

Project Appraisal

Chapter 2: Points 1 e 2

**version v01
session 03
28 February 2013**

Summary

Chapter 2 – Investment and Business Strategy

1. Introduction
2. Strategic Process
3. Strategic Analysis
4. Case Studies (VF and Reports)

Strategic Analysis

- Strategic Analysis studies the internal and external context of investment
- Helps to forecast future financial flows
- Helps to estimate the useful life of the project (investment)
- Contributes to analyzing the risk factors associated with Investment

Strategic Analysis

Some Tools

General Tools

- **SWOT Analysis**
- **Porter's Analysis**

Specific Tools:

- **Experience Curve**
- **Product/sector lifecycle**
- **BCG (Boston Consulting Group) Matrix**

ANÁLISE SWOT

(**S**trengths, **W**eaknesses; **O**pportunities; **T**hreats)

- External Environment
 - General
 - Operational (firm/industry-sector)
- Internal Environment
 - Ambiente interno

SWOT - Strengths, Weaknesses; Opportunities; Threats

(example shoes production)

S trengths	W eaknesses
<p>Market</p> <p>International experience</p> <p>Technology (Technological Centers)</p> <p>Easy model copy</p> <p>Flexible productive process</p>	<p>Distribution</p> <p>Short term management</p> <p>No Portuguese brands</p>
O pportunities	T hreats

SWOT - Strengths, Weaknesses; Opportunities; Threats

<p style="text-align: center;">Strengths</p> <p>Market International experience Technology (Technological Centers) Easy model copy Flexible productive process</p>	<p style="text-align: center;">Weaknesses</p> <p>Distribution Short term management No Portuguese brands</p>
<p style="text-align: center;">Opportunities</p> <p>Re-allocation to low cost economies Products with more added value</p>	<p style="text-align: center;">Threats</p> <p>Competition from other countries (costs) Raw materials dependency Raw materials price variations</p>

Strategic Analysis Tools

General Tools

- SWOT Analysis
- Porter Analysis

Specific Tools

- Experience Curve
- Product/Sector Cycle
- BCG (Boston Consulting Group) Matrix

Porter's Analysis

Structural Analysis of Competition

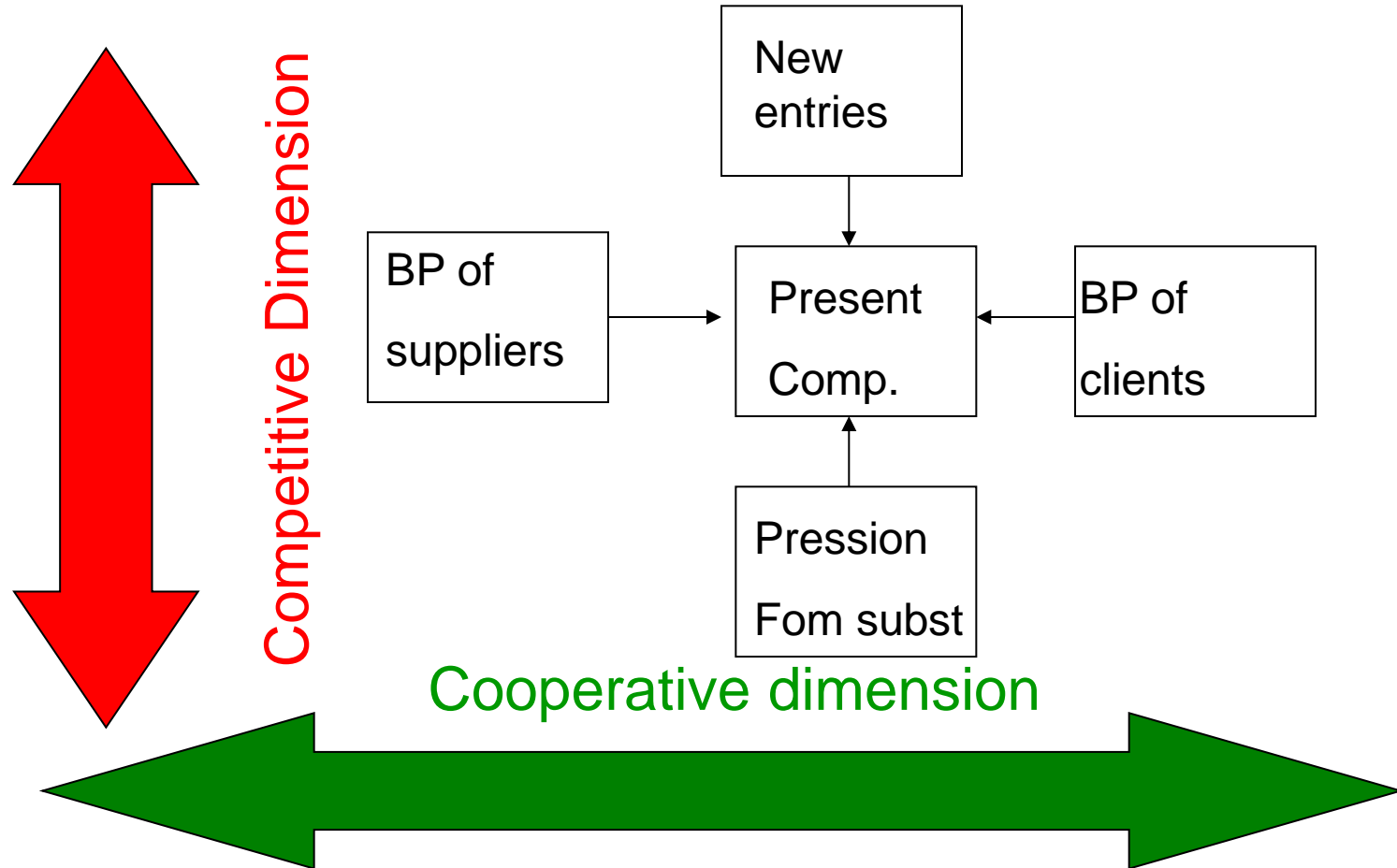
5 threats

- Entrance of new competitors
- Bargaining power of clients
- Bargaining power of suppliers
- Threat of substitute products
- Competition (firms)

Michael Porter

<http://drfd.hbs.edu/fit/public/facultyInfo.do?facInfo=bio&facEmlId=mporter>

Porter's Analysis



Strategic Analysis Tools

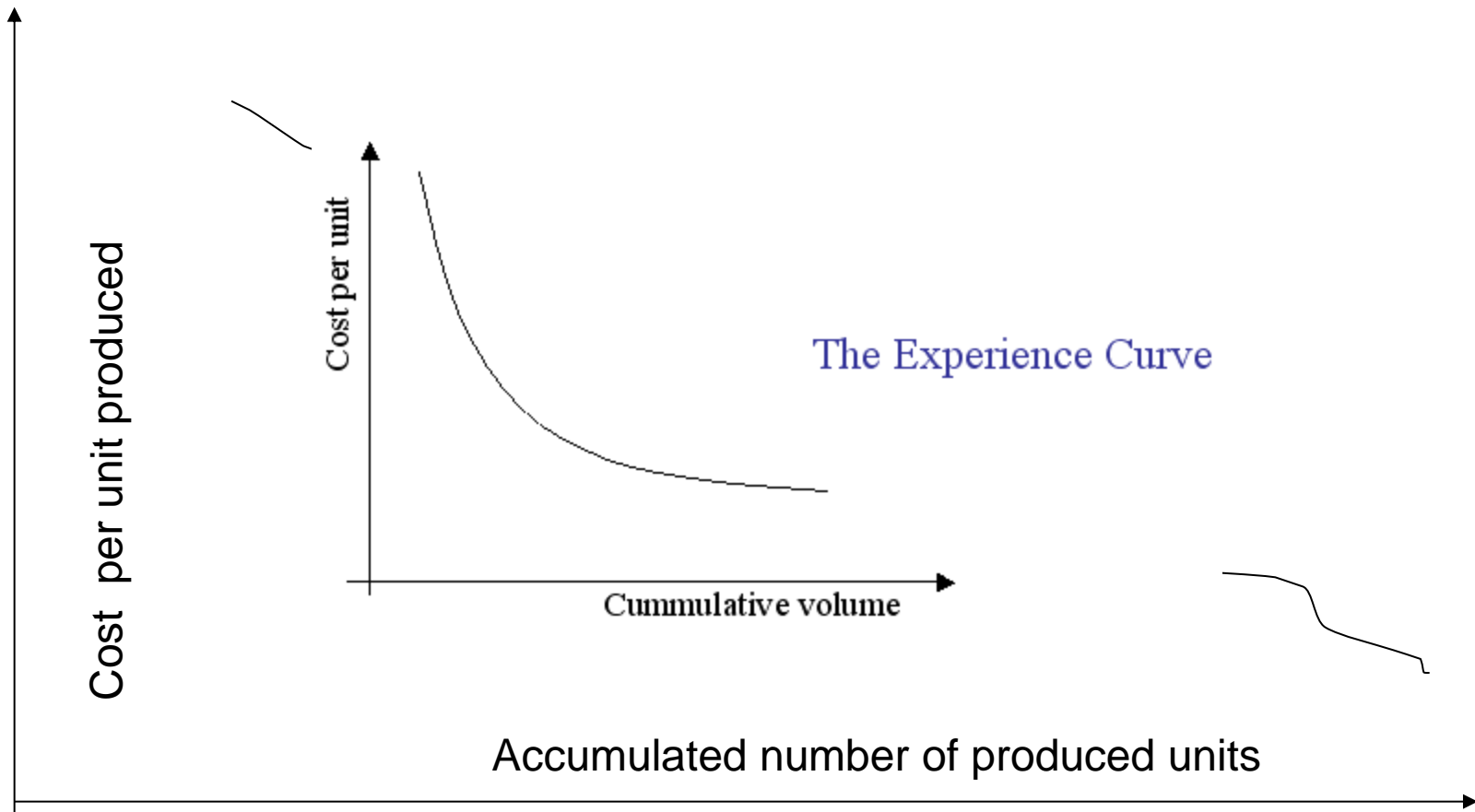
General Tools

- SWOT Analysis
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Specific Tools

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Experience Curve



Strategic Analysis Tools

General Tools

- SWOT Analysis
- Porter Analysis

Specific Tools

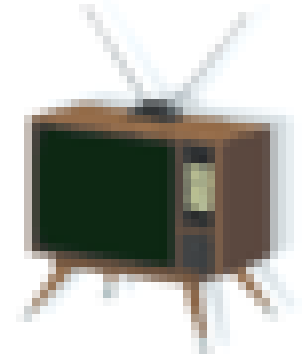
- Experience Curve
- Product/Sector Cycle
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Product Life Cycle

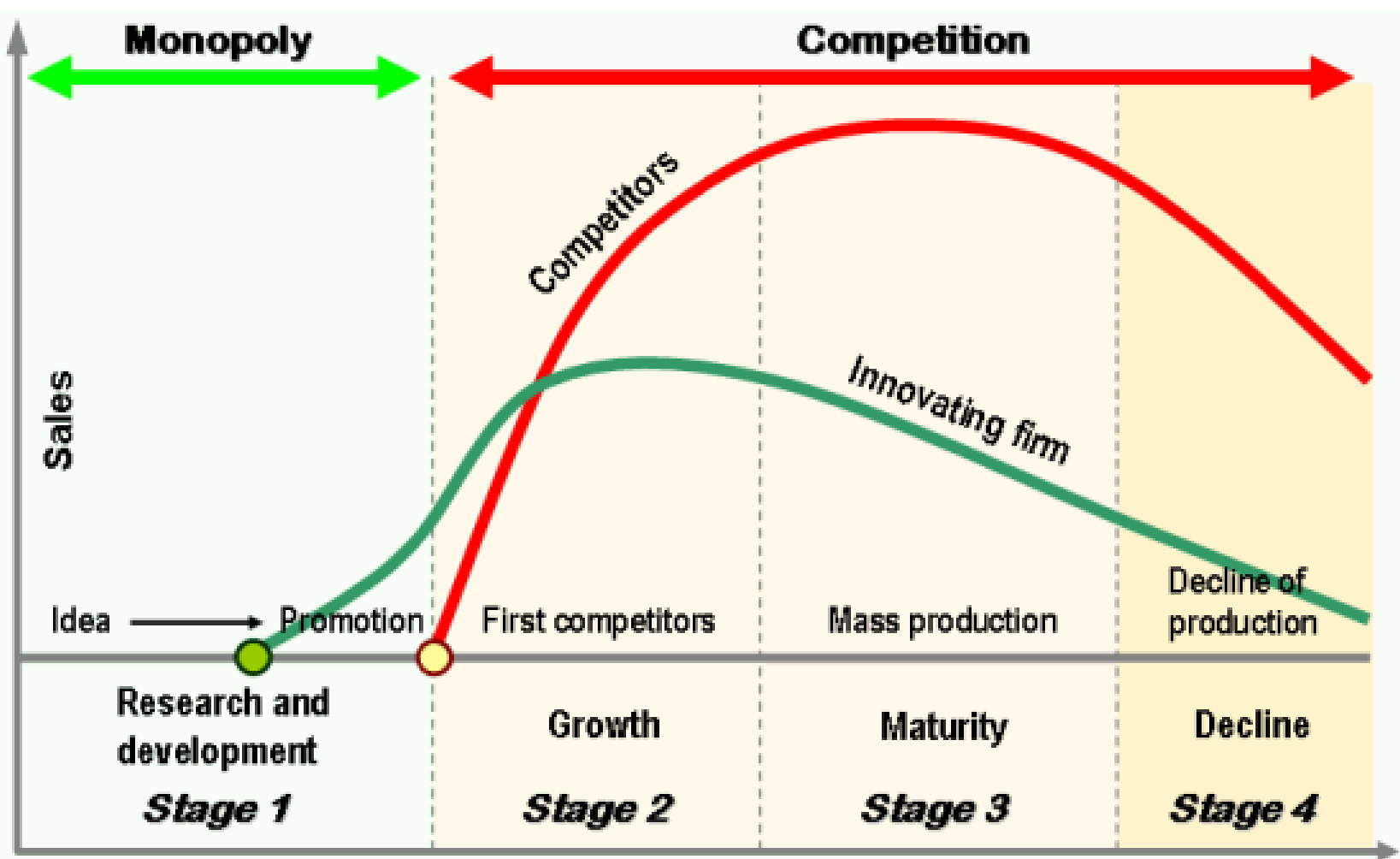
- Introduction
- Growth
- Maturity
- Decrease

Product Life Cycle

B&W TV



- Introduction (novelty)
- growth (increase of sales and competition)
- Maturity (market saturation)
- Decline (abandoned; color TV)



Análise estratégica

alguns instrumentos de análise

Instrumentos gerais:

- Análise SWOT
- Análise Porter

Instrumentos específicos:

- Curva da experiência
- Ciclo de vida do produto/sector
- **Matriz BCG (Boston Consulting Group)**

Strategic Analysis Tools

General Tools

- SWOT Analysis
- Porter Analysis

Specific Tools

- Experience Curve
- Product/Sector Cycle
- **BCG (Boston Consulting Group) Matrix**

BCG Matrix

Products Portfolio

2 criteria: market growth & competitive position

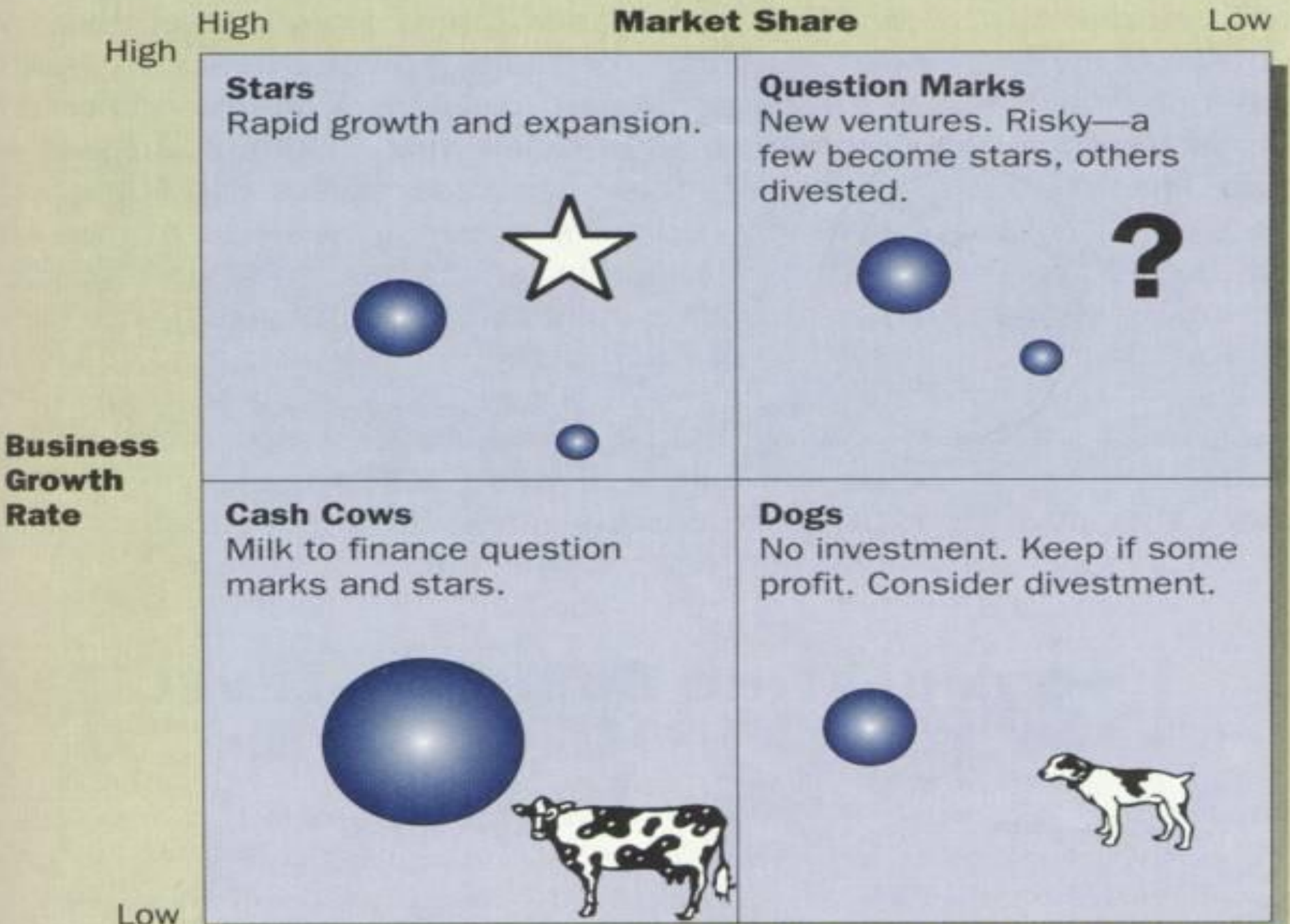
- ✓ Stars
- ✓ Question marks
- ✓ Cash cows
- ✓ Dogs

BCG Matrix



(+)
Growth rate of sector(-)
use of funds

(*) Competitive position(-)
Financial flows



Bubbles represent gross revenues

Duration of a Project

How long the project last?

There are different lifetimes

- working life of the equipment in a **physical** perspective (e.g. the steel is strong and the equipment will last 30 years)

Duration of a Project

How long the project last?

- Lifetime of the equipment in an **accounting** perspective (e.g. depreciation rate is 25% per year , after 4 years the equipment is considered to hold zero accounting value (book value). We can not say worthless because it could be still productive.

Duration of a Project

How long the project last?

- ❑ Lifetime determined by **market acceptance** (e.g. B&W TV is not accepted by the market)

Duration of a Project

How long the project last?

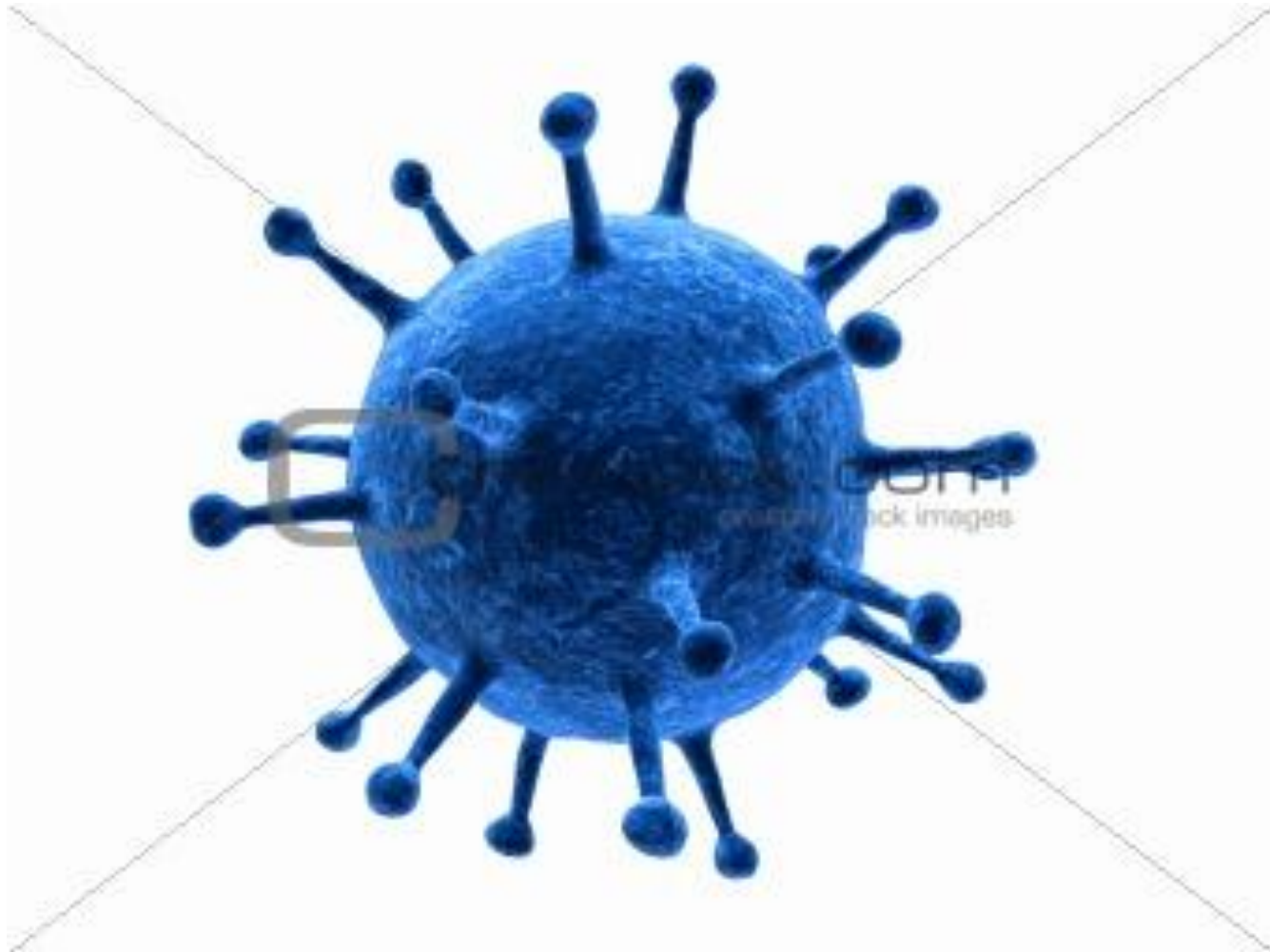
- Lifetime in an **economic perspective** (technological , productivity and costs). The equipment can became obsolete (in economic or technological terms). i.e. there could be market demand for the product, but the firm is no longer able to produce it in competitive conditions.

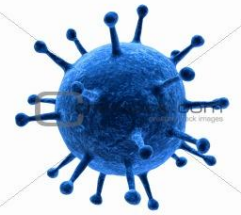
Duration of a Project

How long the project last?

What is 'the true lifetime' of a project?
(project evaluation perspective)

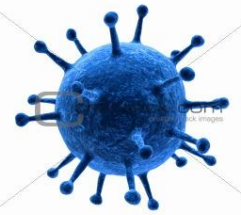
Case Study “Virus Free”





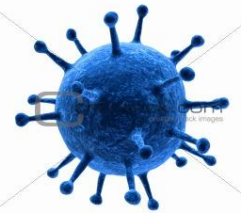
Case Study Virus Free

- 2 researchers (one in Chemistry and the other in Pharmacy) identify a business opportunity
- They plan to do research themselves and create a new product but in the short run they want to produce an anti-virus already under patent and sell it
- There is a new generation of anti-virus with fewer side effects



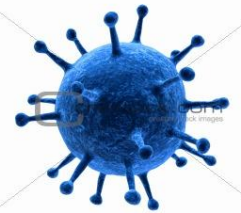
Case Study Virus Free

- The anti-virus market is growing fast
- They consult specific legislation and they will start production next year
- They hire a consultant to produce an investment project and to evaluate the financial viability of the economic project.



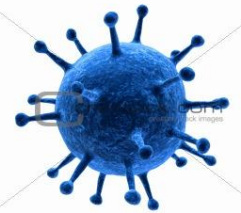
Case Study Virus Free

- Life cycle of the product
 - Each medicine has its own life cycle
 - Has a short development period
 - The full cycle is protected by patents for 7 years (+ 7 years as generic brand)
 - After generics brand the sales of the original medicine will decrease



Case Study Virus Free

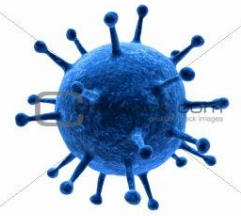
- Laboratory equipment costs 200.000 euros, including installation and testing. To be paid year 0.
- Scientific software has an expected cost of 90,000 euros according the supplier's quote.
- Patent cost is 96,000 euros.



Case Study Virus Free

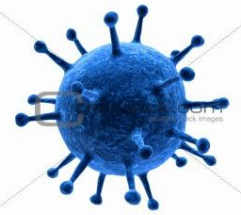
- Depreciation rates per year for the assets are:
 - Building 5%
 - Equipment 10%
 - Intangible assets 33%

[Note that the site (land) is not subject to depreciation (note if it were a quarry the land would depreciate in value)]



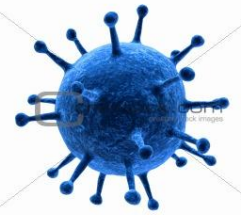
Case Study Virus Free

- Need for working capital
 - Credit conditions obtained from suppliers: payment deadline is one month (this is the conditions in the sector)
 - Credit conditions for clients: on average 3 months of sales
 - Stock period for raw materials is 2 months of the cost of consumed raw materials
 - Stock period for finished goods is 15 days of sales (the time they stay in the warehouse, after being produced and before being sold).



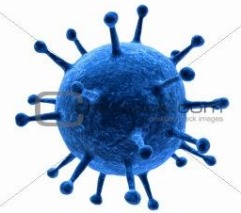
Case Study Virus Free

- Credit outstanding debts 10% of sales during the period.
- The project-firm borrows money from the bank . It takes out a loan which is 70% of the fixed capital (excluding the site-land) and the interest rate is 5%. The capital payment will be done in the 2 last years of the project (the last 80% and the year before the last 20%). The payment will be at the end of each year.
- Tax rate on profits (IRC) is 25%



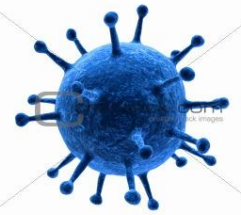
Case Study Virus Free

- Credit outstanding debts 10% of sales during the period.
- Present generation of anti-virus has a lifetime of 5 years (at the beginning of the project)
- The equipment has an expected economic duration higher than 10 years [what is the lifetime of the project?]



Case Study Virus Free

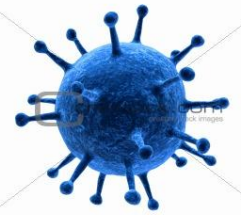
- **What is the lifetime of the project?**
 - The lifetime of this project (Virus Free) is 4 years because year zero ($t=0$) is the year of implementation of the project.



Case Study Virus Free

- During year 0 the unit will not produce
- Cost of creation of the firm 1,000 euros.
- The site (land) where the firm and office will be installed costs 100,000 euros
- The builder provides a quote for the building of 200,000 euros. The deadline for construction is 6 months to be paid upon completion.

SWOT Analysis



Strengths

weaknesses

opportunities

threats