**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 |