

Technology Management



Kazi Wahadul Hasan

What is Technology ?



- Technology is the **making, modification, usage, and knowledge of tools, machines, techniques...** in order to **solve a problem ... achieve a goal ... perform a specific function.**
- The **purposeful application of information** in the design, production, and utilization of goods and services, and in the organization of **human activities.**

Technology Management & Concept



- Integrated Planning,
- Design,
- Optimization,
- Operation and
- Control of technological products, processes and services

Technology Portfolio (Passenger car)



- Steel Making
- Metal Body forming
- Electrical Engineering
- Electronic Engineering
- Rubber & Plastic
- Paint
- Metal Cutting & welding
- Mechanical
- Glass and etc.

Technology Life Cycle



- A predictable pattern followed by a technological innovation, from its inception and development to market saturation and replacement.

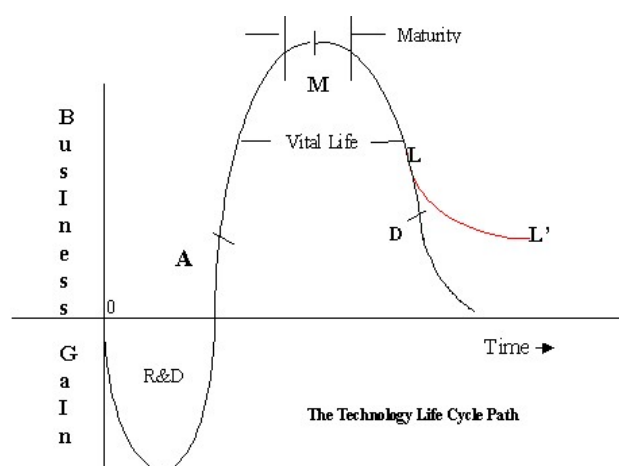


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Industrial Management

Technology Life Cycle



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Industrial Management

Phases of Technology Life Cycle



- The **research and development (R&D)**{Bleeding Edge}
- The **ascent** phase {leading edge}
- The **maturity** phase
- The **decline** {decay phase}

Phases of Technology Life Cycle(cont.)



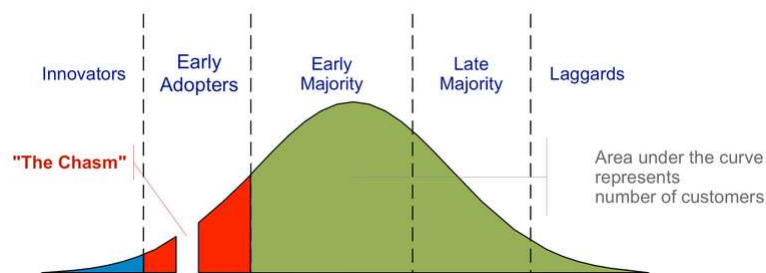
<i>Technological Stage / Phase</i>	<i>Features</i>
Technology Development	Basic Technology
Technology Application	Technology + Applications
Application Launch	Technology + Applications + Product Launch
Application Growth	Technology + Applications + Rise in product sales
Technological Maturity	Technology + Applications + Fall in product sales
Degraded Technology	Minimal Product sales + Loss of application + Alternative Technology

Technology Adoption Lifecycle



- **innovators** – had larger farms, were more educated, more prosperous and more risk-oriented
- **early adopters** – younger, more educated, tended to be community leaders, less prosperous
- **early majority** – more conservative but open to new ideas, active in community and influence to neighbors
- **late majority** – older, less educated, fairly conservative and less socially active
- **laggards** – very conservative, had small farms and capital, oldest and least educated

Technology Adoption Lifecycle



Technology Management (National Level)



- Developing Appropriate Technology Strategy
- Technology forecasting
- Appropriateness of new tech.(justification)
- Sustainable technologies; Development of renewable technologies
- Sustainable economic growth
- Planning National Technology portfolio
- Managing external Technology acquisitions
- Managing Absorption
- Managing Technology Diffusion

Technology Management (Enterprise Level)



- Developing technology Strategy(Leader Vs. followers strategy)
- Tech. forecasting
- Managing Enterprise's tech. portfolio
- Technovation
- Implementation of New Technology
- Technology Absorption
- Managing Technology Change(productivity and Quality of work life)
- Technology advancement
- Performance Measurement

Barriers in Technology Management



- Associated cost
- Lack of mutual trust
- Risk of loss of control over technology
- Transferee may turn a potential competitor in future
- Different organization cultures may create difficult in transfer.
- Lack of effective communication