 신규사업/제품 개발, 기술판매
 - 기술의 사업화 ⇒ 기술개발의 핵심목표 = 기술의 사업화
 - 경쟁우위 강화 ⇒ 기술역량 축적과 제품/서비스 경쟁력 확보
 - 현재와 미래의 수익창출 ⇒ 현재 뿐만 아니라 미래의 수익창출도 준비
 - 경영활동 ⇒ 기술경영 = "기술개발활동의 경영" (경영의 영역)



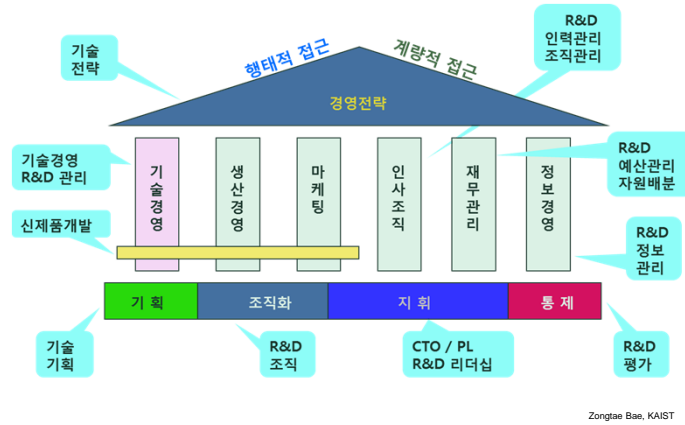
01. Status of MOT

• Scope of MOT



01. Status of MOT

• Management vs. MOT



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01. Status of MOT

• The Trend of MOT

- Contents of MOT (Imitation → Innovation)
 - Imitation/catch-up → leading/take-over
 - Gradual innovation(exploitation) → radical innovation(exploration)
 - Single technology → convergence technology



01. Status of MOT

- The Trend of MOT
 - Method of MOT (*fast follower* → *creative innovator*)
 - Failure prevention (how to do) → failure endurance (what to do)
 - Technological success → technological + commercial success
 - In-house development → in-house development + outsourcing
 - Project leader + technology leader
 - R&D networking/globalization
 - Open innovation



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01. Status of MOT

- The Trend of MOT
 - Genuine age of MOT and technological strategy
 - Radical R&D increases.
 - Systematic risk management is needed.
 - Importance of human resource management in R&D is needed.



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01. Status of MOT

- Problems of MOT
 - Biggest problems facing technology leaders
 - No. 1) Managing R&D for business growth
 - No. 2) Accelerating innovation
 - No. 3) Integration of technology planning with business strategy



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01. Status of MOT

- Interests of MOT
 - Challenge and response
 - Global competition
 - Core competence
 - Imitation to innovation

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