



DIGITAL BUSINESS STRATEGY AND VALUE CREATION

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MOTIVATION

- ▶ The multi-channel digital revolution coupled with the development of interactive digital technology, virtualization, peer-to-peer networks etc. generate much more complex and dynamic ecosystems for growth and innovation
- ▶ The profits and competitive advantages of participation in a given value network reside dynamically within the chains, accumulating at the **positions of greatest value and/or power (control points)**. The enterprises that hold these positions have a great deal of control over how the network operates and how the benefits are redistributed (Rülke et al. 2003)

ARGUMENT

- ▶ Support the Double Helix Model (Fine 1998) in framing the dynamic cycle of value creation and value capture points in digitally-enabled networks following the emergence of:
 - (1) an incremental innovation and
 - (2) cross-boundary industry disruptions

Paper published in MISQuarterly in 2014 and selected finalist for the “Best European Paper”

OUTLINE

- ▶ Conceptual framework
- ▶ The opinion
- ▶ Methodology and supportive arguments
- ▶ Implication to research/practice

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THE VALUE NETWORK PERSPECTIVE

- ▶ Digital business strategies call for coordination across firms along product, process and service domains, thereby creating complex and dynamic ecosystems (Moore 1996; Iansiti and Levien 2004; Adner 2006) for growth and innovation.
- ▶ Products and services increasingly have embedded digital technologies, and it is becoming more difficult to disentangle business processes from their underlying IT infrastructures (e.g., El Sawy 2003; Orlikowski 2009).

THE VALUE NETWORK PERSPECTIVE

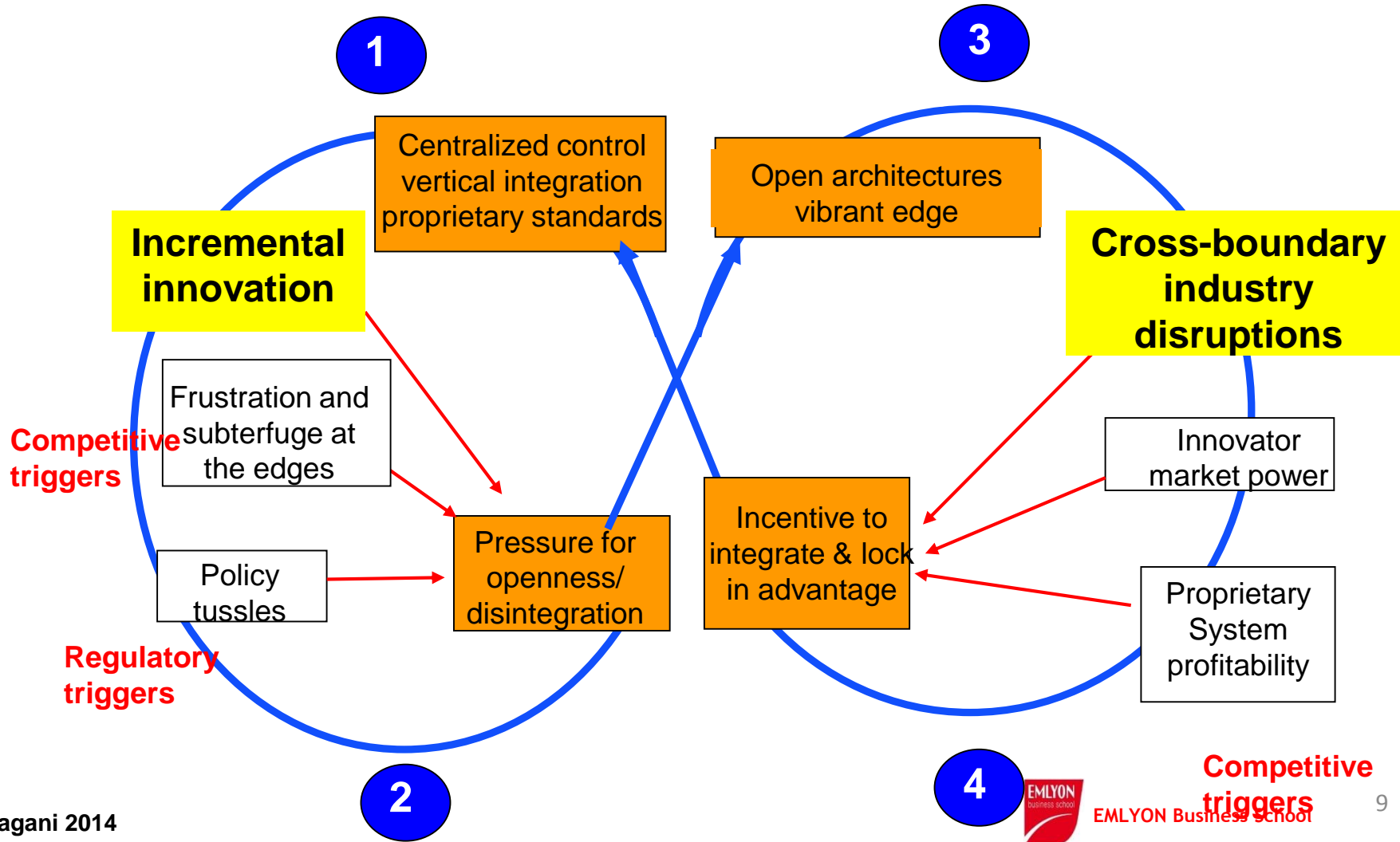
- ▶ View of the value network as a **configuration of control points**, which comprise the various service transactions involved in implementing the functional components required to deliver a product or service offering (Basole and Rouse 2008)
- ▶ Control points are analyzed in terms of how, and to what extent, they **create** and **capture value**, and in what forms.

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THE OPINION

The double helix model (Fine 1998) to frame the dynamic cycle of value creation and value capture points in digitally-enabled network



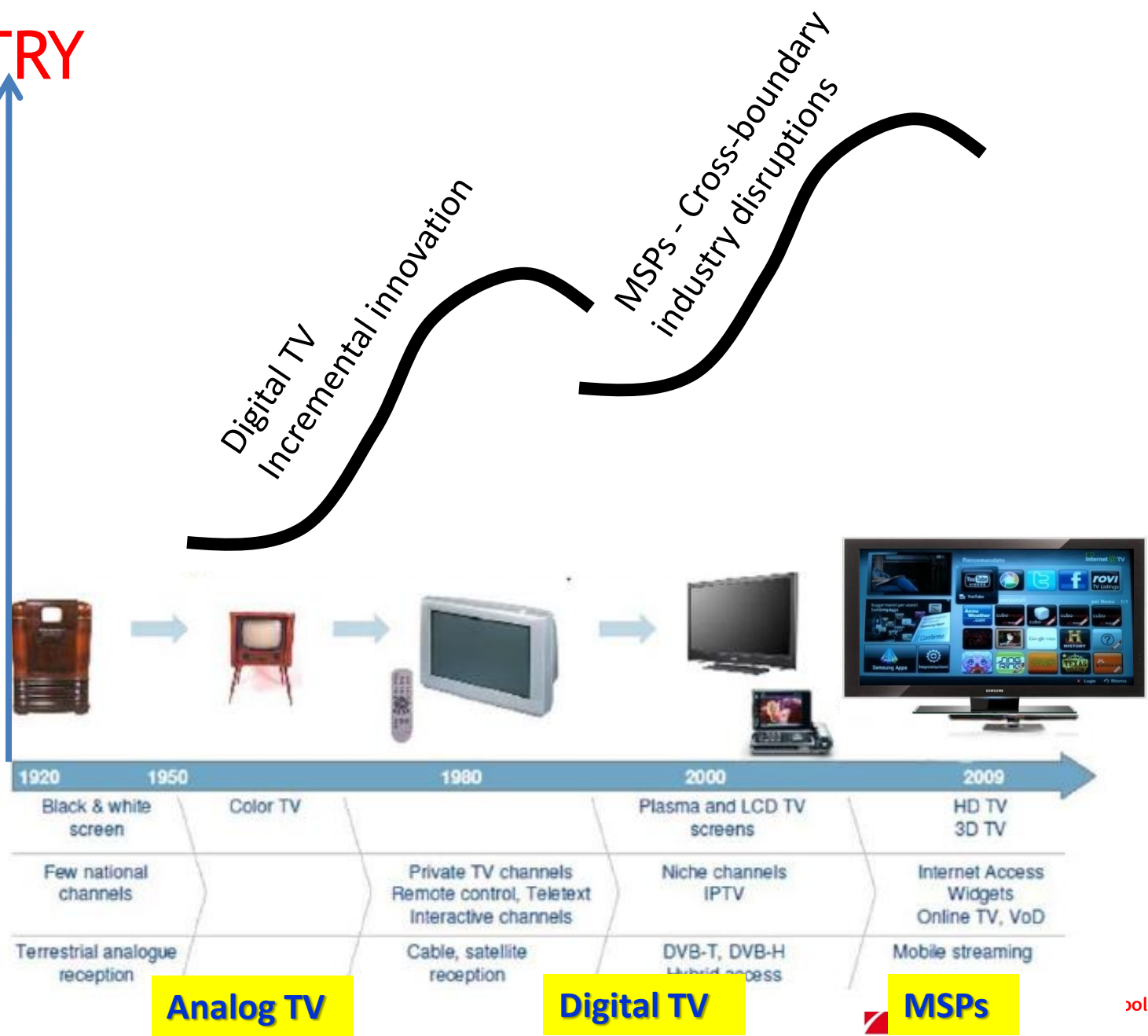
THE OPINION

- ✓ H1 : when the industry structure is vertical and the product architecture is integral, the emergence of an incremental innovation push toward a horizontal and modular configuration and a fragmentation of value creation and value capture points
- ✓ H2: if an industry has a horizontal structure, the emergence of a disruptive digital business strategy pushes toward more vertical integration and integral product architectures generating an incentive for the innovator to integrate and create a lock in advantage

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EMPIRICAL SETTING: THE BROADCASTING INDUSTRY



DATA COLLECTION

- ▶ 45 Semi structured interviews with industry experts from 15 leading companies in Europe and US in order to understand the ecosystem challenges
- ▶ Analysis of 8 years leading industry journals
- ▶ Longitudinal data collected on a sample of **792 firms** in Europe and US (**april 2000-may 2008**): 15% content providers, 15% semiconductor and electronic suppliers, 13% broadcasters, 17% software, 14% terminal providers, 12% platform aggregators, 14% Telcos
- ▶ Internal, external validity and reliability

DATA ANALYSIS PROCESS

- **Core and edge capabilities** are the key explanatory variables along with types of relationships among firms. We control for unobserved differences across firms by including firm dummies in a firm-generation panel (Wooldridge, 2002):

$$y_{igt} = \beta_0 + X_{igt}b + D_i + T_t d + a_{ig} + u_{igt}$$

y_{igt} : firm i 's market share in a generation g in year t ;

X_{igt} : vector of independent and control variables;

D_i : vector of dummies for each firm;

T_t : vector of dummies for each year;

a_{ig} : unobserved heterogeneity for a firm in a generation that is assumed to be uncorrelated with the explanatory variables;

u_{igt} is the error term.

DATA ANALYSIS PROCESS

Black box modeling (Norgaard et al. 2000)

Phase 1 – Empirical results

Phase 2 - Selection of the model structure (graph-generating model)

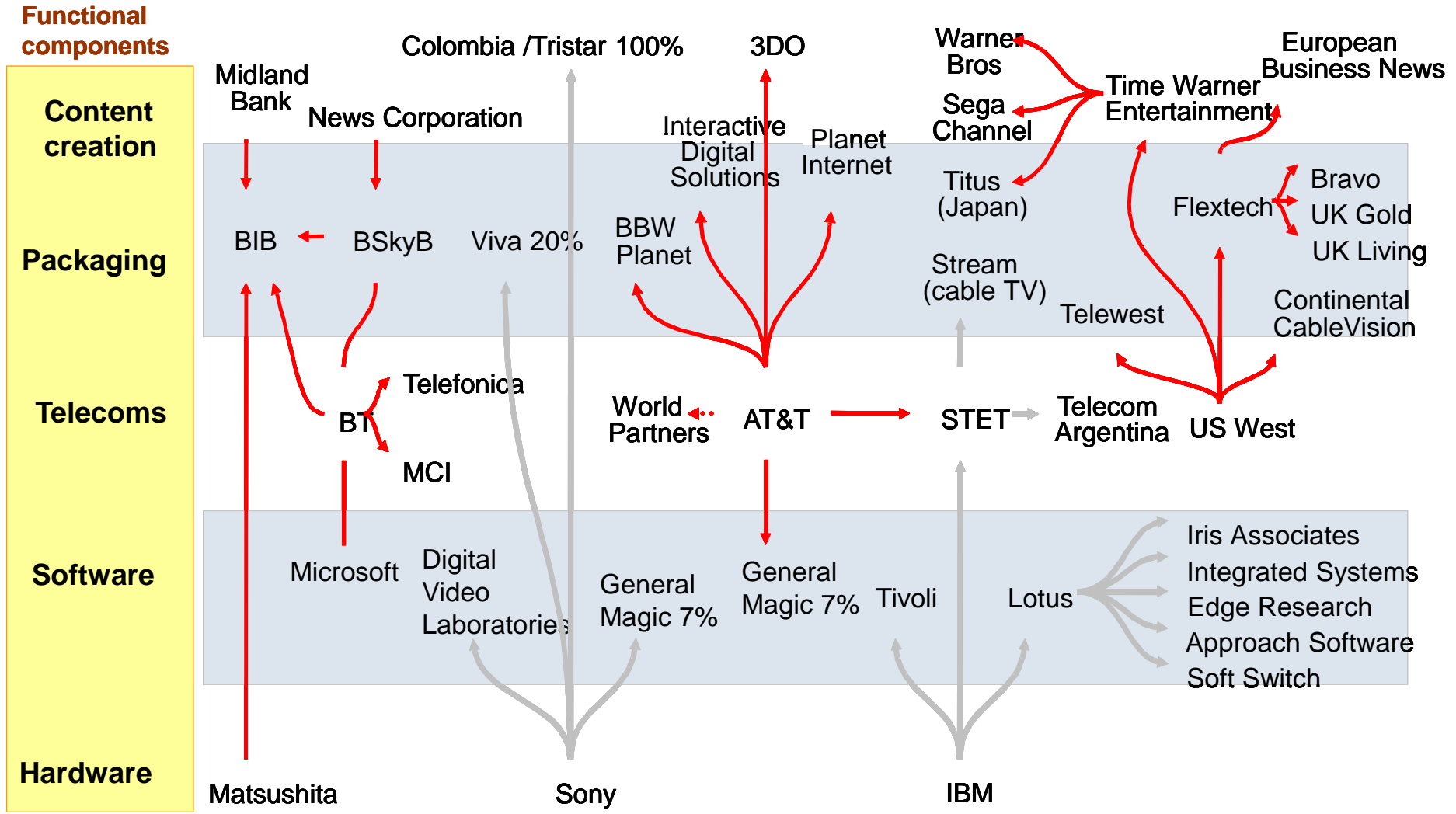
Phase 3 - Model estimation and validation: two meetings with practitioners and academics

TYOLOGY OF CONTROL POINT CONSTELLATIONS

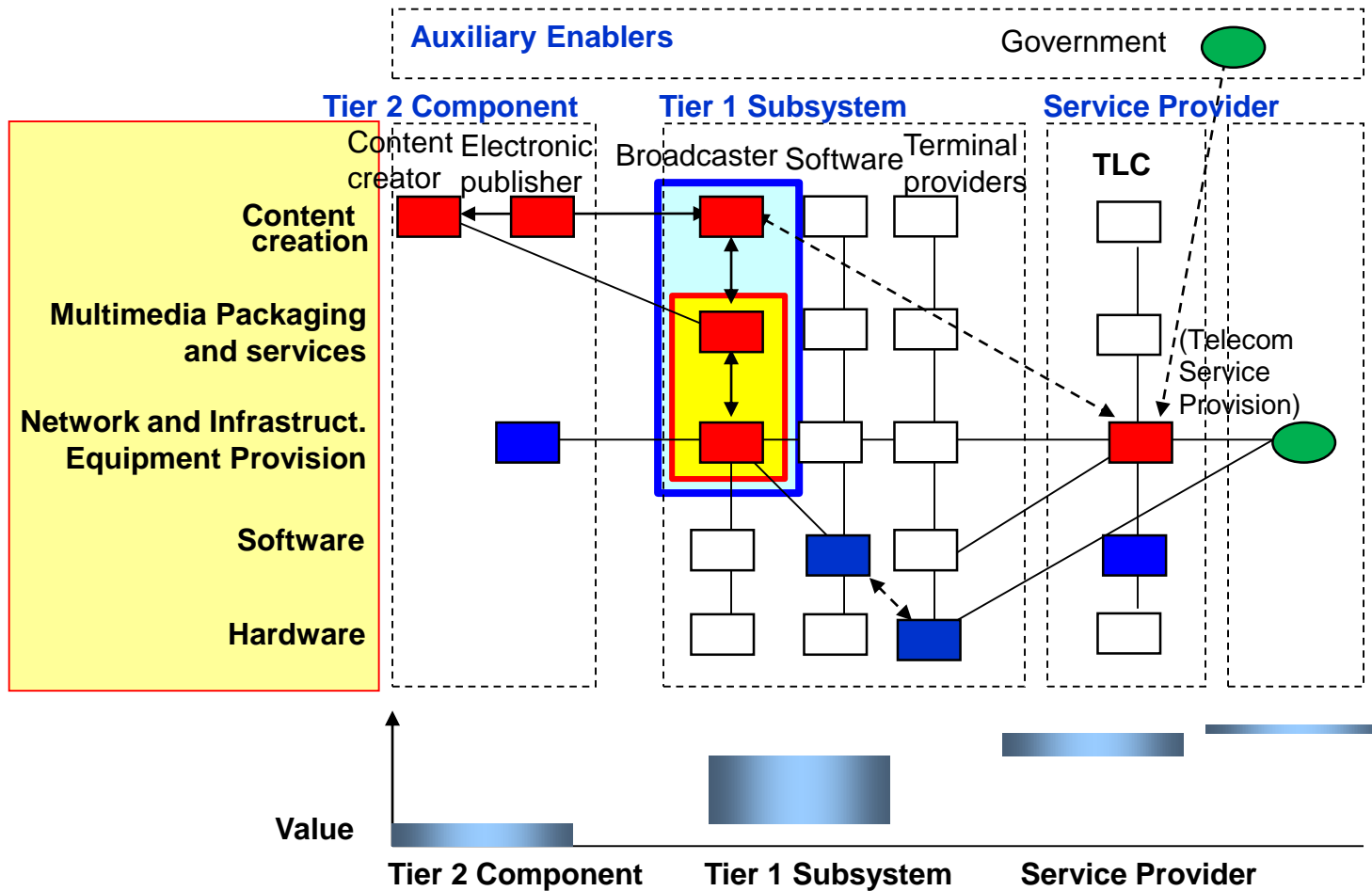
- ▶ Closed vertically integrated model
- ▶ Loosely coupled coalition model
- ▶ Multi-sided platforms

TYPOLOGY OF CPCS

- ▶ Closed vertically integrated model
- ▶ Loosely coupled coalition model
- ▶ Multi-sided platforms



Need of the single company to develop along the vertical dimension of the value chain



Core Competencies \longleftrightarrow Existing relationships or contractual links
 Edge Competencies \dashrightarrow Potential relationships or contractual links

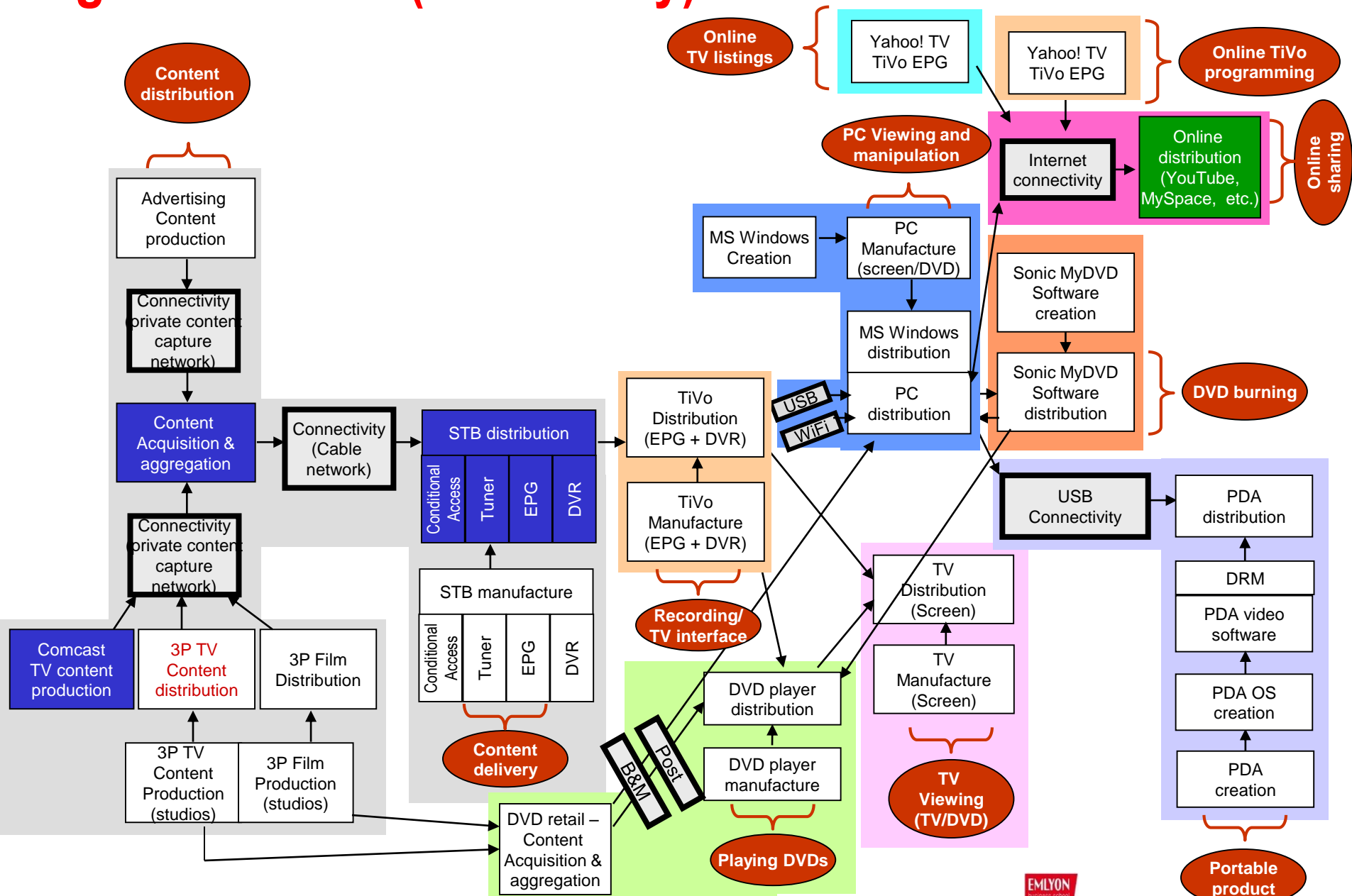
Control point in value creation
 Control point in value capture

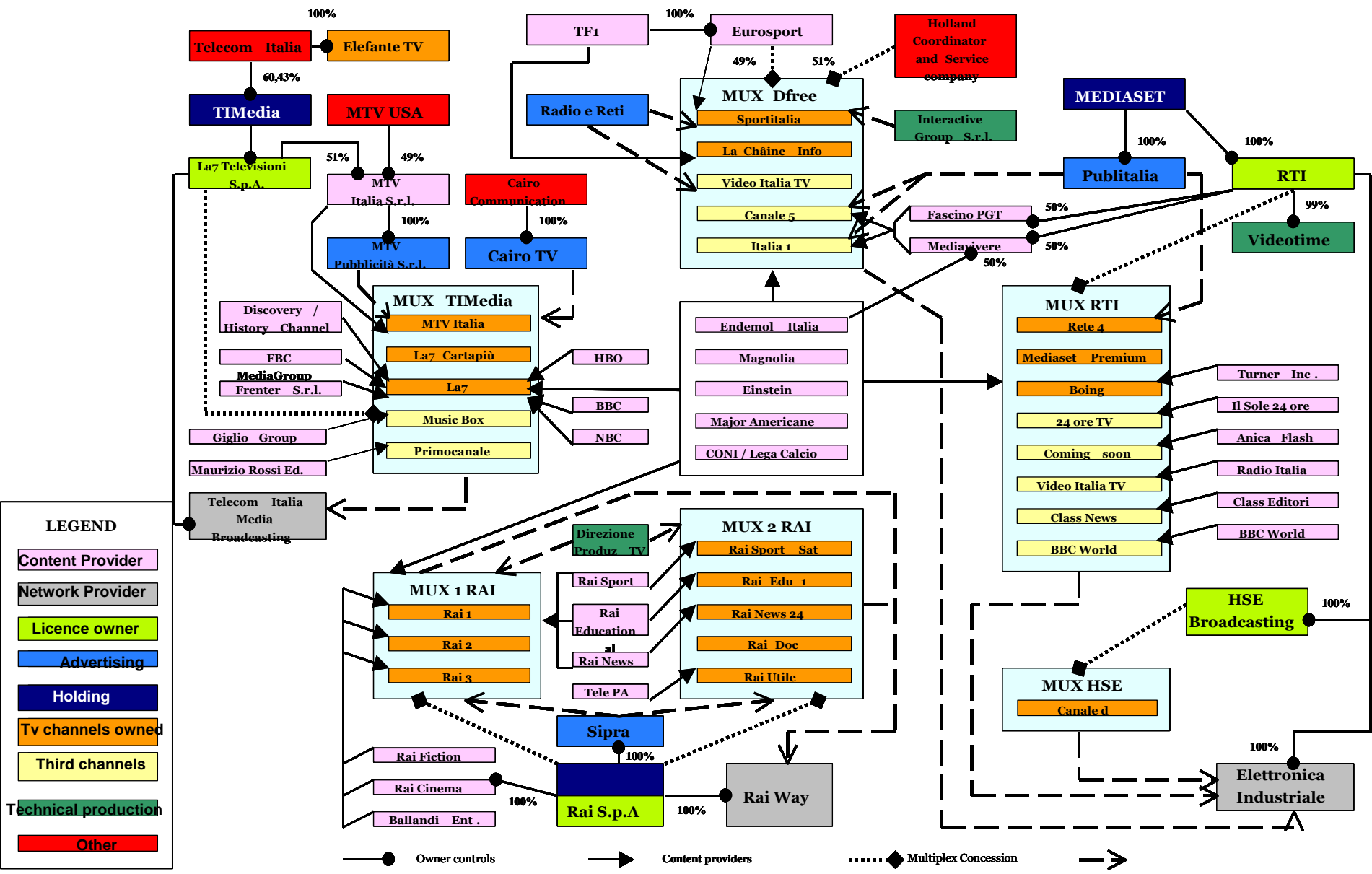
Value creation logic	Presence of giant strongly connected components
Value capture logic	Value is captured by the giant
Primary activity categories	<ul style="list-style-type: none"> - Content provision - Packaging - Network provision - Conditional access
Main interactivity relationship logic	Sequential
Primary activity interdependence	<ul style="list-style-type: none"> - Pooled - Sequential
Key cost drivers	<ul style="list-style-type: none"> - Scale - Capacity utilization
Key value drivers	<ul style="list-style-type: none"> - Market positioning and access to new capabilities - Possibility of user channel control - Shifting to value chain areas with higher added value - Facing competition of companies in connected sectors - High Costs of New Digital technologies
Business value system structure	<ul style="list-style-type: none"> - Interlinked chains

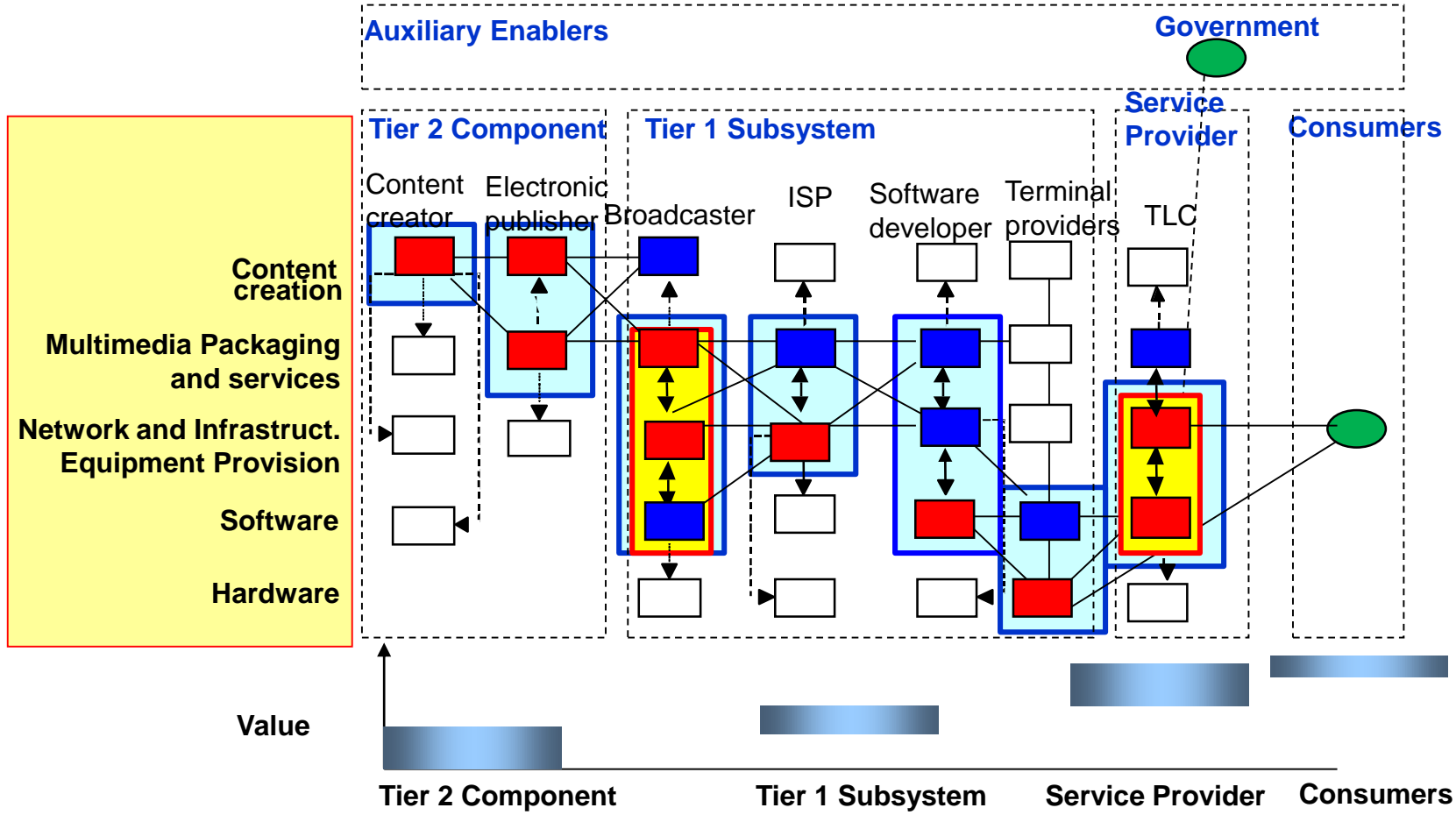
TYPOLGY OF CPCS

- ▶ Closed vertically integrated model
- ▶ **Loosely coupled coalition model**
- ▶ Multi-sided platforms

Digital TV in US (case study)







Core Competencies
 Edge Competencies

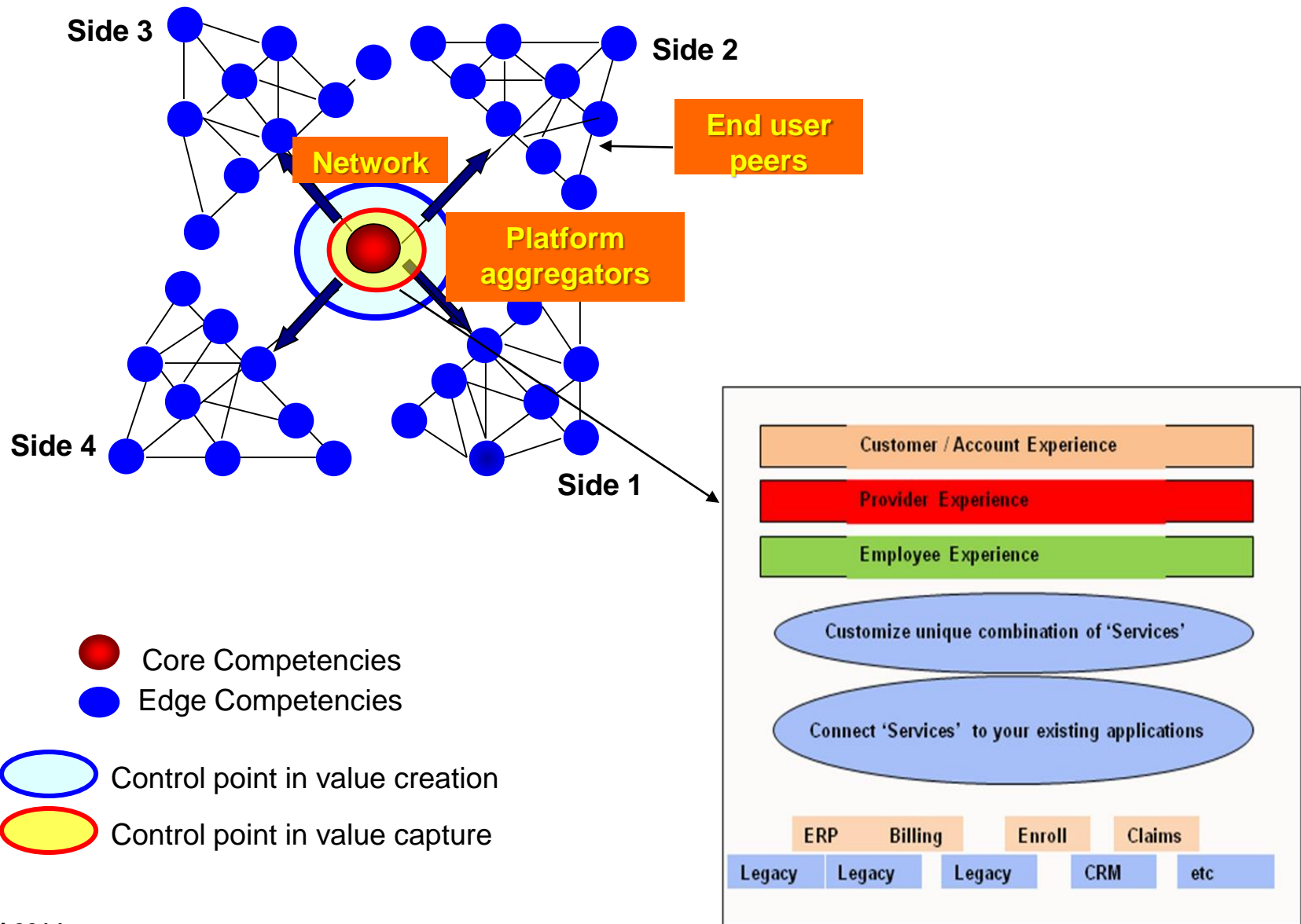
Existing relationships or contractual links
 Potential relationships or contractual links

Control point in value creation
 Control point in value capture

Value creation logic	Focus on a specific phase of the value chain managing relations with partners along the value chain
Value capture logic	<ul style="list-style-type: none"> - Network operators have an advantage - SP collect revenues directly from final users and distribute them among the other upstream stages of the value chain - Broadcasters gather relevant additional revenues from indirect sources
Primary activity categories	<ul style="list-style-type: none"> - Content provision - Content and interactive service packaging - Network provision - Managing relationships with customers and partners
Main interactivity relationship logic	Symmetric/Asymmetric Interactivity
Primary activity interdependence	<ul style="list-style-type: none"> - Pooled - Sequential - Reciprocal
Key cost/value drivers	- Scale
Business value system structure	- Referred hubs

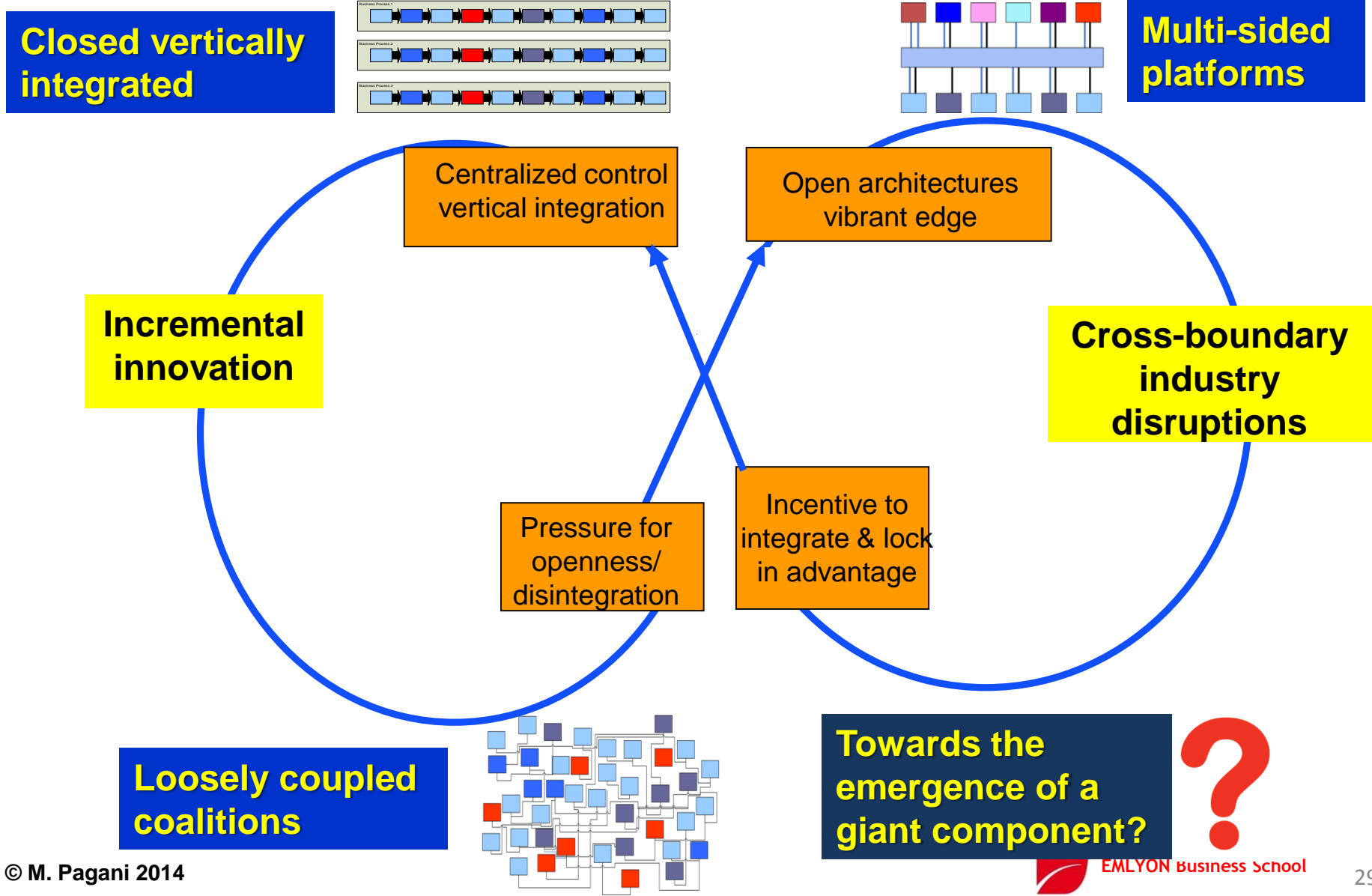
TYPOLGY OF CPCS

- ▶ Closed vertically integrated model
- ▶ Loosely coupled coalition model
- ▶ **Multi-sided platforms**



Value creation logic	Bringing together two or more distinct groups of customers, building an “infrastructure” that creates value by reducing distribution, transaction, and “search” costs
Value capture logic	In multi-sided networks cost and revenue are on each side. The platform incurs costs in serving all the groups and can collect revenue from each, although one side is often subsidized
Primary activity categories	<ul style="list-style-type: none"> - Network promotion - Service provisioning - Infrastructure operation
Main interactivity relationship logic	Simultaneous, parallel
Primary activity interdependence	<ul style="list-style-type: none"> - Pooled - Reciprocal
Key cost drivers	<ul style="list-style-type: none"> - Scale - Capacity utilization
Key value drivers	<ul style="list-style-type: none"> - Capacity utilization
Business value system structure	<ul style="list-style-type: none"> - Layered and interconnected networks

THE MODEL



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IMPLICATIONS

- To understand who controls the network we need to explore in depth where the value is created and who captures this value:
 - Value in the customer access
 - Value in Common Infrastructure
 - Value in Modularity
 - Value in content access
 - Value in Orchestration
- In some cases, acquiring control positions for the access of the final users (as a customer gatekeeper) was coupled by a parallel upstream integration of content control leading to the integration of different stages of the value chain of the same entity.

IMPLICATIONS

- We support the double helix model (Fine 1998) and discover three models that characterize the control point constellations of the multimedia industry.
- In order to survive in an increasingly uncertain and complex environment, the firm has to transform its "organizational intelligence" into a new "relational intelligence", enacting an open communication process with its stakeholders.
- Which outcomes occur, how frequently they occur, and with what consequences, are all questions that can only be resolved by thinking jointly about structure and dynamics and the relationship between the two.

Thank you!

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