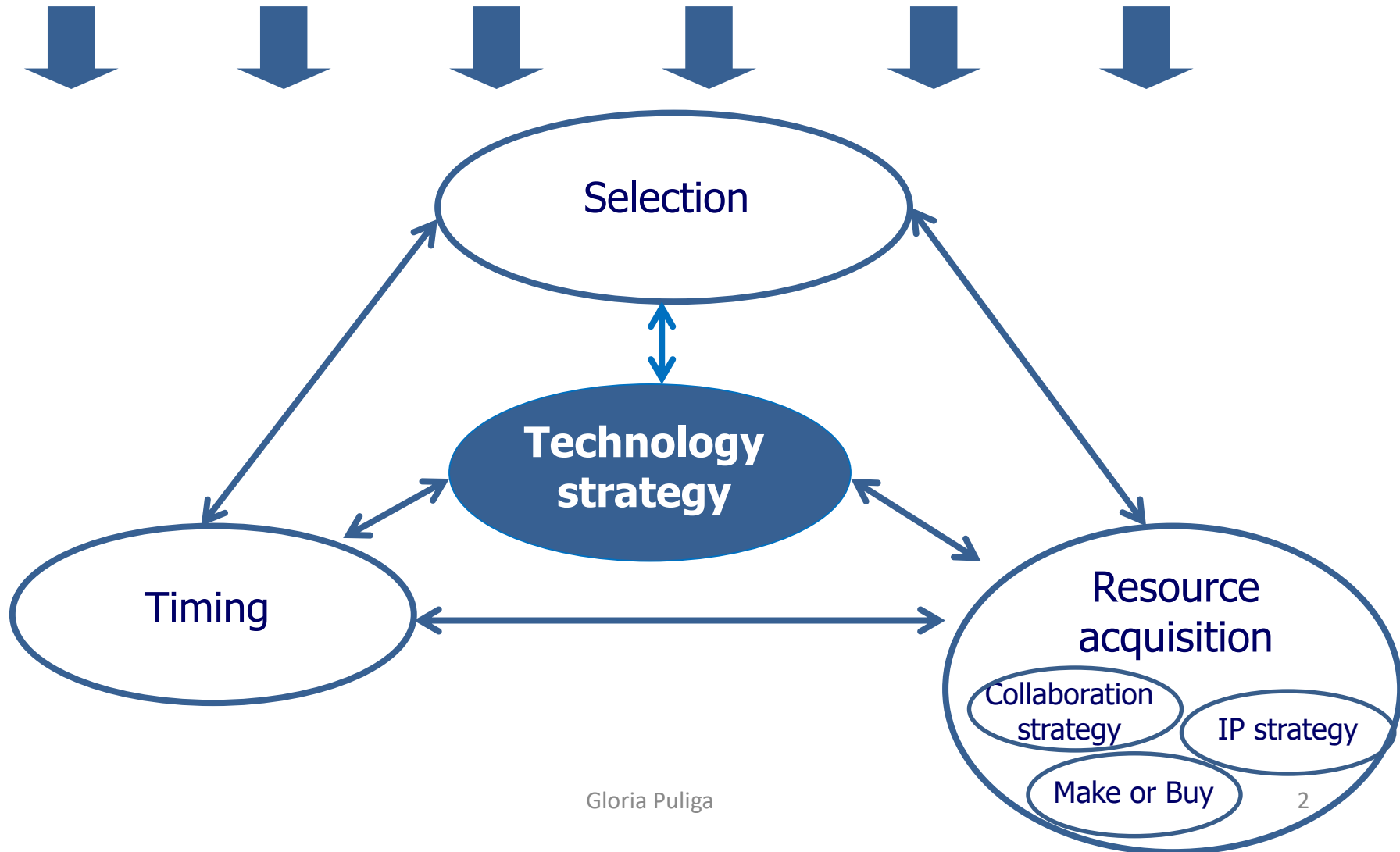


Innovation Management and New Product Development

Technology strategy

Technology strategy

Technology and business intelligence



Technology strategy

- Technology as strategic variable
- Link the technology to the strategy
- Identification of categories of decisions and dimensions

Approaches - Positioning

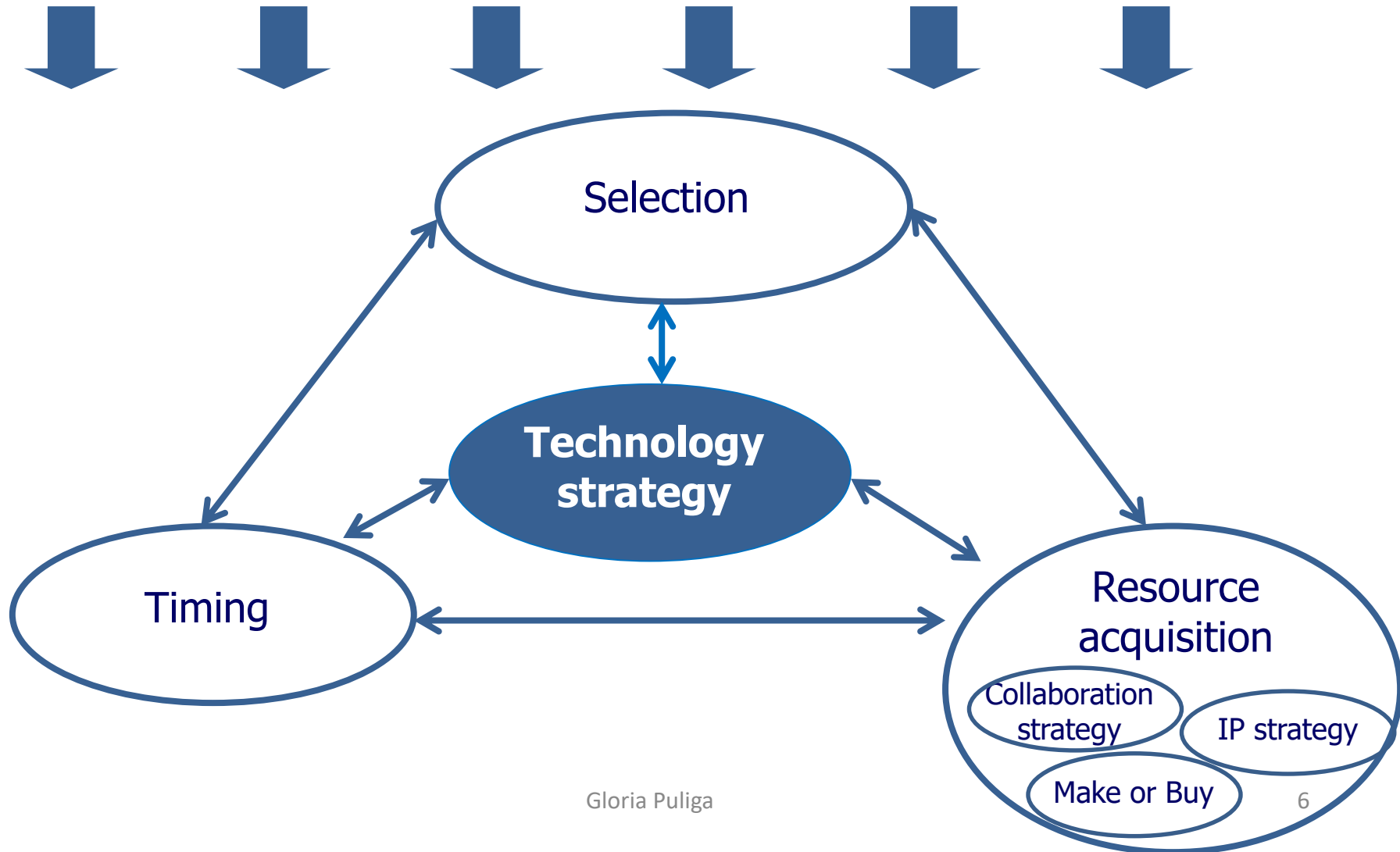
- Porter's Framework (competition & strategy)
- Hax and Majluf's Contribution
- Practitioners' Contributions

Approaches – Resource based

- Prahalad and Hamel's Core Competencies
- D'Aveni Hypercompetition
- Itami and Numagami

Technology strategy

Technology and business intelligence



Technology selection

- Objective: selecting the competencies / technologies that will be the focus of the company's innovation and technological effort
- Selection decisions are based upon the results of the intelligence process
- Concerns the **selection of competencies and technologies, not projects**

Relevant Variables in selection decisions

(1) **Relevance** of the technology, in terms of

- Potential market (% and timing)
- Range of applications
- Value generation (ability of the technology to create value for the customer)

(2) **Risk**

- Technical
- Commercial
- financial

(3) **Others**

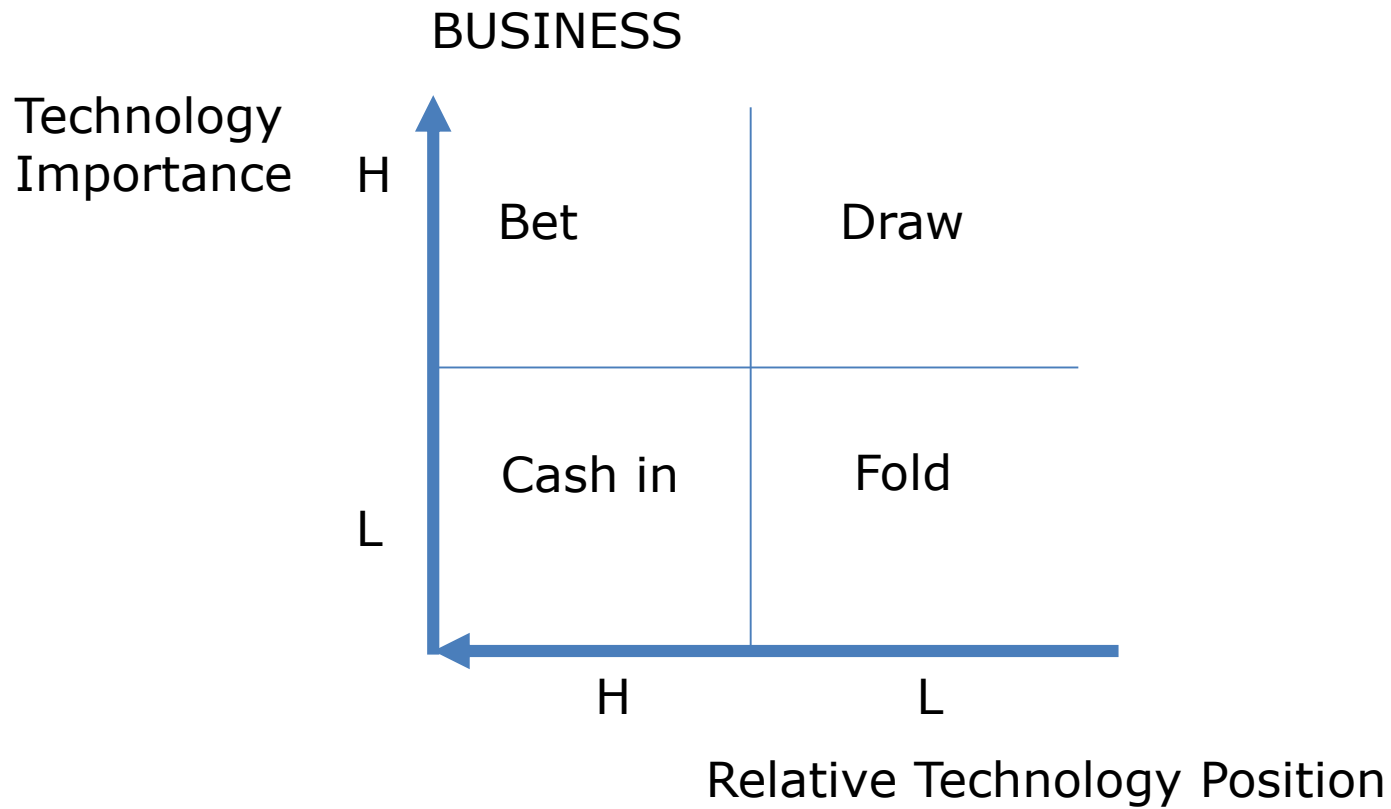
- Appropriability
- Interdependences with other technologies
- Future option generation

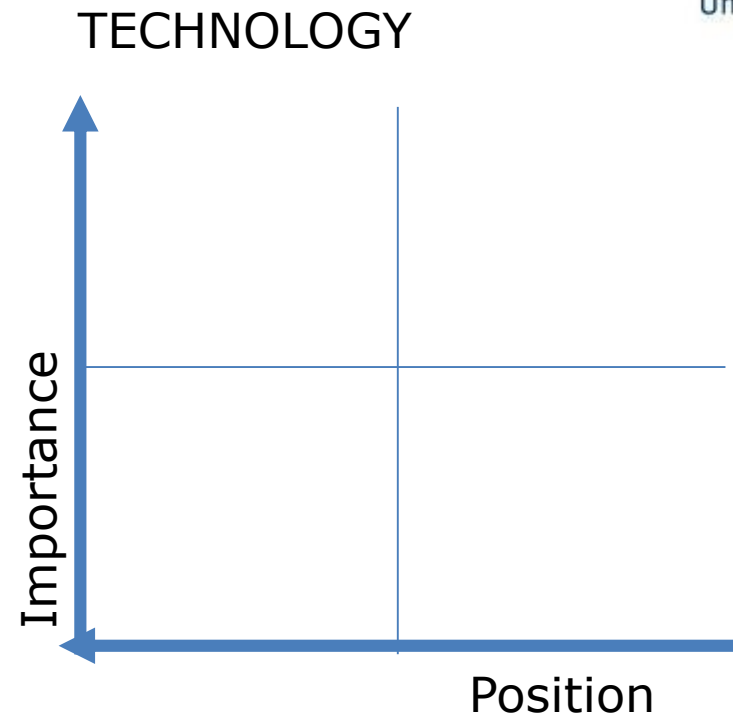
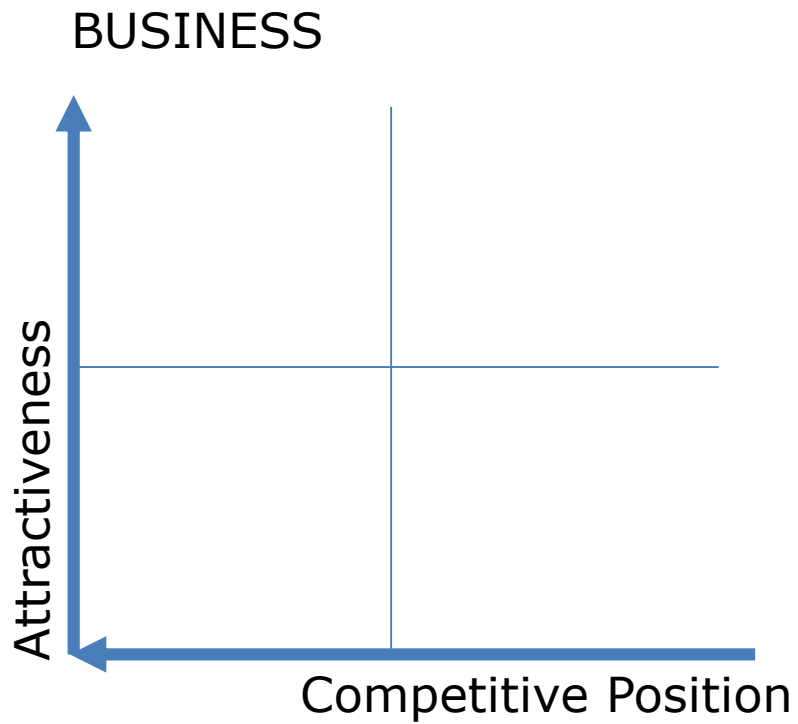
Technology Significance	Level of technology competence				
	Clear Leader	Strong	Favourable	Tenable	Weak
Base					
Key					
Pacing					
Emerging					

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Base					
Key					
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Emerging					

Technology Significance	Level of technology competence				
	Clear Leader	Strong	Favourable	Tenable	Weak
Base	Alarm signal for waste of resources		Industry average	Alarm signal for survival	
Key	Opportunities for present competitive advantage			Alarm signal for present	
Pacing	Opportunities for future competitive advantage			Alarm signal for future	
Emerging					

Technology Significance	Level of technology competence				
	Clear Leader	Strong	Favourable	Tenable	Weak
Base	MAINTAIN			REPAIR	
Key	NURTURE				
Pacing	BUILD			INVEST	
Emerging					





Appropriability

- Appropriability is the possibility to internalize the benefits deriving from an innovation
- High appropriability is related to:
 - Protection by means of Intellectual Property rights
 - Secrecy
 - Tacit knowledge
 - Level of innovativeness
 - Access to complementary assets
 - Product complexity
 - Lead time
 - Learning curves

Timing: Technology Leaders and followers

- **First mover advantages:**

- Reputation and Brand loyalty
- Temporary monopoly
- Switching costs
- Access to distribution channel
- learning
- Access to limited resources
- Definition of standards
- Institutional barriers

- **Follower advantages:**

- Lower costs and risks
- Lower uncertainty
- Better understanding of customers' needs and evolution
- Lower specific investments
- Lower risk against technological discontinuities
- Imitation
- Development of distribution channels

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Timing

- Other elements to be considered in timing decisions are:
 - Relevance of TTM in competition – exploitation of windows of opportunities
 - Time compression diseconomies
 - Profits profile
 - “acceleration trap”
 - Availability of complementary assets and enabling technologies
 - Standard definition
 - Threat of new entrants
 - Technological positioning and evolution of competitors