

**The Role of Intellectual Property
Assets in Strengthening the
Competitiveness of SMEs;
the IP for Business Services of
the World Intellectual Property
Organization**

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World Intellectual Property Organization**

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The Most Advanced E-learning Content
on Intellectual Property for your Business

- IP PANORAMA was developed jointly by the Korean Intellectual Property Office (KIPO), the Korea Invention Promotion Association (KIPA), and the World Intellectual Property Organization (WIPO) under a project entitled, 'The Joint Development of E-learning Content' from 2004 to 2007.
- IP PANORAMA was designed to help SMEs utilize and manage Intellectual Property (IP) in their business strategy. In the past, most of the IP education materials had a legal orientation, even though businesses had a real need for a business-oriented IP education. IP PANORAMA increases IP-awareness among enterprise sector and a wide range of university students by providing practical knowledge about using IP for business success.
- IP PANORAMA relies on a brand new instructional design strategy based on 'Storytelling' along with educational technology. The learning content of each module was designed with a practical story regarding intellectual property. It is informative as well as interesting.
- IP PANORAMA deals with IP issues from a business perspective, especially focusing on the situation of SMEs.

The topics covered in the 10 modules are as follows:

IP PANORAMA 01: Importance of IP for SMEs

- › Why is IP relevant to your SME?
- › IP as a business asset
- › IP as an investment
- › The value of IP assets
- › Introduction of IP Audit



IP PANORAMA 02: Trademarks and Industrial Designs



IP PANORAMA

- On CD-ROM to member States of WIPO
- On CD-ROM to the partners of SMEs Division
- Other language versions (Arabic, Thai, Hungarian, Spanish, French, Polish, Russian)



SME Studies

- ▶ **India**
- ▶ **Brazil**
- ▶ **Jordan**
- ▶ **Poland**
- ▶ **Serbia**
- ▶ **South Africa**
- ▶ **Tanzania**

Training of Trainers Programs

- ▶ **India, Brazil, Jordan**
- ▶ **Poland, Serbia, South Africa**
- ▶ **Tanzania, Mongolia, Philippines**
- ▶ **Bangladesh, Uzbekistan**

Why competition is so important

- ▶ 90% of managers are not profit (meaning productivity) maximizers
- ▶ Fair and intense competition with the best leaves them the choice between catching up or giving up
- ▶ Product market competition is the main mechanism by which capital is re-allocated from low productivity to high productivity companies (e.g. retained earnings) – competition in banking also key (e.g. CIGAP findings)
- ▶ Competition is the main driver of innovation
- ▶ Competition pushes businesses to push for reforms
- ▶ Competition between countries also works...
- ▶ Competition and free trade are fully consistent with the poverty reduction/equal opportunity agenda and the best way to attack rents and corruption

Competitive Advantage

- ▶ Having a **competitive advantage** is necessary for a firm to compete in the market
- ▶ But what is more important is whether the competitive advantage is **sustainable**
- ▶ A firm must identify its position relative to the competition in the market
- ▶ By knowing if it is a leader, challenger, follower or nicher, it can adopt appropriate strategies to compete

Sustainable Competitive Advantage

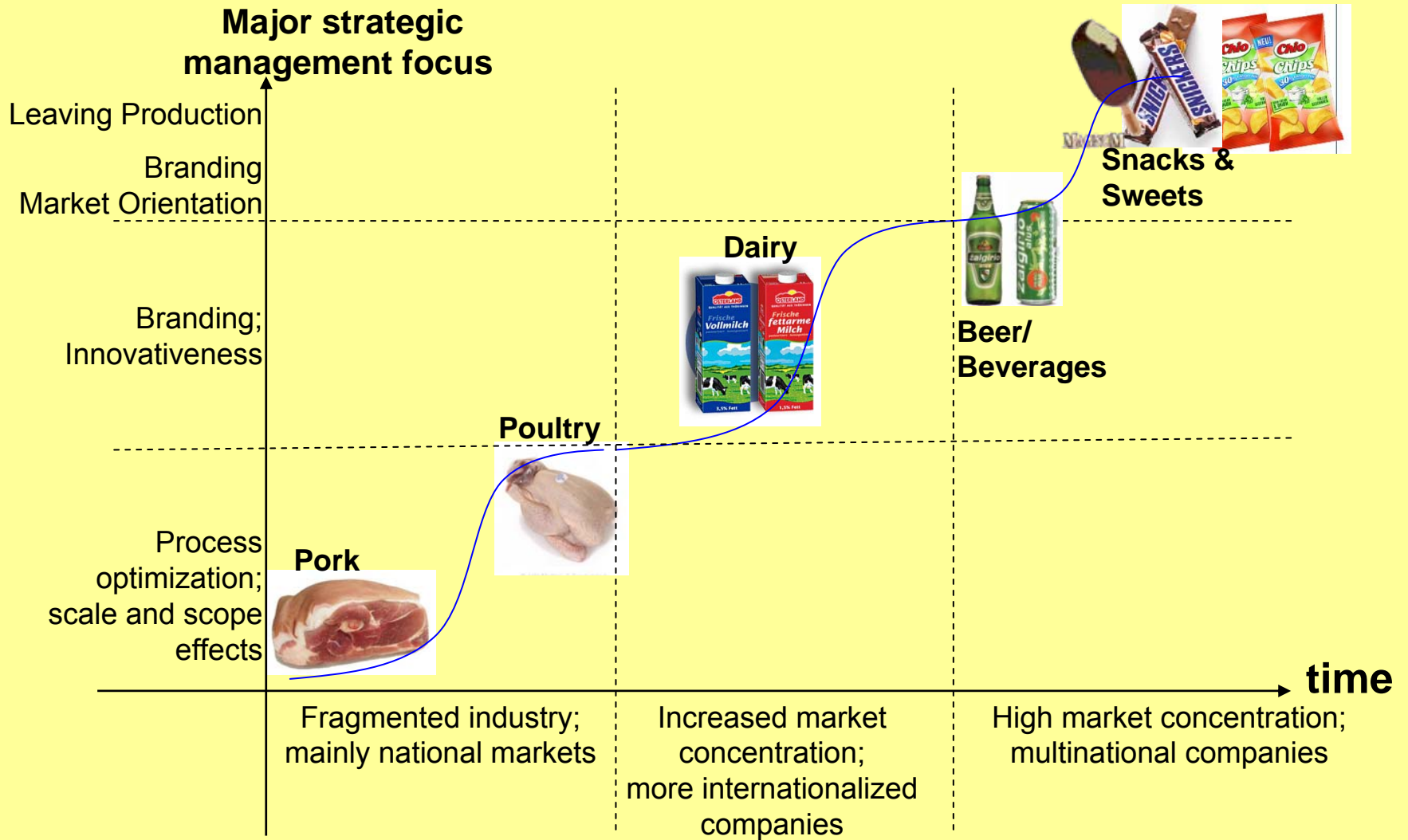
- ▶ A good strategist seeks not only to “win the hill, but hold on to it.” *Subash Jain*
- ▶ Sustaining competitive advantage requires erecting barriers against the competition
- ▶ Aakers suggested looking at the following:
 - How you compete
 - Basis of competition
 - Where you compete
 - Whom you are competing against

Competitiveness European Food Industry: Methodology

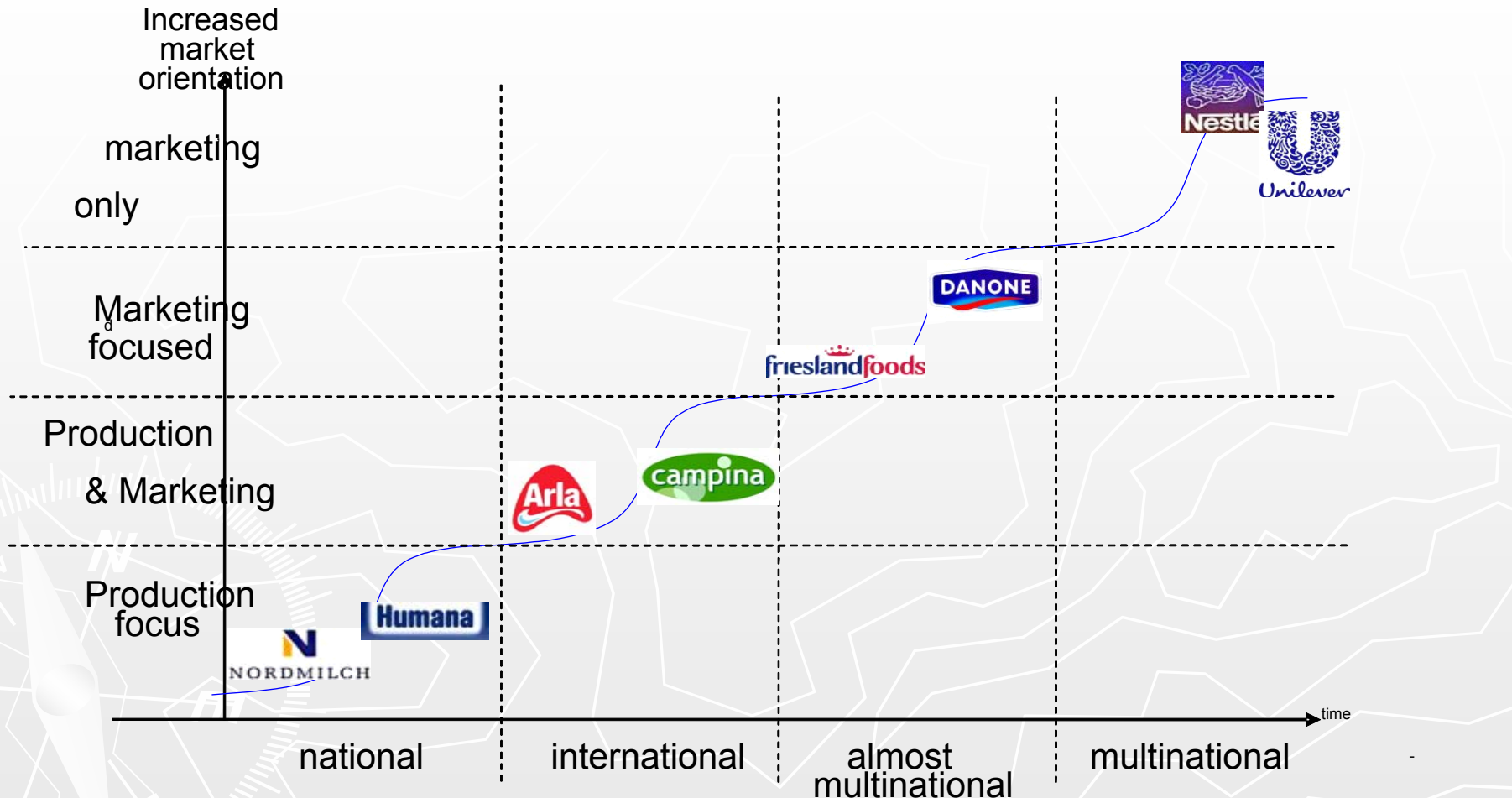
Theories

- *International Economics (Krugman, Helpman)*
Relative costs, productivity, product differentiation
- **Industrial economics (Porter)**
Strategy, supply-demand value chain
- **Strategic management (Hamel and Prahalad)**
Market orientation, innovation, service
- **Marketing (Hunt and Morgan; Desphande and Webster)**
Core competence, vision, flexibility

Evolution European food industry



Competitiveness European Food Industry: Dairy



Why export competitiveness is so important

- ▶ Best way to get the \$ necessary to import the goods and machines
- ▶ To benefit from and be exposed to global progress and competition
- ▶ Performance is easy to assess
- ▶ Political economy is easier (the country against the rest of the world)
- ▶ Spillovers/linkages into the rest of the economy
- ▶ Great wedge into tricky domestic policy issues (e.g. labor, land and electricity)

Practical definition of export competitiveness

Competitiveness = **productivity**/costs

and by the way:

GDP = **productivity** X inputs

Productivity = value added/inputs
(productivity captures quality and innovation)

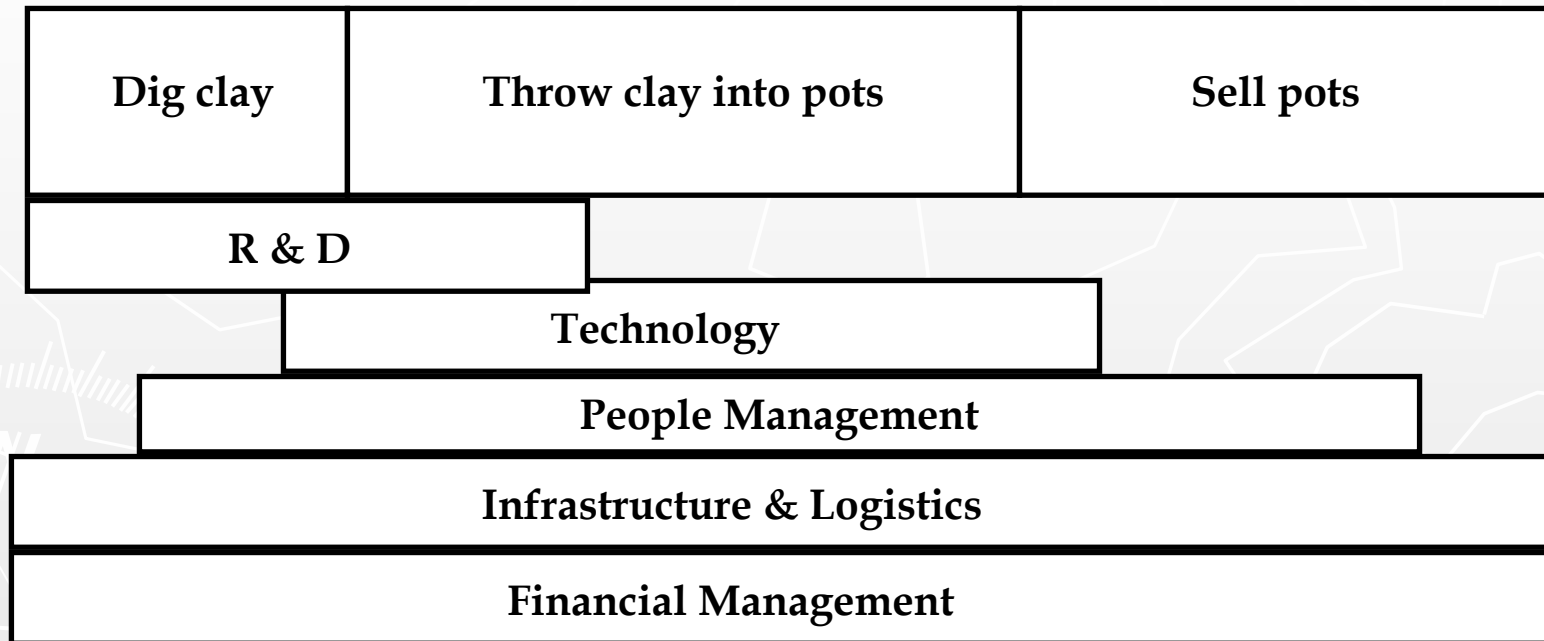
Analyzing competitiveness...

- ▶ ...in existing products/services
 - Benchmark productivity and key costs along main steps of value chain
 - Explain reasons for differences through analysis of incentive framework (e.g. competition) and factor markets (e.g. labor, capital and land)
- ▶ ...in potentially new products/services
 - Understand market requirements in detail
 - Consider proactive role of government if big information gaps and coordination issues

The challenge of **adding value** in today's economy

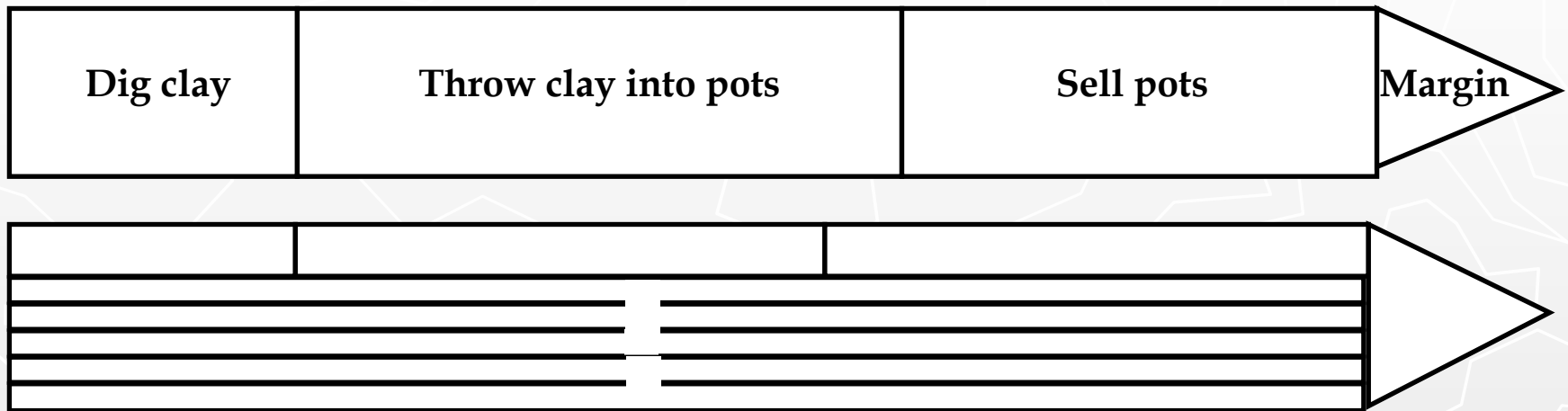
- ▶ Raw materials/Inputs: Processing (**Value addition**) = Value added output/component; product; sale; **Profit**
- ▶ Value addition: **Cheaper, Faster, Better:** Functional/technological or aesthetic/non-technological; Rational/Emotional (**More for Less**)
- ▶ Price; access/availability; consistency
- ▶ Individual, Enterprise (legal person), Chains, Networks; consortia; **Open Innovation** (Industry-Government-Academia)
- ▶ Ownership vs. access to knowledge
- ▶ **Value Addition, Value Delivery and Value Extraction**

Business as supply chain



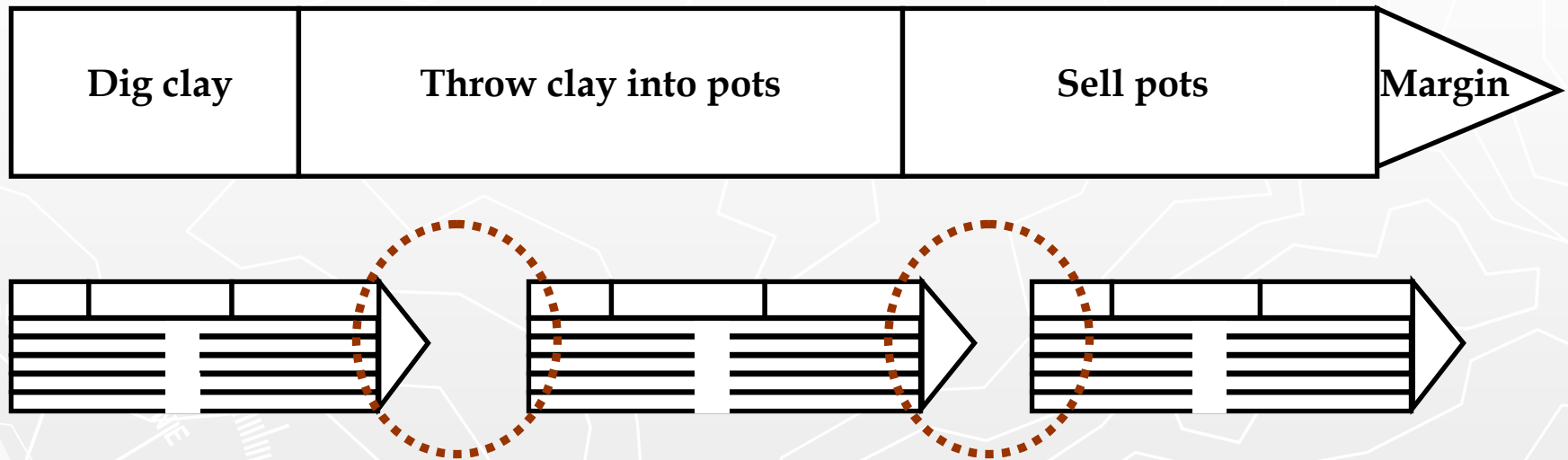
- ▶ The supply chain traces processes and transformations. As these become more complex, they tend to differentiate into various functions.

Business as value chain



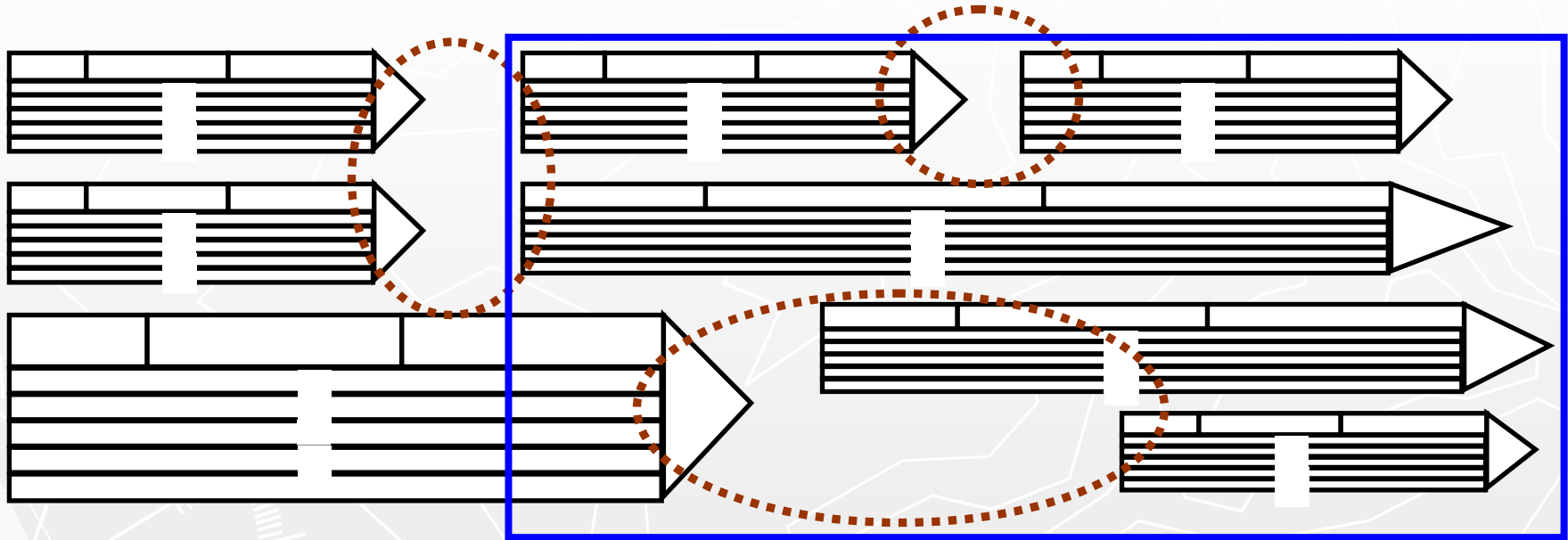
- ▶ The value chain maps value added *and* captured onto the supply chain. Each step in the supply chain contributes different amounts of value.
- ▶ Effective management involves both identifying new sources of value and tying together pieces to create more than the sum of the parts.

From value chains to markets



- ▶ As underlying processes become more complex, supply chains often evolve into chains of firms that interact through negotiated transactions or markets - rather than chains of functions managed internally
- ▶ Note how the margin divides (and multiplies)

Markets & industries



- ▶ Each cluster of competitors is an industry, industry segment or strategic group
- ▶ Supply chains and industries evolve over time – as do their rules, cultures, technologies and sources of value

Environmental Scanning

Macro-environment

Political Forces

Economic Forces

Operating Environment

Communities

Regulators

Stockholders

Creditors

Customers

Firm/ Organization

Structure
Culture
Competencies
Resources

Union/
employees

Trade
Association

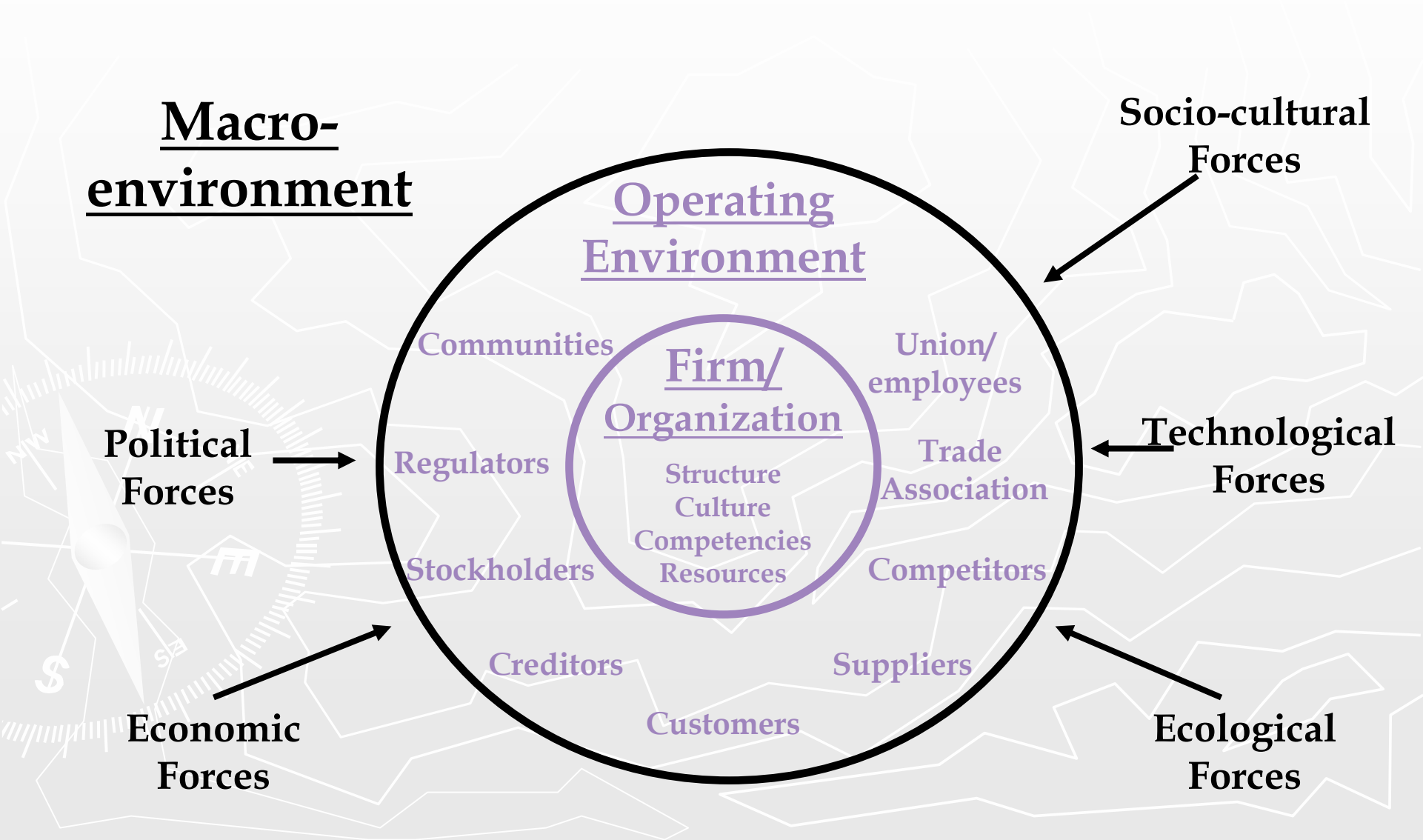
Competitors

Suppliers

Socio-cultural Forces

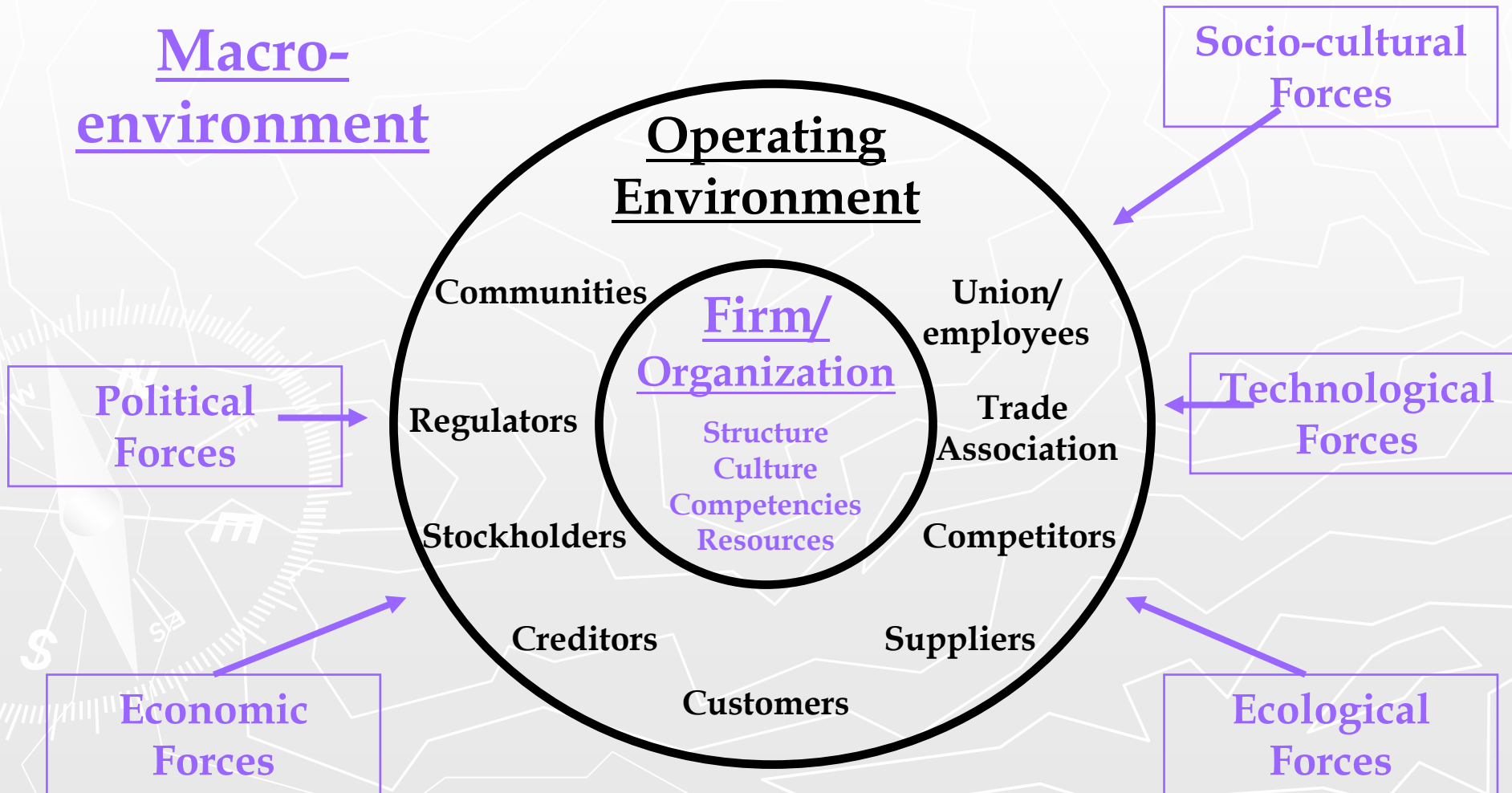
Technological Forces

Ecological Forces



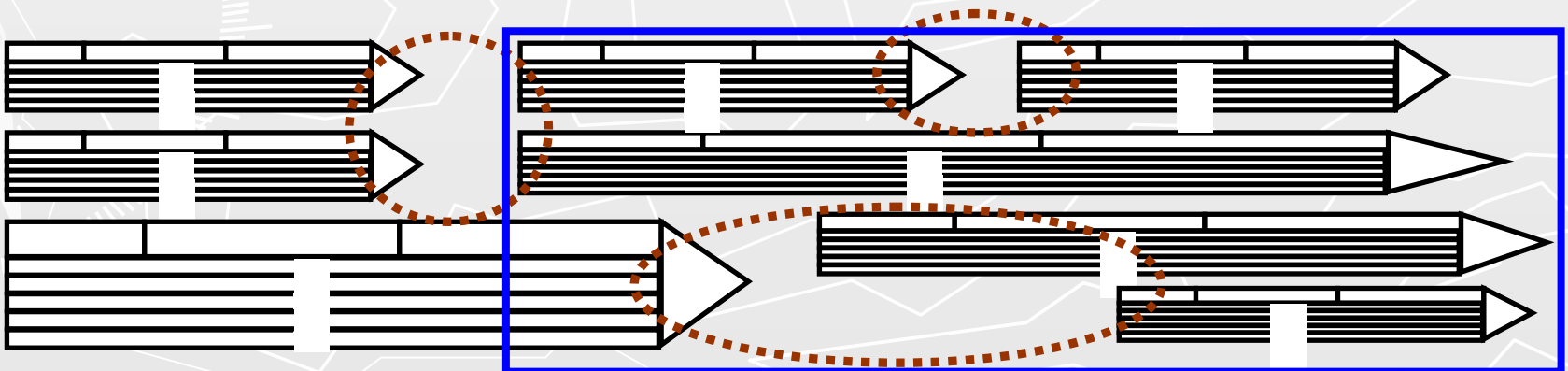
Stakeholders shape the operating environment

Macro-environment



Industry structure

- ▶ Industries are clusters of firms that serve the same function in a commerce chain. These sets of firms operate in the same space and compete to control enough space to capture value.
- ▶ Industries all have structure, history, trajectories and competitive dynamics that constrain entry options – and are shaped in part by macro-environmental conditions.



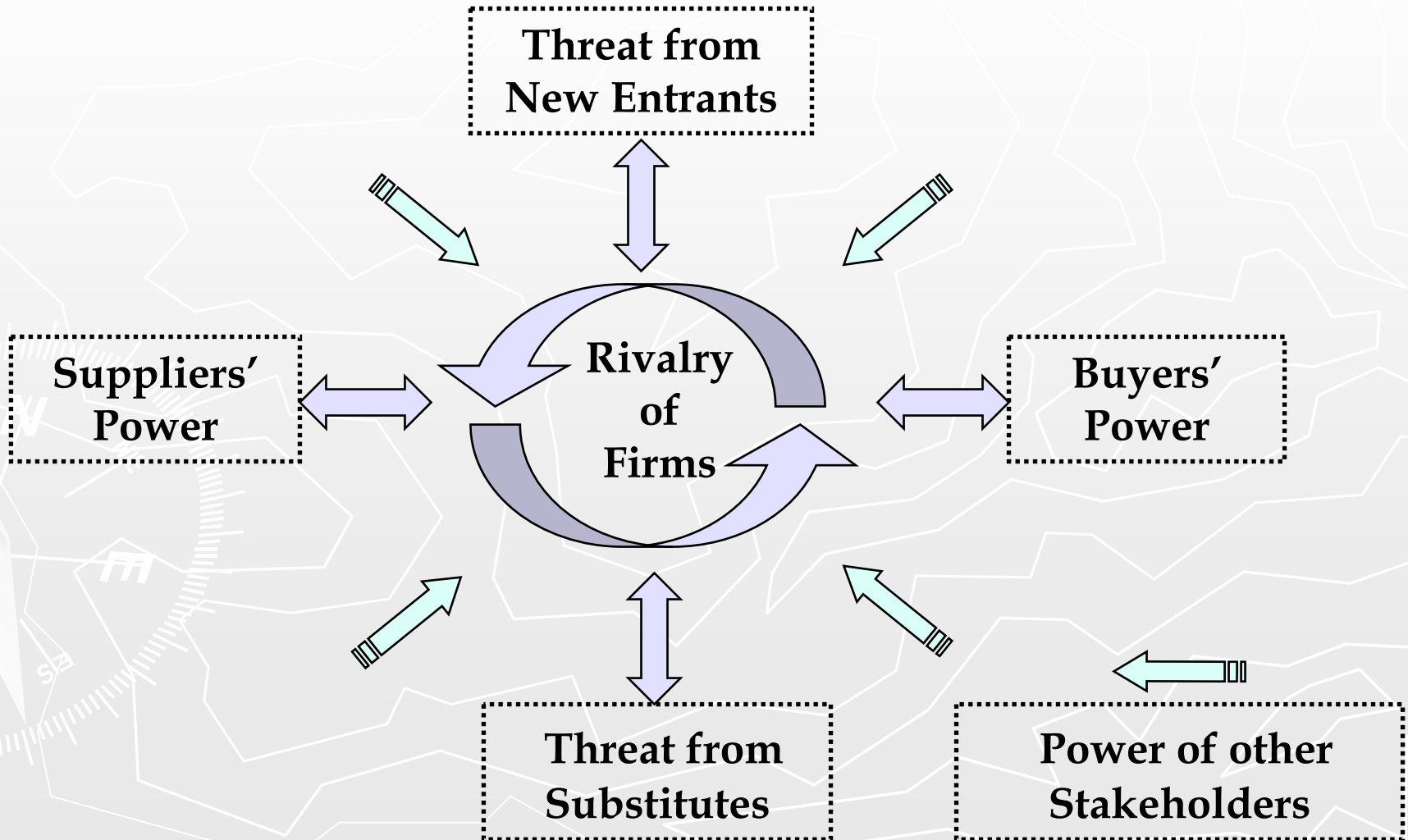
Competitive Analysis

- ▶ Competitors are the firms that compete to serve the same customers in the same marketplace.
- ▶ Competitors can compete directly (cars) or indirectly (bicycles, mass transit).
- ▶ Competition happens on two levels:
 1. Product or service competition
 - ▶ Competition at the level of the value proposition and marketing (covered in the first workshop)
 2. Company competition
 - ▶ Competition at the level of company strategy

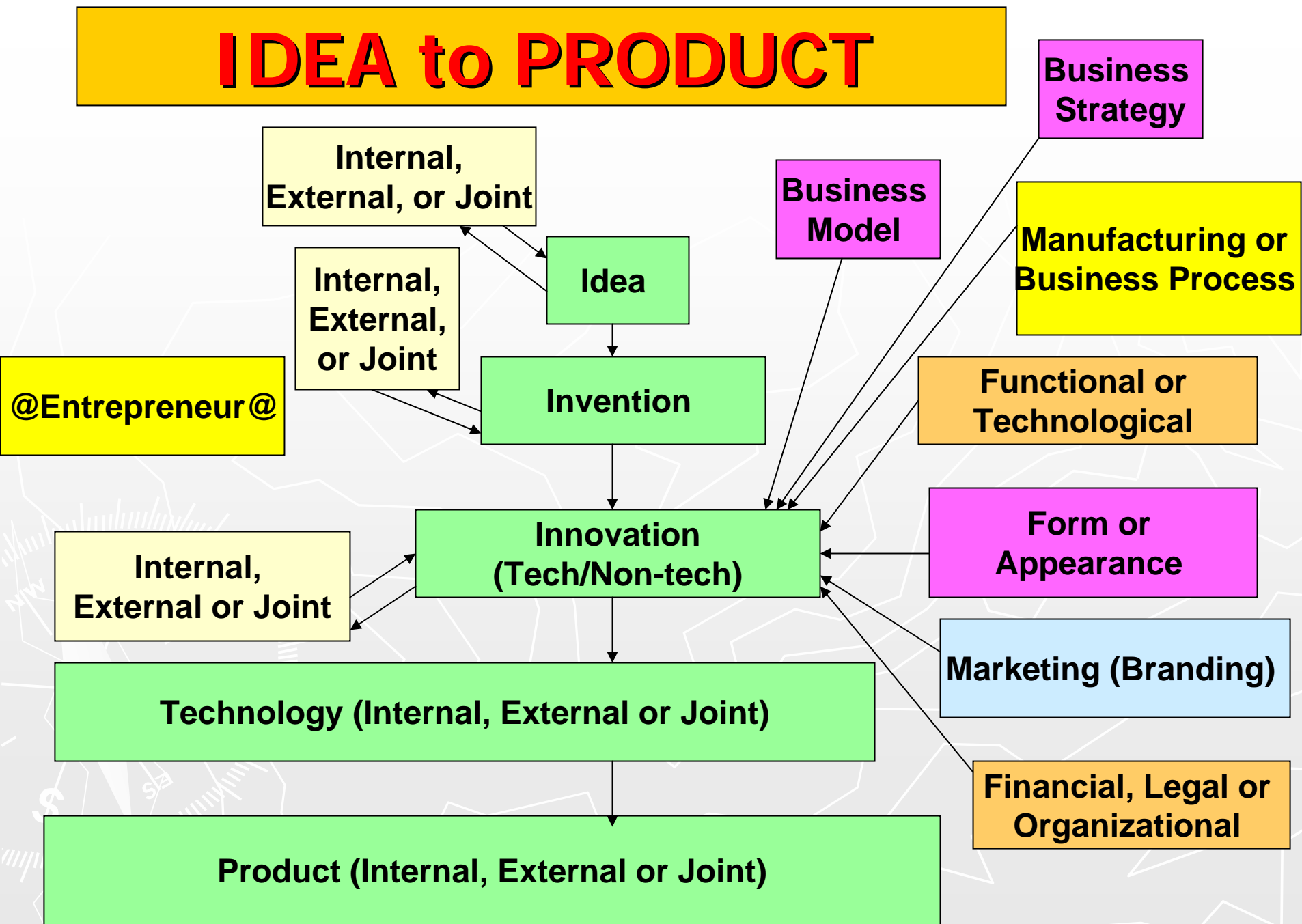
Company competitive analysis

- ▶ How does each firm compete?
 - Quality, service, low price, something else?
- ▶ How effective is each?
 - How well designed are they to compete as they do?
- ▶ How powerful?
 - What resources do they control? Money, people, influence...
- ▶ How aggressive?
 - How hard do they compete? What's their trajectory?

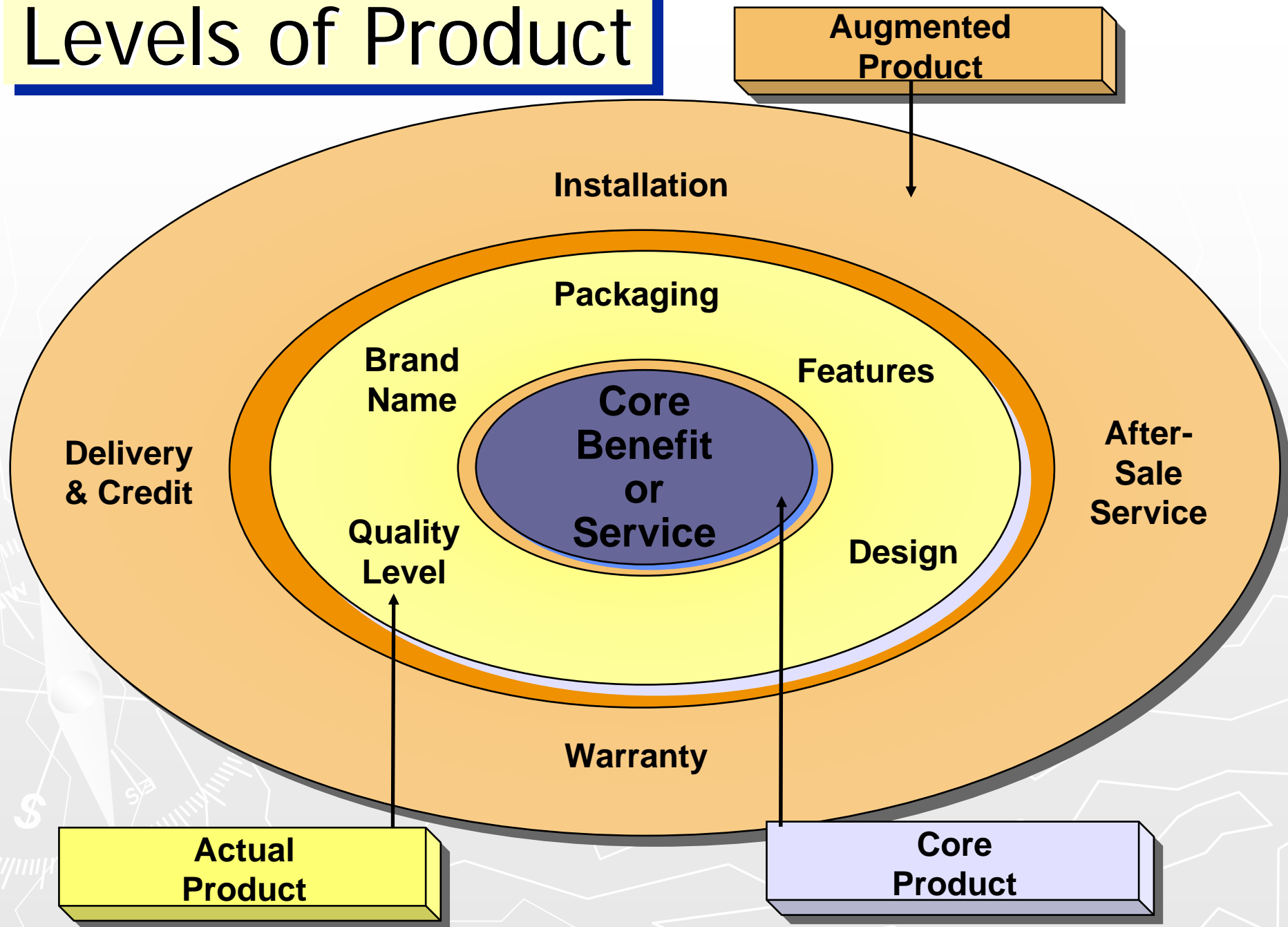
Industry power



IDEA to PRODUCT



Levels of Product



Introduction to IP Management 1

- ▶ Trademarks (Brands)
- ▶ Geographical Indications
- ▶ Industrial Designs
- ▶ Patents and Utility Models
- ▶ Copyright and Related Rights
- ▶ Trade Secrets
- ▶ New Varieties of Plants
- ▶ Unfair Competition

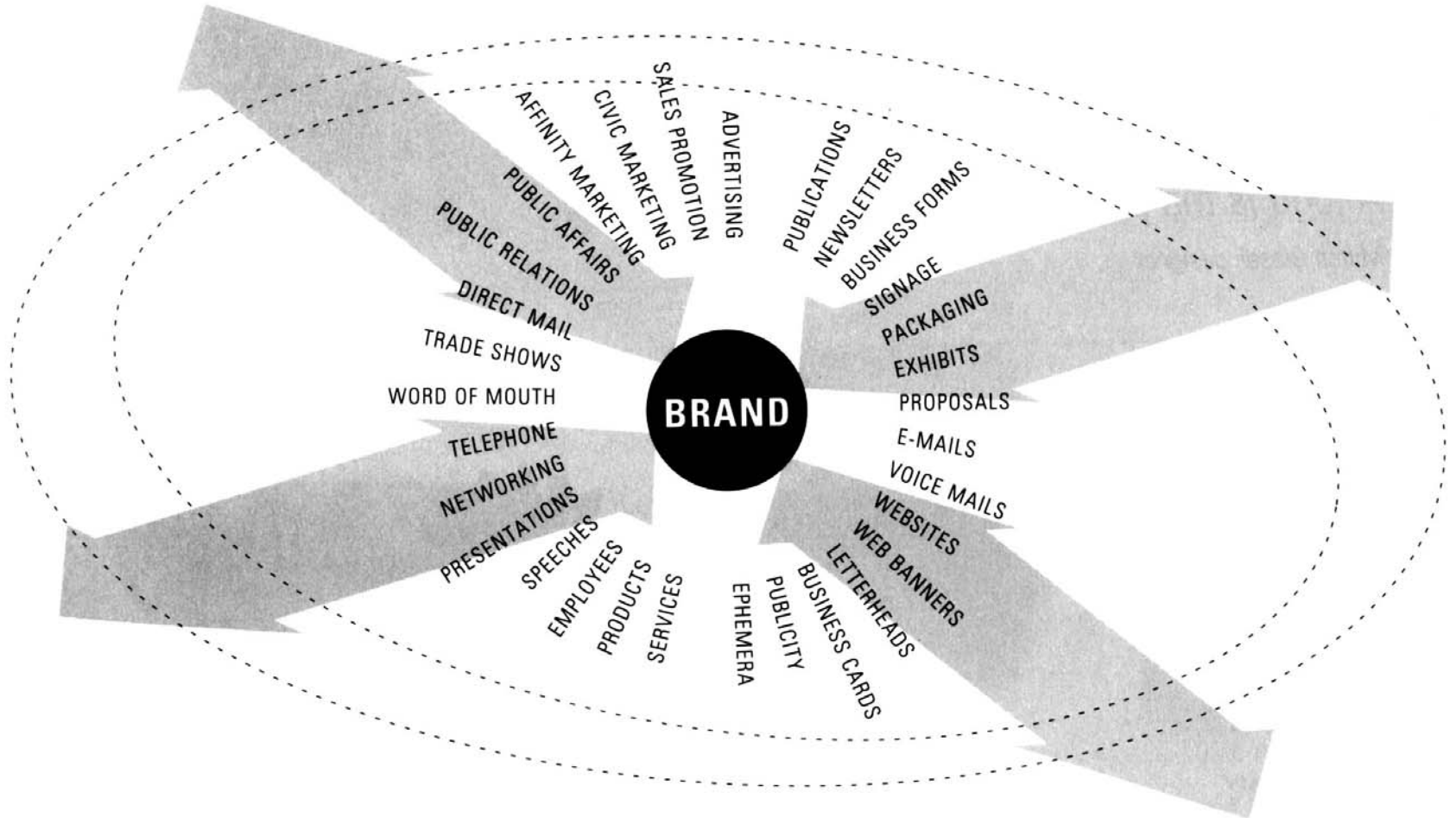
Introduction to IP Management 2

- ▶ Legal
- ▶ Accounting
- ▶ Technical
- ▶ Tax
- ▶ Business
- ▶ Insurance
- ▶ Export
- ▶ Security
- ▶ Financial
- ▶ Automation
- ▶ Relationships
- ▶ Personnel

An Aspect of Good Management

- ▶ People Management – because IP is generated by people and used by people
- ▶ Knowledge Management – because a lot of knowledge is informal and may or may not crystallise as recognisable category of IP
- ▶ IT Strategic Planning – because a lot of IP is IT-related; some of the more complex IP issues arise in IT context
- ▶ Contract Management – because IP is often created (or improved) in context of a contract (eg, supply contract or joint venture relationship)
- ▶ Asset Management – because IP is an asset, albeit intangible; it has a value
- ▶ Risk Management – because there are risks to an organisation flowing from its actions, or failure to act, in relation to IP including risk of lost opportunity)

Touch Points



From Invention to Innovation

While invention depends upon creativity, successful technological innovation requires integrating new knowledge with multiple business functions.

Innovation – What is it?

The creation of new ideas/processes which will lead to change in an enterprise's economic or social potential

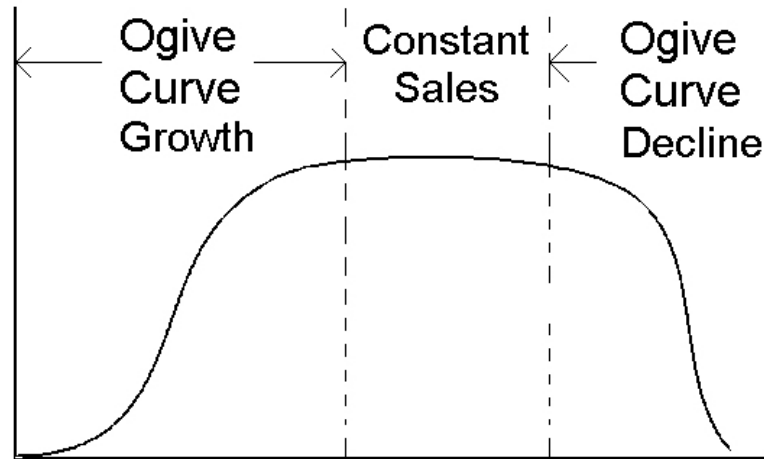
[P. Drucker, *'The Discipline of Innovation'*,
Harvard Business Review, Nov-Dec, 1998, 149]

Innovation

How to classify newness and degree of innovation and what to focus on:

- **New to the firm?**
- **First in the market?**
- **First in the world?**
- **Incremental or radical innovations?**

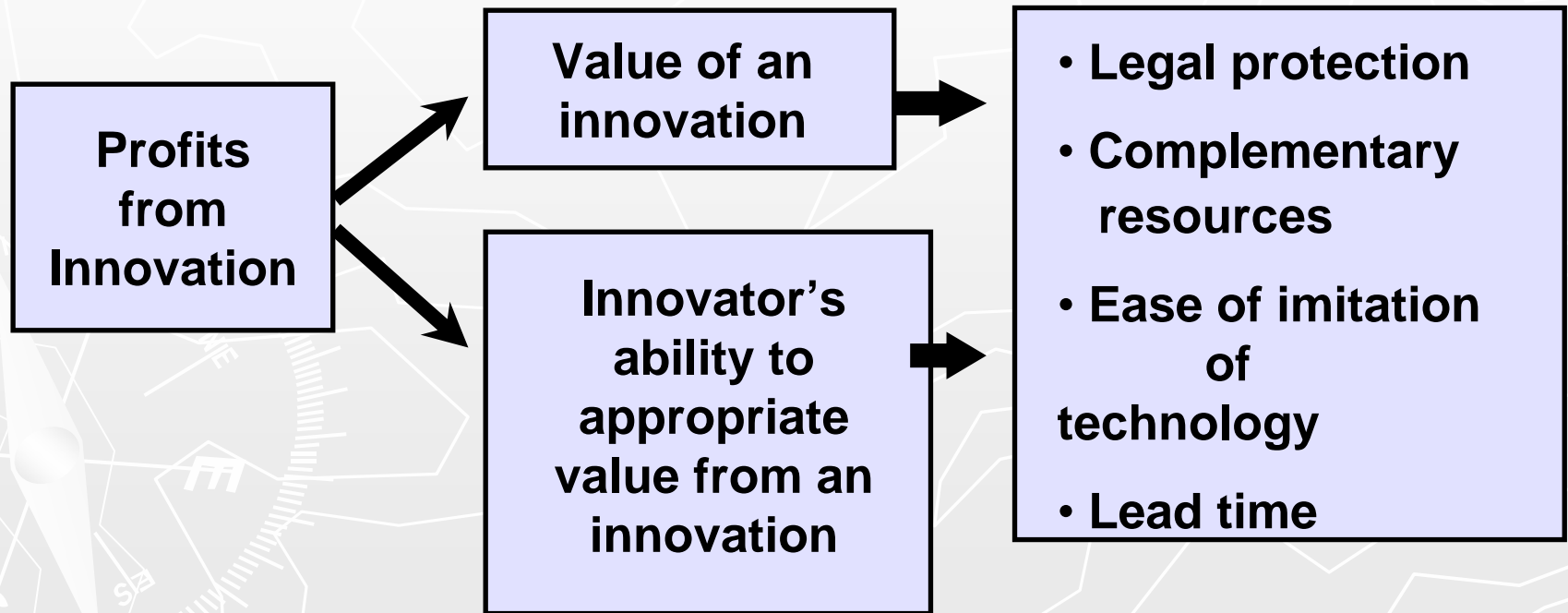
Why do we need Innovation?



➤ **Conclusion? - - If a company does not continue to introduce new products periodically, or at least significant improvements on existing products it will eventually be on a “going out of business” curve.**

➤ **Continuing to come up with the “right” product for the market takes a lot of innovation (plus a lot of “perspiration!”).**

The Profitability of Innovation

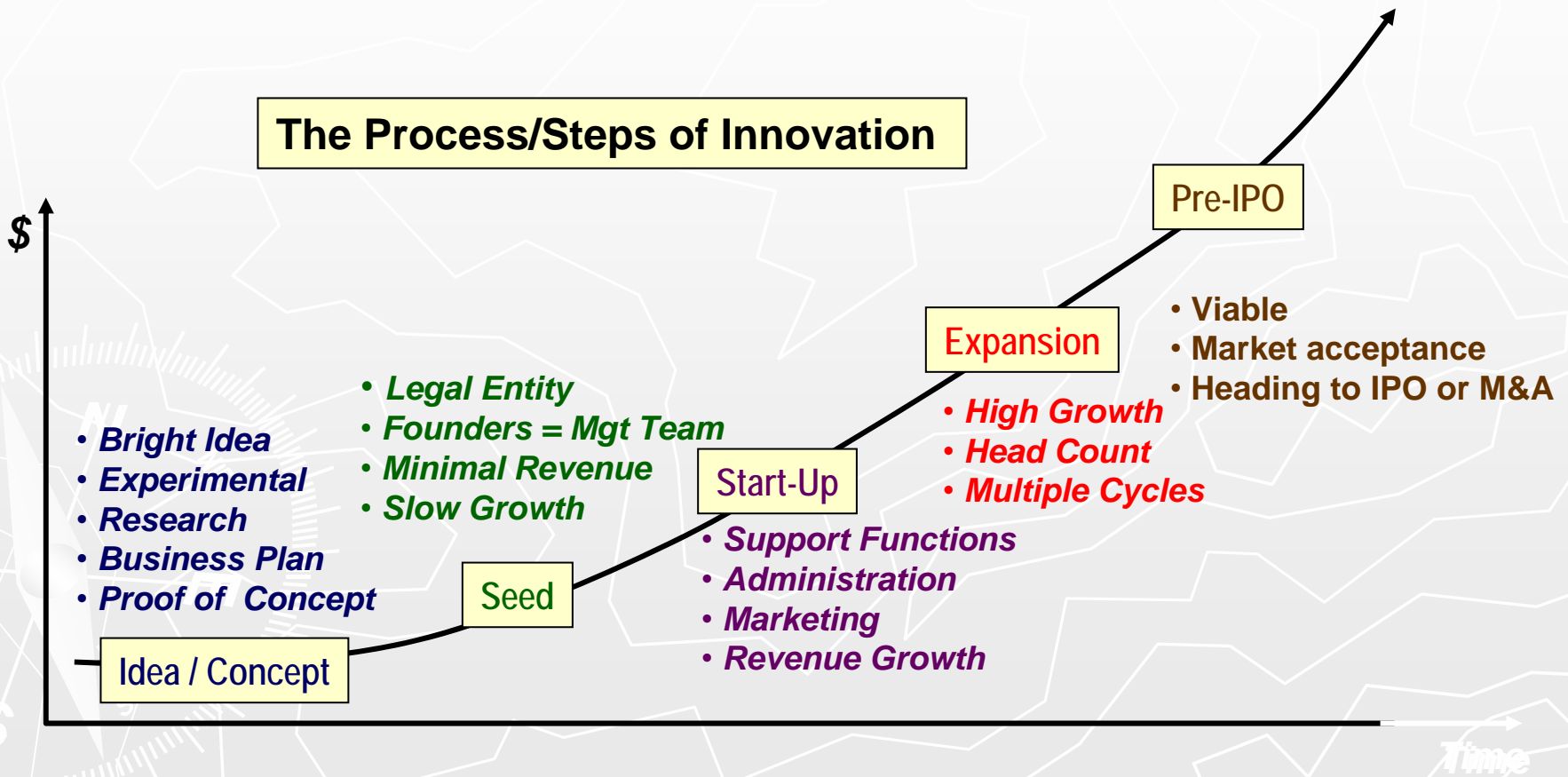


The “ Right” Innovative Product?

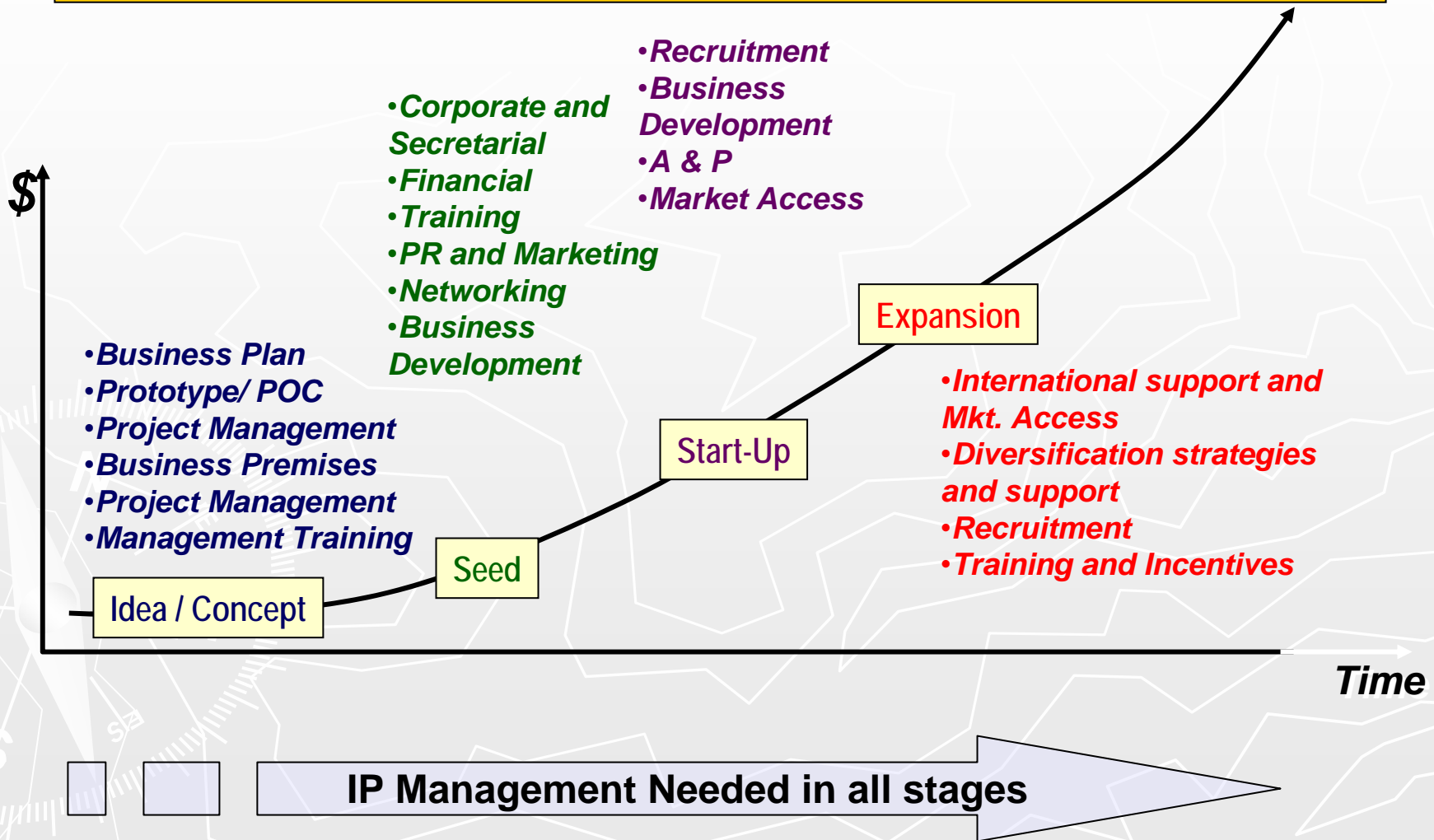
- The right product is one that becomes available at the right time (i.e., when the market needs it), and is better and/or less expensive than its competition.
- To have the right product, therefore, one must:
 - Predict a market need
 - Envisage a product whose performance and capability will meet that need
 - Develop the product to the appropriate time scale and produce it.
 - Sell the product at the right price

Understanding the Process of Innovation

The Process/Steps of Innovation



Needs of Each Stage



Goals of IP

- Protect a Potential Product
- Protect a Path to Market
- “Own a Space”
- Create Exclusivity and Desire
- Block Competition
- Funding
- Exits



US006763791B2

(12) **United States Patent**
Gardner et al.

(10) **Patent No.:** US 6,763,791 B2
(45) **Date of Patent:** Jul. 20, 2004

(54) **CAM PHASER FOR ENGINES HAVING TWO CHECK VALVES IN ROTOR BETWEEN CHAMBERS AND SPOOL VALVE** 5,497,738 A * 3/1996 Siemon et al. 123,901.17
5,657,725 A 8/1997 Butterfield et al. 123,901.17
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6,182,622 B1 2/2000 Golaytski-Schmidt et al. ... 123,901.15
6,481,402 B1 * 11/2002 Simpson et al. 123,901.17

(75) Inventors: **Marty Gardner**, Ithaca, NY (US);
Michael Duffield, Medina, NY (US)

(73) Assignee: **BorgWarner Inc.**, Auburn Hills, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/198,476**

(22) Filed: **Jul. 18, 2002**

(65) **Prior Publication Data**
US 2003/0033999 A1 Feb. 20, 2003

Related U.S. Application Data
(60) Provisional application No. 60/312,140, filed on Aug. 14, 2001.

(51) **Int. Cl.** **F01L 1/34**
(52) **U.S. Cl.** **123/901,17; 125/90 15**
(58) **Field of Search** 123/901,13, 90 15

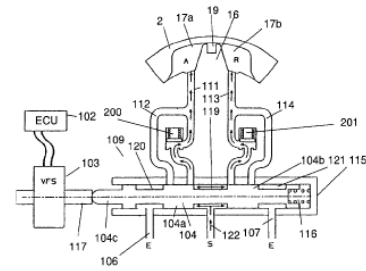
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5,184,578 A 2/1993 Quinn, Jr. et al. 123,901.17
5,361,735 A 1/1994 Butterfield et al. 123,901.17
5,367,992 A 1/1994 Butterfield et al. 123,901.17
5,386,807 A 2/1995 Linder 123,901.17

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EP 0801212 A1 10/1997 F01L1/344
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Primary Examiner—Thomas Denion
Assistant Examiner—Zelalem Eshete
(74) **Attorney, Agent, or Firm**—Brown & Michaels PC; Greg Driegackowski

(57) **ABSTRACT**
An infinitely variable camshaft timing device (phaser) has a control valve located in the rotor. Since the control valve is in the rotor, the camshaft need only provide a single passage for supplying engine oil or hydraulic fluid, and does not need multiple passageways for controlling the phaser, as in the prior art. Two check valves, an advance chamber check valve and a retard chamber check valve, are also located in the rotor. The check valves are located in the control passages for each chamber. The main advantage of putting the check valves in the advance and retard chambers instead of having a single check valve in the supply is to reduce leakage. This design also eliminates high pressure oil flow across the spool valve and improves the response time of the check valve to the torque reversals due to a shorter oil path. In addition, the phaser of the present invention outperforms an oil pressure actuated device and consumes less oil.

14 Claims, 6 Drawing Sheets



IP Needs of Each Stage



Types of protection used

Confidentiality agreement

Confidentiality
Research contract (with IP clauses)

Confidentiality
Patent
Industrial Designs
Copyright

All previous plus:
Licensing agreements
Trade marks

All previous plus:
Enforcement of rights

Key IP activities

Patent Search
Competitor search

Avoid premature publication or disclosure

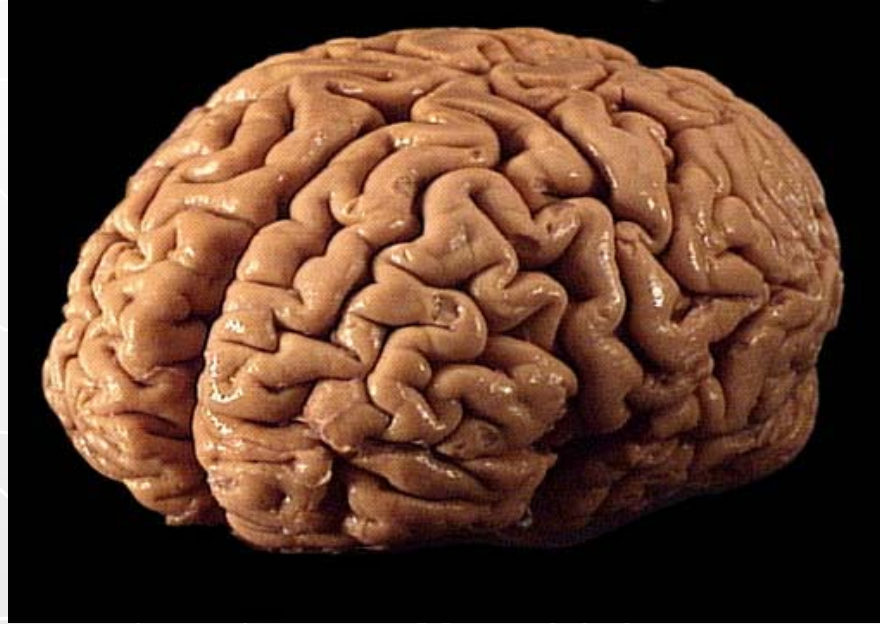
Develop patent strategy
Prepare and lodge patent

Identify licensing candidates
Augment patents

Enforce existing rights
Maintain patents

Intellectual Property: Attention at all Stages

Prosecution



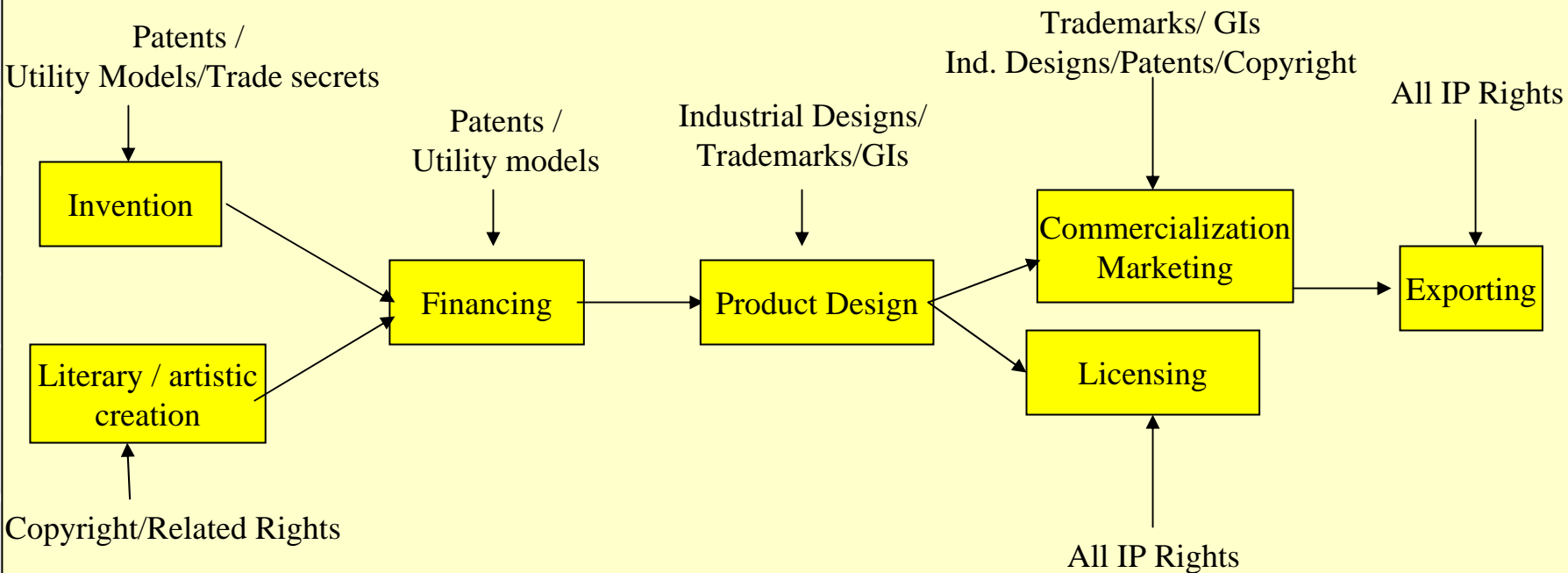
Transactions

Enforcement

Litigation

Basic Message 1

IP adds value at every stage of the value chain from creative/innovative **idea** to putting a new, better, and cheaper, product/service on the market:



Basic Message 2

- ▶ IP Strategy should be an **integral part** of the overall business strategy of an Enterprise
- ▶ The IP strategy of an Enterprise is influenced by its creative/innovative capacity, financial resources, field of technology, competitive environment, etc.
- ▶ BUT: *Ignoring the IP system altogether is in itself an IP strategy, which may eventually prove **very costly or even fatal***

A Hierarchy of IP/IC Management



Summary: IP = Asset which should Build Value

- Protects a Blockbuster Product
- Protects a Path to Market
- “Owns a Space”
- Creates Exclusivity and Desire
- Blocks Competition
- Is Budgeted for; has a Strategy
- Encourages Funding
- Helps Drive Exits



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6,024,981 A 2/2000 Adachi et al. 123,901.7
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6,872,622 B1 2/2001 Gotoyama-Schmidt et al. 123,901.5

(75) **Inventors:** Marty Gardner, Ithaca, NY (US); Michael Duffield, Medina, NY (US)

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(52) **U.S. CL** 123,901.7; 125,900.15

(58) **Field of Search** 123,900.13, 90.15

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6,481,402 B1 * 11/2002 Simpson et al. 123,901.7

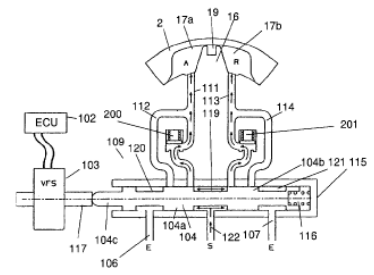
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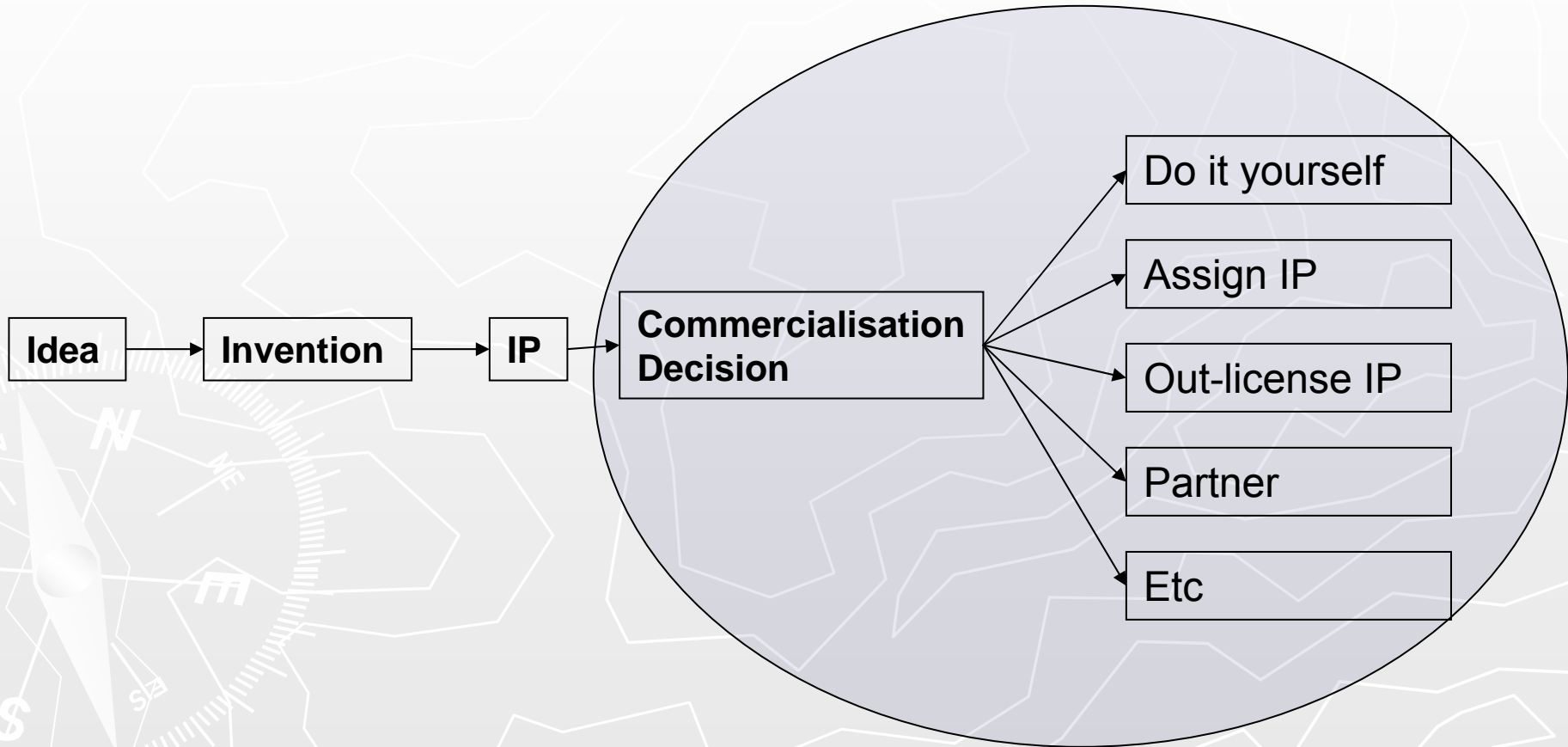
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14 Claims, 6 Drawing Sheets



The 'Commercialisation Pipeline'

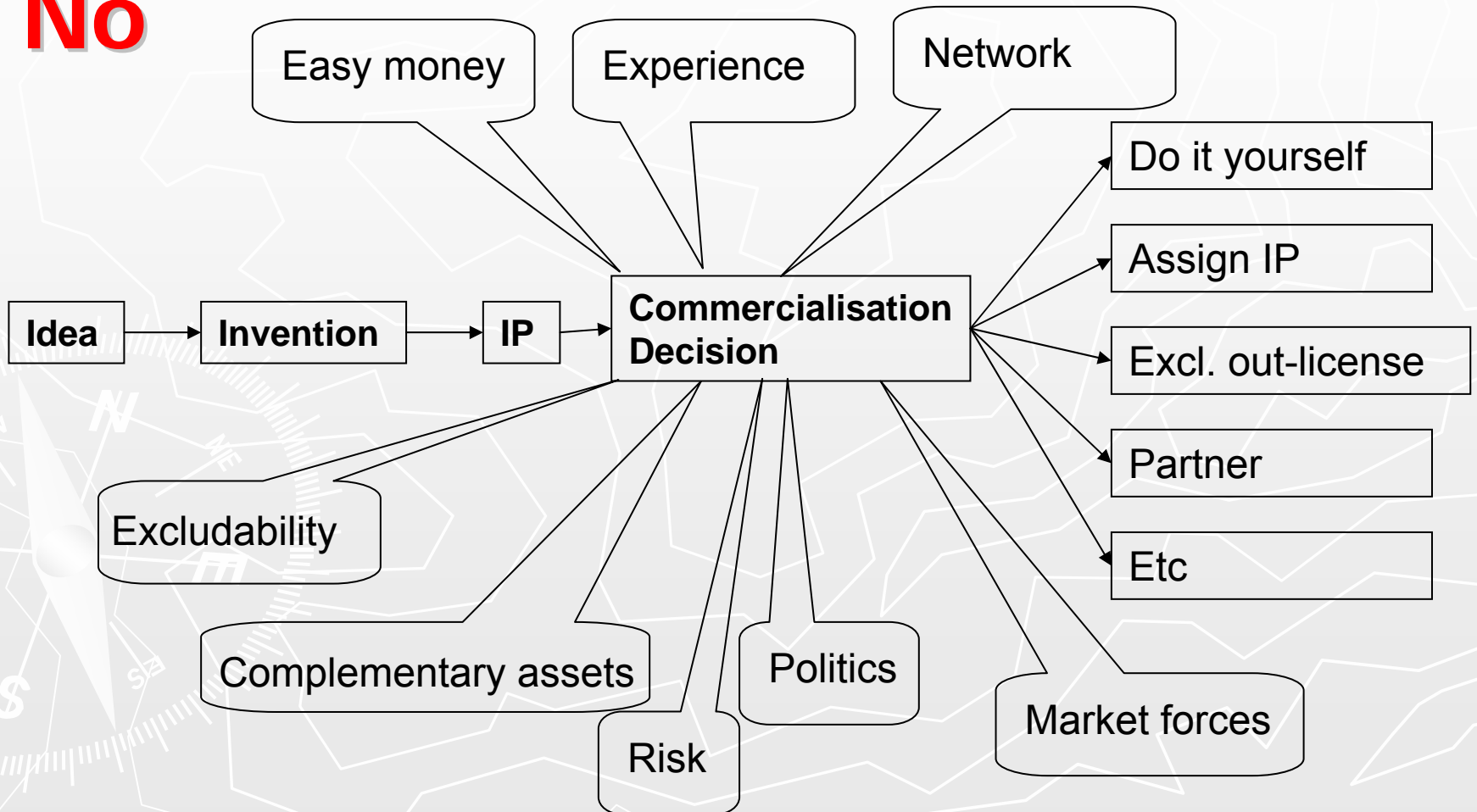


How are commercialisation strategies actually chosen?

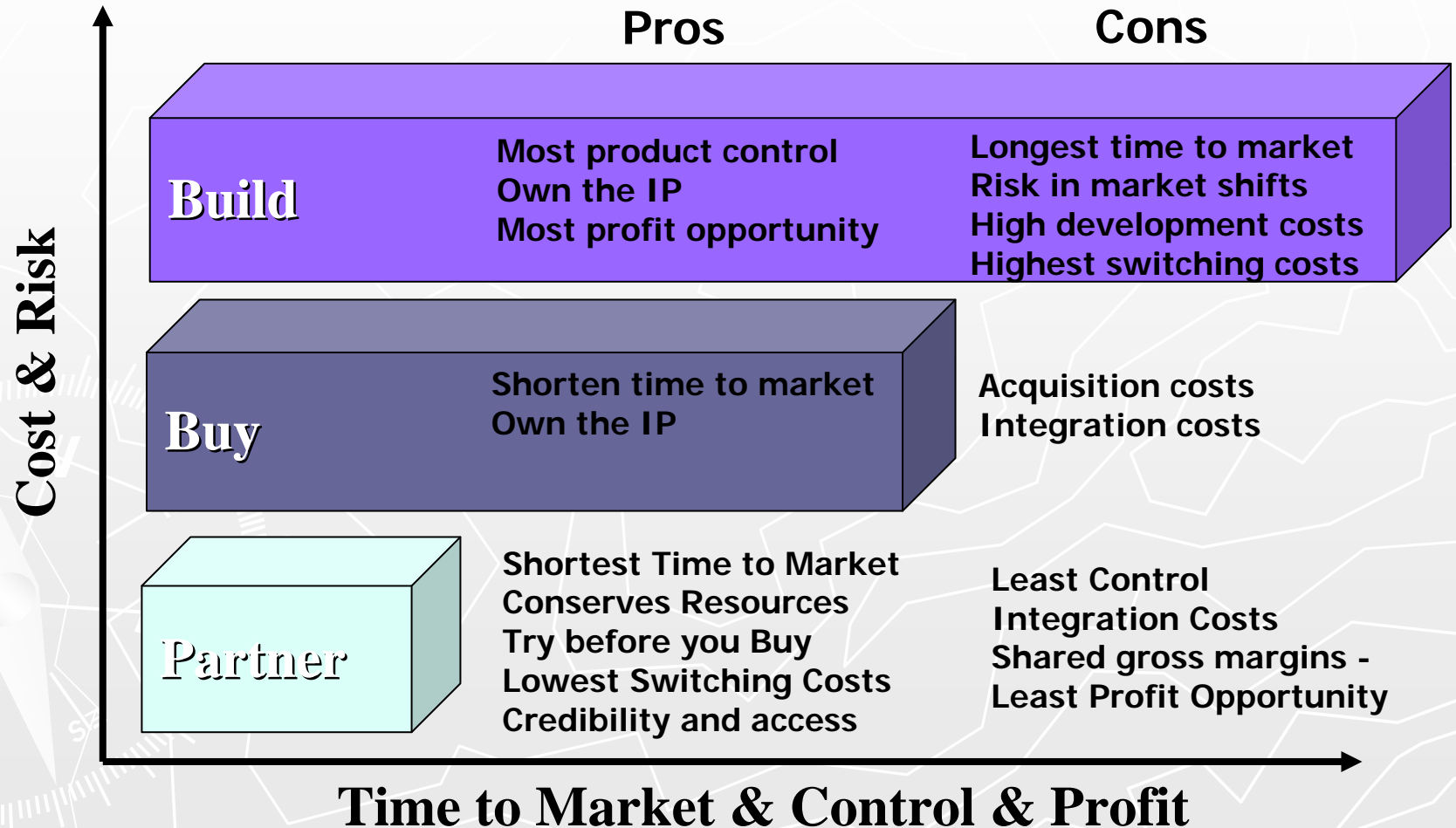
- ▶ Ability to exclude incumbants¹
- ▶ Complementary asset environment¹
- ▶ Others
 - Go where the easy money is
 - Past Experience
 - Internal constraints & politics
 - Business network of the entrepreneur
 - Risk adversity
 - Market forces
 - etc

A Simple Process?

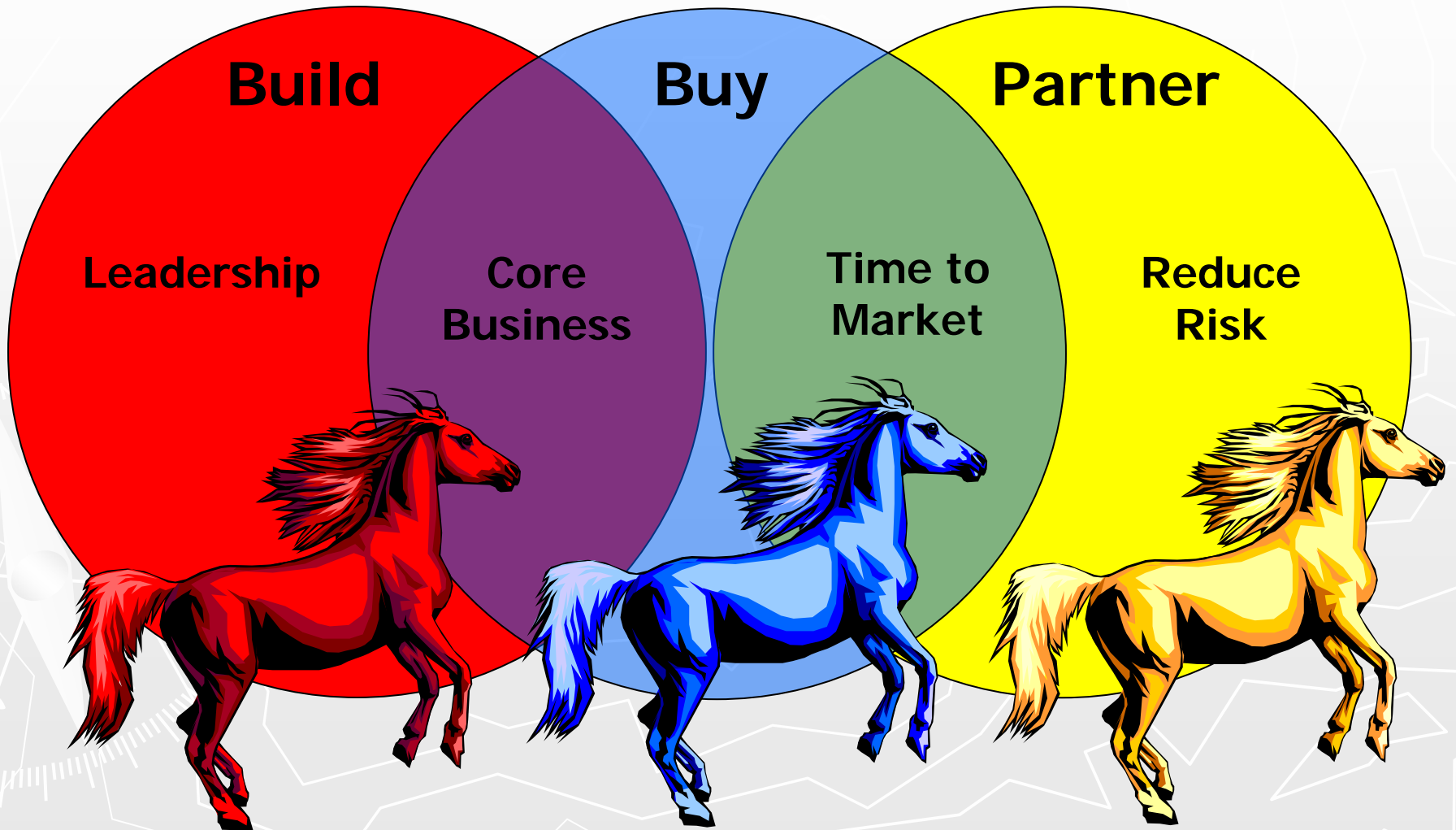
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Build, Buy, Partner: *Benefits and Tradeoffs*



Which horse to pick?



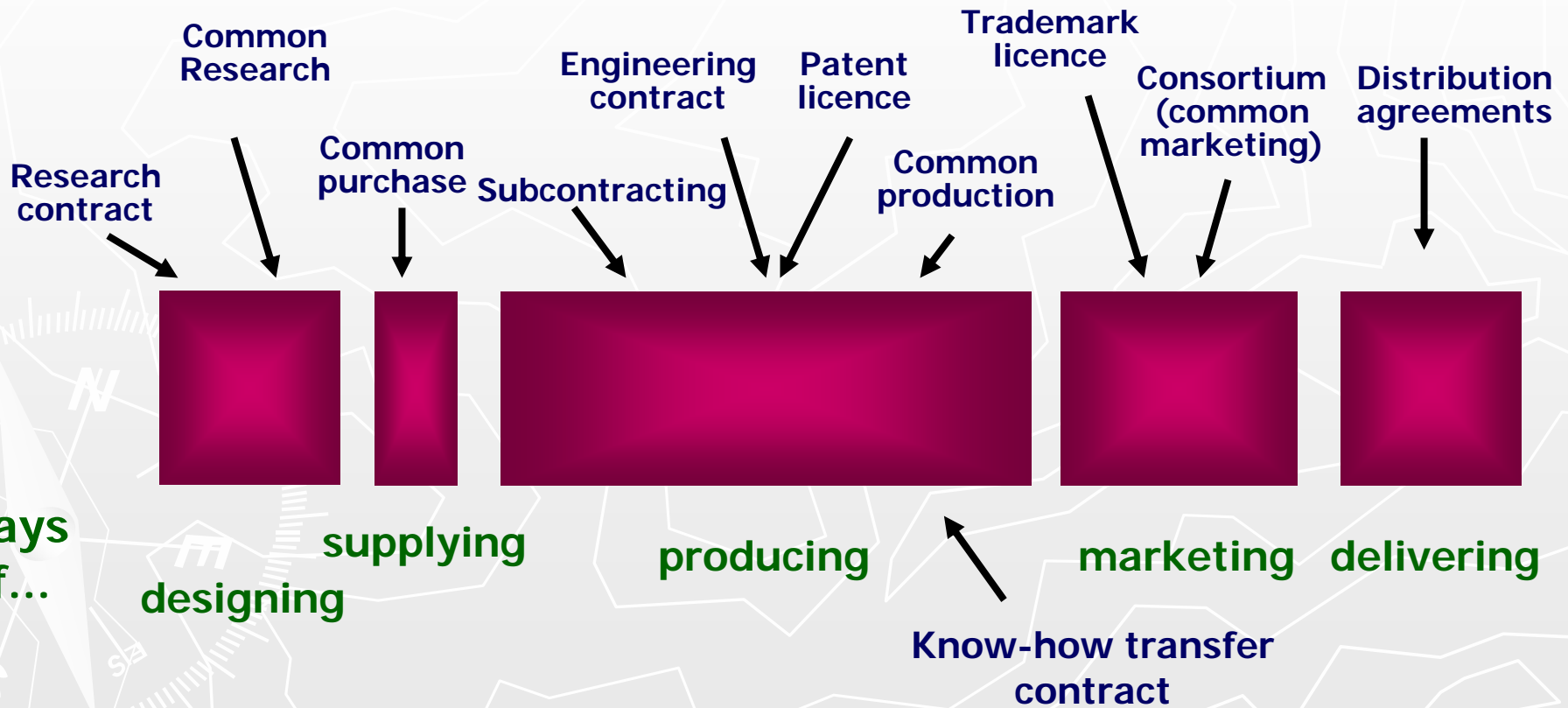
The Key is Collaboration



“Few if any companies today can hold all the pieces of their own product technology...they simply must collaborate with others if they want to survive and prosper... **IP has become much more of a bridge to collaboration**”

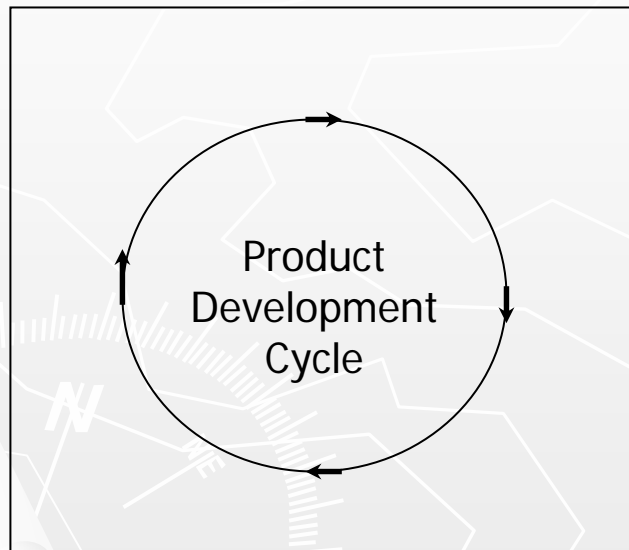
Marshall Phelps, Microsoft

Eleven Modes of Collaboration Agreements: Illustration of Their Anchor Points



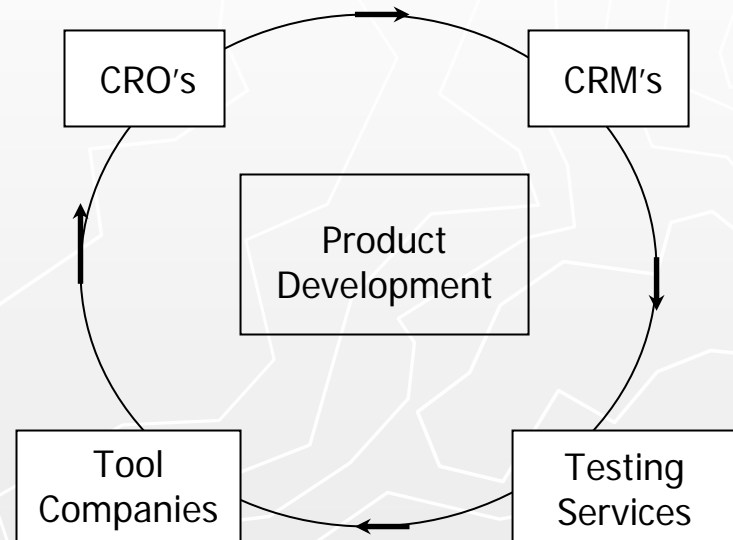
New Business Models Emerge

Then...



One Integrated Company

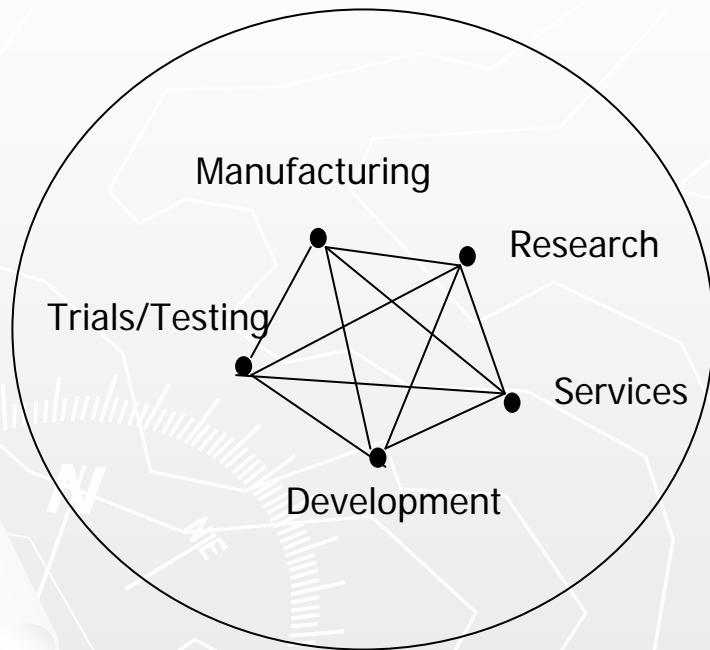
Now...



Many Distributed Companies

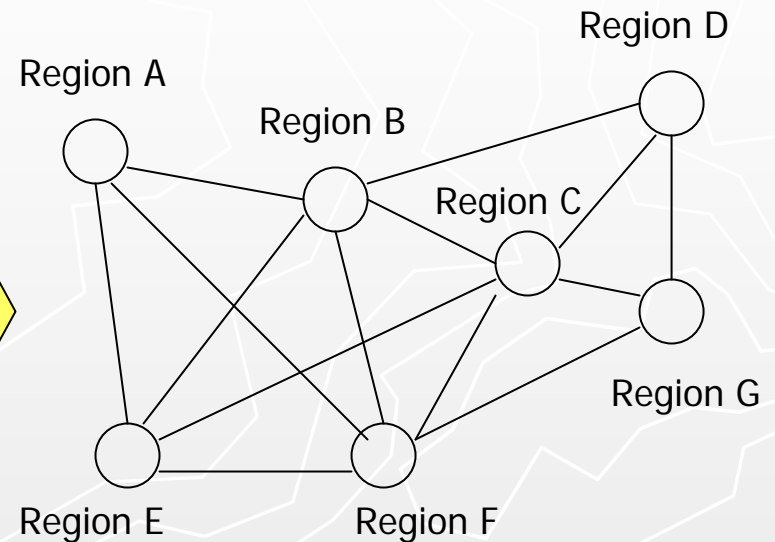
New Regional Model Emerge

Then...



Self-contained regional clusters

Now...

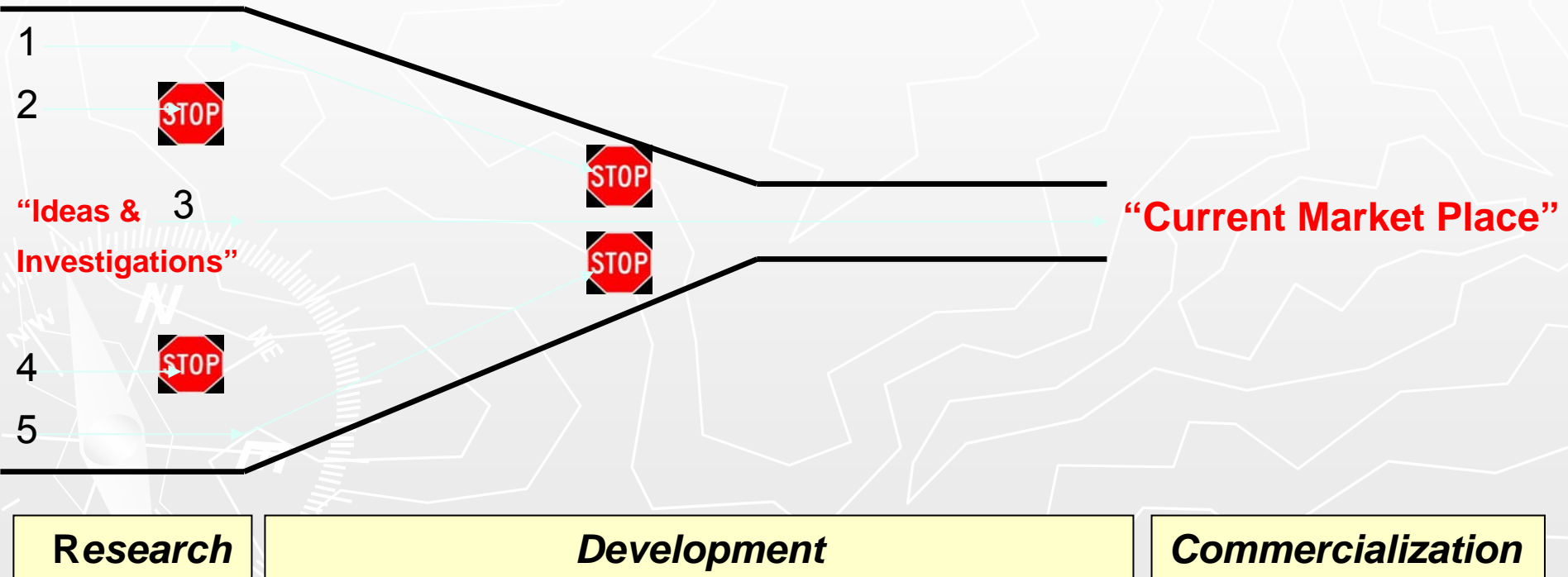


Specialized, networked regions

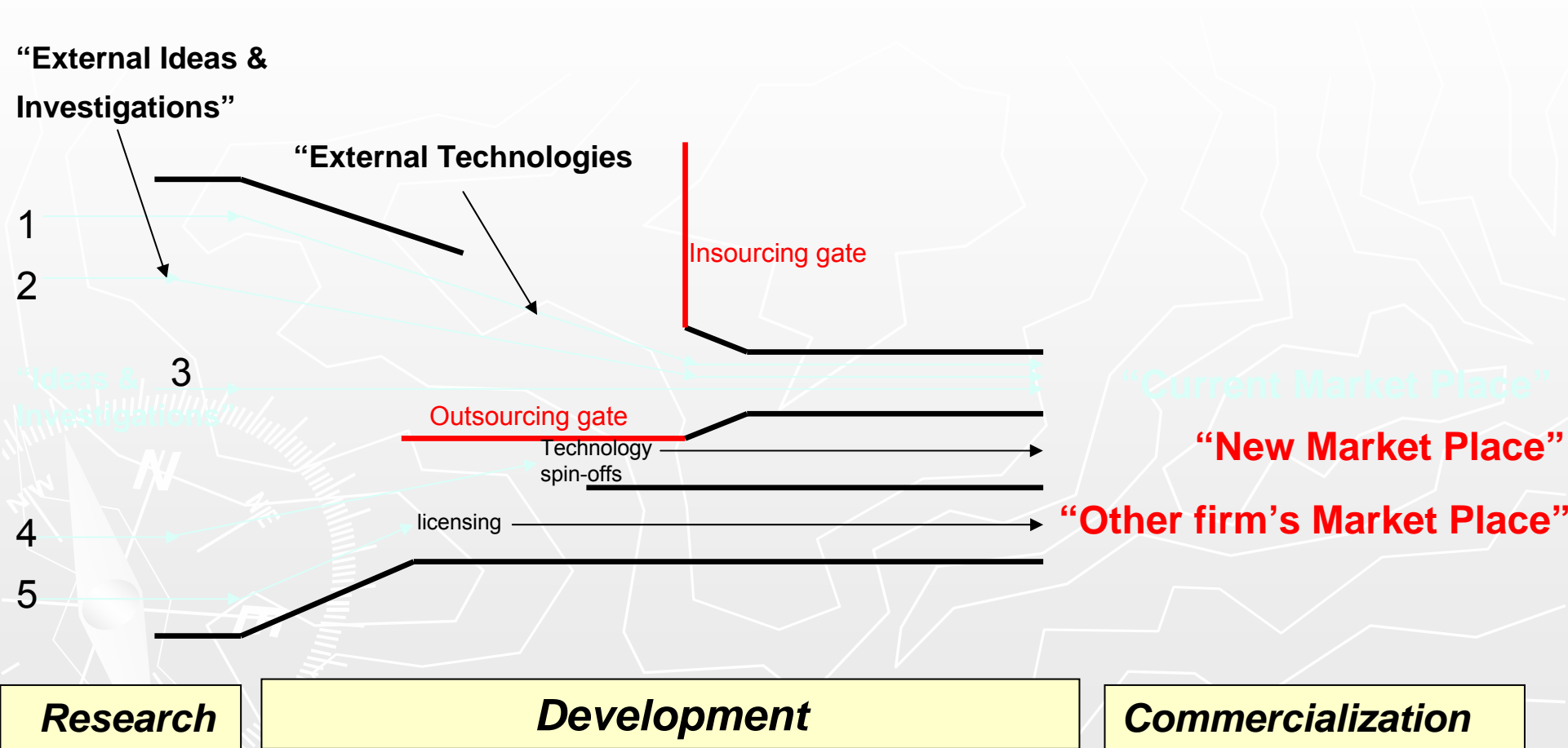
New developments in innovation raises new issues and problems

- ▶ Greater emphasis on **commercializing scientific discoveries**, particularly in IT and the bio-sciences
- ▶ Speed and potential value of scientific progress leads to emphasis on **solid and well-designed portfolios of research projects**
- ▶ Universities as **active** drivers of innovation: Academic entrepreneurship and the entrepreneurial university
- ▶ University-industry partnerships
- ▶ Increased search for **radical innovation** and top-line growth.

'Closed Innovation: Single Track'



'Open Innovation: Three Lane Highway'



Thank you for your attention!

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