

# What Factors Affect the Portuguese Firms Decision Making on Innovation?

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# What Factors Affect the Portuguese Firms Decision Making on Innovation?

## **Presentation Outline:**

- Rationale
- Research Questions
- Barriers to innovation
- Sources of Innovation
- Methodology
- Results
- Conclusions (Empirical Model)

# What Factors Affect the Portuguese Firms Decision Making on Innovation?

## Rationale:

- There is a very close relationship between finance and innovation (mainly R&D)
- Innovation increases the competitiveness of firms, and of the whole economy
- Innovation is related to risk and uncertainty, thus the process of decision making is very important

# What Factors Affect the Portuguese Firms Decision Making on Innovation?

## Research Questions:

- What factors contribute to the process of decision-making in the Portuguese firms engaging in innovation processes?
- How do Portuguese entrepreneurs appreciate the role of economical and financial ratios in the innovation decision process?
- What are the obstacles to the entrepreneurial innovation process?
- What are the sources of information relevant to the process of decision making regarding innovation?

A. What is the nature of co-operative arrangements for innovation;

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## **Innovation: Barriers**

- The size of firms
- The endowment of productive resources (technological, financial, and human)
- The concept of entrepreneurship among entrepreneurs
- The support of employees within the organisation
- Production requirements and high costs associated to new processes of production.

# What Factors Affect the Portuguese Firms Decision Making on Innovation?

## **Innovation: Barriers (used in the study)**

### Economic Factors

- Perception of excessive economic risks
- High costs of innovation
- Lack of appropriate external funding sources

### - Internal Factors

- Low flexibility of the firm
- Low Lack of specialised labour
- Lack of information (on technology and on the market)

- Other Factors (Regulation norms, Lack of openness of customers to innovation, small market size)

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## **Innovation: Sources (used in the study)**

Internal

External

- customers
- suppliers
- competitors

Other institutions

- Universities and other higher education institutions
- Government laboratories
- R&D centres
- Private or public non-profit organisations
- Other sources of innovation (conferences, exhibitions, consulting firms, professional and scientific congresses)

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## Methodology – Data

Firms applying to the Portuguese Innovation Agency

<b>Industry</b>	Manufacturing
<b>Population</b>	116 firms
<b>Inquired</b>	96 firms
<b>Respondents</b>	36 (Response rate: 37,5%)
<b>Type of questions</b>	Closed questions using a Likert scale.
<b>Method of data collection</b>	Questionnaire sent by mail and by e-mail
<b>Statistical methods</b>	Factorial analysis of principal components; Linear Regression model
<b>Data analysis software</b>	SPSS 16.0



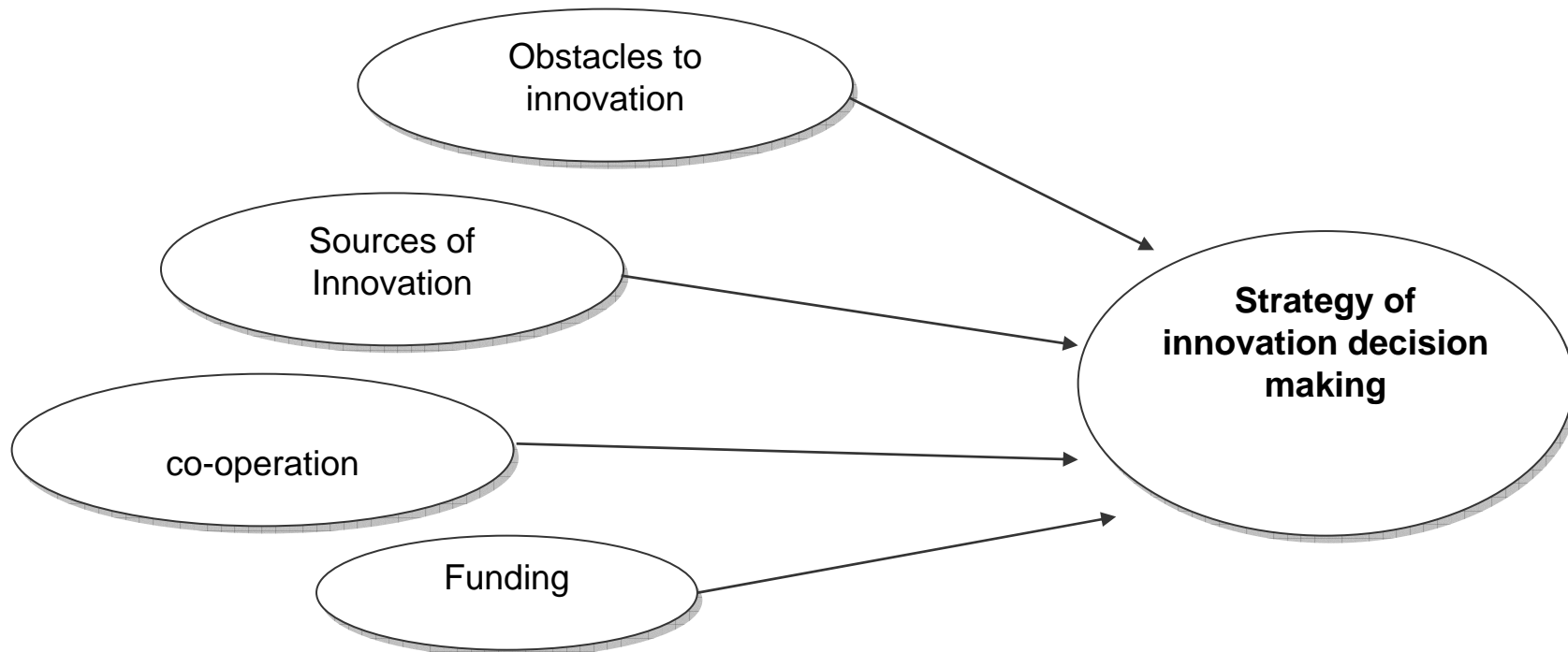
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## Methodology – Characteristics of the sample

Size	%	Region of origin	%
Micro	5,5	Lisboa	25,0
Small	58,3	Porto	36,1
Medium	16,7	Aveiro	25,0
Large	19,5	Leiria	8,3
		Santarém	2,8
		Setúbal	2,8
Sector			
Textiles	2,8	Large retailers	11,1
Chemicals and oil production	22,2	Transports, travelling and tourism	11,1
Equipment machinery	25,0	Telecommunications and post	2,8
Medical equipment	13,9	Other services activities	11,1

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## Research Model:



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## Results:

Strategies in decision making ( $\beta_s$ )			
	Profit and social impact	New markets, Operational costs reduction	New products and staff costs reduction
<i>Obstacles</i>	- 0,317*	----	0,178
<i>Sources</i>	- 0,370**	----	0,355*
External	0,165	----	0,499*
Internal, external and Institutional			
<i>Co-operation</i>	- 0,059	----	0,212
<i>Institutional</i>	0,026	----	-0,599*
<i>Customers and competitors</i>			
<i>Funding</i>	---	----	----
<i>Regional</i>	- 0,613**	----	0,894*
<i>National</i>	0,647**	----	- 0,193
European	0,106	----	- 0,304
Constant			
R(0,931),	0,845	0,362	0,901
R <sup>2</sup> (0,866)	0,616	0,131	0,692
R <sup>2</sup> Adjusted (0,854)	0,569	- 0,087	0,665

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## Results:

	N	Minimum	Maximum	Mean	Std. Deviation
Increase in the range of products	36	,00	11,00	3,1944	2,84675
Entering new markets or increasing the market share	36	,00	9,00	3,5000	2,82337
Improving the quality of products	36	,00	10,00	4,2500	2,80179
Increase the flexibility of production	36	,00	11,00	4,0833	3,49183
Reduction of staff costs	36	,00	11,00	3,5278	3,29056
Reduction of energy costs	36	,00	10,00	4,9444	4,24900
Sales increase	36	,00	11,00	4,0278	2,39626
Decrease in the costs of production of commercialisation	36	,00	11,00	4,9167	3,52440
Profit	36	,00	11,00	5,0278	3,51719
Valid N (listwise)	36				

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## Results

- Three groups of firms, in what regards the motivations for innovation:
  - Group I engages in innovation projects in order to increase profit or to cause a social impact;
  - Group II seeks new markets and to reduce operational costs through innovation;
  - Group III aims at discovering new products and the reduction of employment costs.

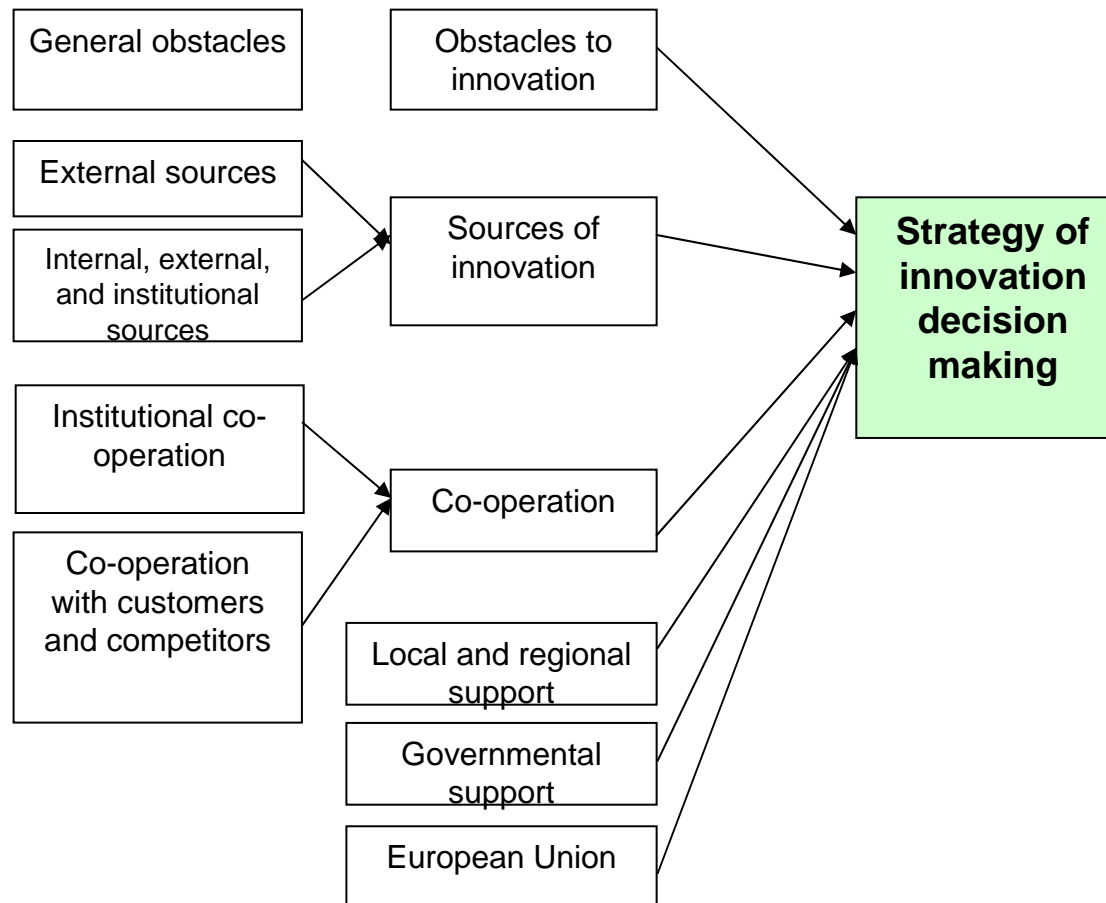
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## Results

- Firms that look at innovation in a profit and social impact perspective are also those who use internal capital to fund innovation. This group recognises little appreciation in external funding.
- Firms that seek new markets and operational costs reduction also prefer to use internal capital to fund their innovation: Preference for EU supporting programmes, rather than national
- Group III sees the reduction of staff costs or the introduction of new products as the ultimate aim of innovation. These firms prefer external of institutional sources of funding to using internal capital. As much as in the previous group, these firms also prefer to fund innovation by accessing to European sources.

# What Factors Affect the Portuguese Firms Decision Making on Innovation?

## Conclusions (Empirical Model):



# Thank you!

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