



# Standards dynamics and industrial dynamics in the mobile communication area

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## OBJECTIVES

- **Explore the changing institutional landscape of standardization as a signature of the industrial dynamics**
- **Conceptual contribution: Explore standards dynamics in terms of industrial dynamics**
  - ✓ **Need to broaden from the prevailing Industrial Organization perspective**
- **Empirical contribution: Triangulate perspectives on standards dynamics in mobile using three different 'standardization' efforts:**
  - ✓ **GSM, Parlay, Symbian**

## General Context

**Changes in industrial dynamics, involving technological factors, market factors, and regulatory factors.**

**Related changes in dynamics in market for standards**

**Evolution of the coordination mechanisms in the institutional setting of standardization**

## Some conceptual observations:

- **The stability and flexibility trade-off of standardization over time**
  - **'temporary level of stability' versus 'need to shift to temporary levels' (Gaillard, 1934)**
  - **Increasing fight against 'tyranny of combinatorial explosion'**
  - **Move towards hybrid selection processes (Vercoulen & Van Wegberg)**
  - **Technological and organizational Modularity (Langlois)**
- **These non-trivial changes are linked to headline *economic development*. (Schumpeter)**
  - **Shifts in the standardization landscape are integral to the industrial dynamics (Carlson, etc) of the ICT industry (Abbate)**

## What are 'dynamics'?

### Level 1 standards dynamics:

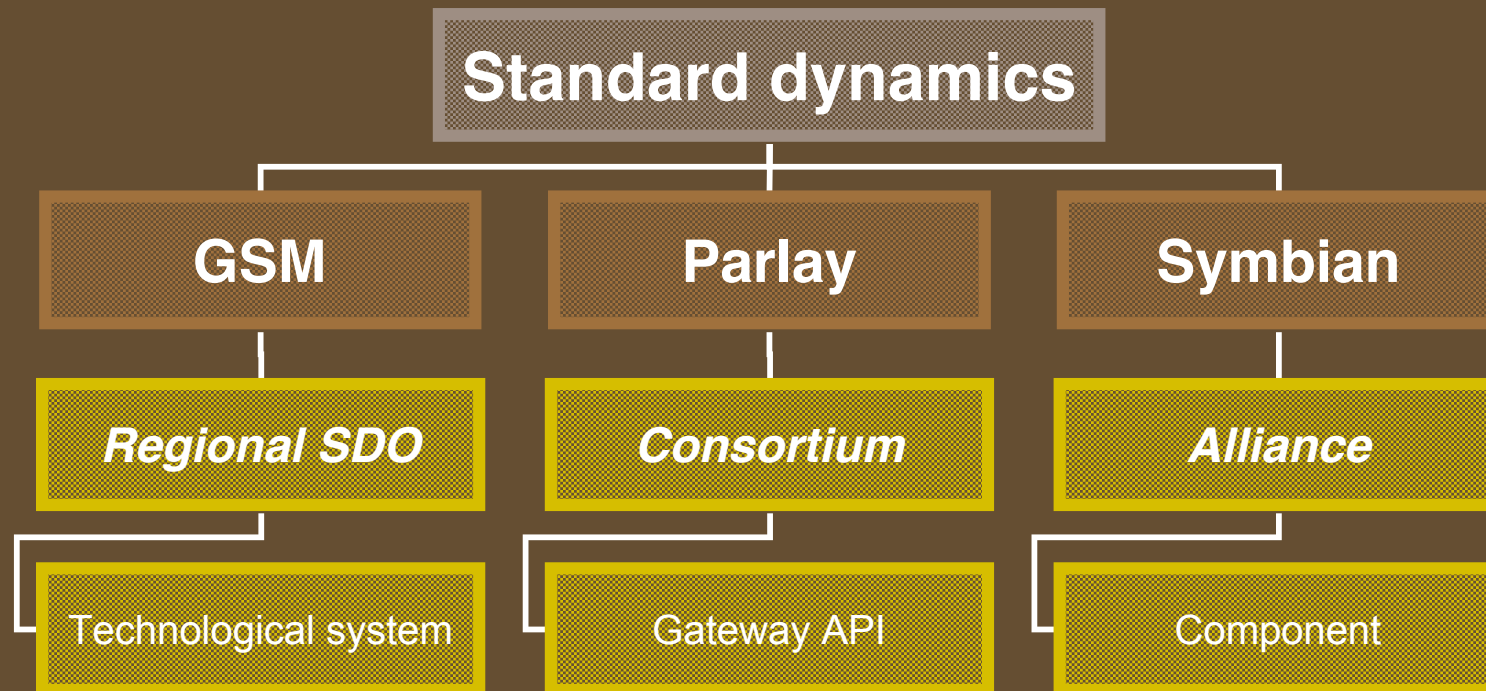
the adaptation of an individual standard when it is 'launched' and its subsequent interaction in the particular implementation environment (e.g. Egyedi & Dahanayake, 2003)

-strategic behavior or 'coinvention'

### Level 2 standards dynamics:

higher order dynamics of the standard system in its adaptation to overall industry dynamics (involving technological, market, regulatory factors, etc)

## 3 Case-profiles



## General case spread

- **Range in technological scope: A technological system (GSM), a gateway API (Parlay), and an operating system for mobile handsets and its user interface (Symbian).**
- **Range of types of standards: formal (GSM), not for profit consortium with links to formal bodies (Parlay), for profit alliance (Symbian).**
- **Range of maturity of markets: combined maturity (GSM); a gateway between existing and emerging networks (Parlay); new solutions to interwork with other standards (Symbian).**

# Level 1 standards dynamics:

## Blurring of life-cycles

**Segmented elaboration into phases to deal with contingencies (GSM)**

**Quick cycles to incorporate functionality with other changing tools and technologies (Symbian, Parlay)**

**Built in explicit 'generational leveraging', with legacy (UMPTS, 3GSM, GPRS), new relatives (TETRA), and evolving links (eg through 3GPP)**

## Procedural changes actively incorporate adaptability

**Emphasis on adaptability (=relevance) in a changing environment of standards to changing environment (Parlay and Symbian)**

**Parlay: Focus on implementations as well as active marketing or 'educational' activities to actively encourage take-up**

## Level 2 standards dynamics

### Standards change the industry (and society)

Industrial renewal (E.G. the Nokia and Ericsson effect) (GSM)

Revenue reorientation and the basis for new services (e.g. the SMS effect) (GSM)

### Organizational changes to address new coordination challenges

- Competition and Cooperation at different levels in the standards market : Parlay
- For profit joint-venture mimic aspects of standardization (Symbian)

### Emerging scope for conflict with ancillary areas

Changing market stakes spark the touchstone for conflict between standardization and IPRs (GSM)