Overview Evolution Innovation Management

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IM generations Relevant aspects	First generation	Second generation	Third generation	Fourth generation
Period	1950s-Mid-1960s	Mid 1960s-Early 1970s	Early 1970s-Mid 1980s	Mid 1980s-Early 2000s
Underlying philosophy	Technological determinism	Social constructivism	A combination of the two previous	Actor/Network theories Emergent developments Biological evolution
Societal developments	New technologies lead to the rise of new industries, the re-generation of existing industries and the application of technology in traditional industries like agriculture Economic growth leads to growing (profits for) companies, employment creation, prosperity and rising consumer demand. The consumer demand significantly exceeds the supply of goods Society has a generally favorable attitude towards scientific advance and industrial innovation. Government policies stimulate R&D in universities and companies (sometimes for military purposes).	This is a period of relative prosperity. Manufacturing still grows, but employment is static. Demand more or less equals supply. Many markets show an increase in concentration and competition. Government policies tend to emphasize demand side factors.	Two oil crises and stagflation (inflation + demand saturation) characterize this period. Supply exceeds demand, and unemployment figures raise significantly. Because of resource constraints there is a need to investigate product innovation to increase success rate.	This is a period of economic recovery. In many sectors globalization is important. Organizations are more aware of the strategic importance of (evolving generic) technologies. The emergence of IT-based manufacturing equipment leads to a new focus on manufacturing strategy.
Strategies of organizations (mother)	Organization strategies are generally technology oriented and focus on innovation and growth.	Organization strategies generally focus on growth (organic or acquired) and diversification, to attain economies of scale. Technological change is rationalized, marketing and market need are considered more important than scientific and technological progress.	Company strategies generally focus on cost control and reduction.	Company strategies generally concentrate on core business and core technologies. Manufacturing strategies, strategic alliances, and external networking activities become more important. Time-based strategies become more important because of short product life cycles.
Structure of organizations (mother)	Most organizations are functionally organized.	Many organizations adopt a multi-divisional structure. Special targets like innovation are generally organized in multi-disciplinary projects	Organizations become more flexible and less hierarchical, i.e., more flatly organized. Responsibilities are delegated downwards.	More organizations adopt team-based and project-based structures. Organization structures and procedures are adapted to facilitate alliances.
R&D organization structure	Mono-disciplinary (like a university)	Departments and multi-disciplinary projects across departments Matrix	Matrix Intra-organization alliances and projects	Project-based organization Network organization
Relationship with mother	Separate unit (overhead)	Separate unit with close marketing and business contacts	Separate unit with close intra-company links and external links	Collaboration among several units belonging to different organizations
Business model	Cost centre	Cost centre with business goals Internal price	Value driven Internal price	Value driven Profit centre
Innovation process	Linear sequential	Linear sequential	Linear sequential iterative process technological and market info during project	Circular
Disadvantages	See slides	See slides	See slides	See slides
HRM	Manager =expert	Dual leadership	Multiple leadership	360 degrees
KM Personalized KM codified	Discussion during lecture	Discussion during lecture	Discussion during lecture	Discussion during lecture