



# Perspectives on Intellectual Capital and Training Valuation from the Portuguese Hotel Sector



PROGRAMA OPERACIONAL EMPREGO,  
FORMAÇÃO E DESENVOLVIMENTO SOCIAL  
(POEFD)



# IC and Training Valuation in the Portuguese Hotel Sector

In the knowledge economy...

...The two key resources physical and financial (capital employed – CE) and intellectual/human capital (IC/HC) create value through their activities.

...Human Resources, in the knowledge economy, are considered as an asset (generator of future value) in the organization accountancy

... not always the progress of an organization's operating profit corresponds to an equal trend in the value creation

...an organization only creates value if the efficiency of resource utilization has a positive evolution. If this is diminishing, the company is destroying its value added

Ante Pulic, 2002





# IC and Training Valuation in the Portuguese Hotel Sector

## Hyphotesis of research project (\*)

1. There is a significant positive association between Intellectual Capital Efficiency (ICE) and ROI (Profitability)
2. ICE is a kind of a productivity measure, and for this reason there is a very strong association between ICE and the productivity measure
3. The efficiency of IC is associated with high productivity and profitability

(\*) based on the results of «How Do Investments in Intellectual Capital Create Profits?» paper, Kujansivu, Lönnqvist, 2005, Tampere University





# IC and Training Valuation in the Portuguese Hotel Sector



## Description of Research's Objectives

1 - Identify the profile of intellectual capital management in three hotel units that are representative of the portuguese five-star hotel sector	Accomplished
2 - General profiling of intellectual capital measurement systems and evaluation of training impact in business value creation at a national level	Accomplished
3 - Creation of a intellectual capital measurement system in three hotel units that are representative of the portuguese five-star sector – one in Lisbon, one in the Algarve Region and one in the Autonomous Region of Madeira -, taking into account the specific characteristics of each organization	Accomplished
4 - Intellectual capital measurement in each hotel unit and Identify the training practices that are associated to business value creation, in monetary value	In Progress
5 – Creation of an IC Report and Critical Best Practices of Training - guide of intellectual capital measurement systems in the hotel sector, focused in evaluating the impact of training in business value creation.	In Progress





# IC and Training Valuation in the Portuguese Hotel Sector

## Financial Approach

- 1 - Measurement of ICE – the applied intellectual capital efficiency in the process of value creation
- 2 – Measurement of the Human Capital ROI
- 3 – Measurement of Productivity per FTE
- 4 – Training ROI (focus on business critical competencies: hospitality and F&B)
- 5 – Comparison between ICE, HC ROI, Training ROI, Average Room Rate and Value Added

## Intellectual Capital and Critical Learning Culture Report

## Socio-anthropological approach

Identification of training and learning best Practices trough the method of MIT Learning Stories



# IC and Training Valuation in the Portuguese Hotel Sector



## Methodology

Financial approach Step n°1:

Calculation of Intellectual Capital Efficiency (ICE)\*

**Intellectual Capital Efficiency (ICE = EHC + ESC):** indicates the value creation efficiency of the organization's intellectual resources. It expresses the intellectual ability of a company, regional or national economy.

*\*Concept created by Ante Pulic, University of Graz (Austria), based in the work of Leif Edvinsson*



# IC and Training Valuation in the Portuguese Hotel Sector



## ICE key concepts

1. By transferring the resource IC (with its subcomponents, human and structural capital) from profit and loss account, where it is treated as cost to the balance sheet, where it is treated as a resource. Employees, the key value-creating factor in knowledge economy, become an acknowledged resource in accounting terms.
2. This change permits the isolation of Value Added in the Profit&Loss Account, giving a way of measuring the Value Creation in the regular accounting
3. Value Added is the reference for measuring the efficiency of the applied resources
4. By measuring the efficiency of the applied structural and human resources, we have the Intellectual Capital Efficiency



# IC and Training Valuation in the Portuguese Hotel Sector



## Indicators for the ECI calculation

### Value Added:

$$VA = \text{Operating Profits} + \text{Amortizations} + \text{Depreciations} + \text{Personnel Costs}$$

**Human Capital (HC):** overall employee expenses (salaries, education, training); In this analysis considered na investment, not cost, and thus not substantial part of INPUT any more.

**Structural Capital (SC):** result of Human Capital's past performance (organisation, licences, patents, image, standards, relationship with customers).

$$\text{SC equation: } SC = VA - HC$$







# IC and Training Valuation in the Portuguese Hotel Sector



## ICE Calculation for the years 2002, 2003, 2004

**Human Capital Efficiency (HCE=VA/HC):** indicator which shows how much VA is created on each monetary unit invested in HC.

**Structural Capital Efficiency (SCE=SC/VA):** indicator that shows the share of SC in value creation.

**Intellectual Capital Efficiency (ICE=HCE+SCE):** Indicator which shows how efficiently IC has created value.





# IC and Training Valuation in the Portuguese Hotel Sector



Financial approach Research Step n° 2:

Profitability of Human Capital

Human Capital (HC) ROI calculation

$$\text{HC ROI} = \frac{\text{Revenue} - \text{HC (Personnel Costs)}}{\text{HC}}$$





# IC and Training Valuation in the Portuguese Hotel Sector



Financial approach Research step n° 3:

Calculation of Productivity per FTE =

**Value Added**

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**FTE**



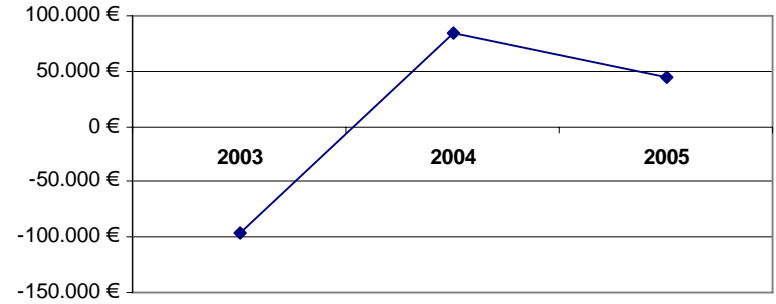


# Primary Results Hotel Lisboa

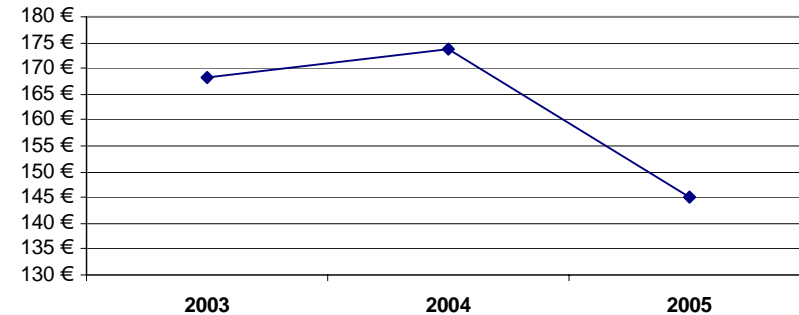
Hotel Lisboa - ICE vs HC ROI



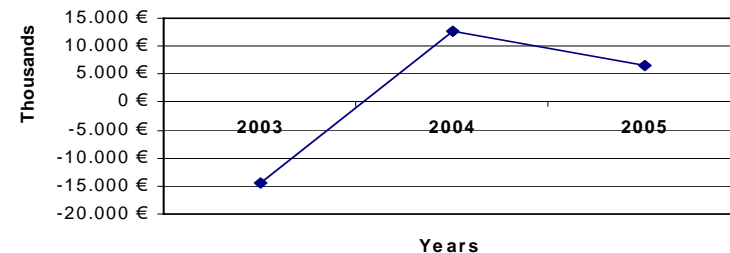
Hotel Lisboa - Productivity



Hotel Lisboa - Average Room Rate (Profitability)



Hotel Lisboa - Value Added



• There is a strong correlation of ICE, HC ROI, Productivity and ARR performance

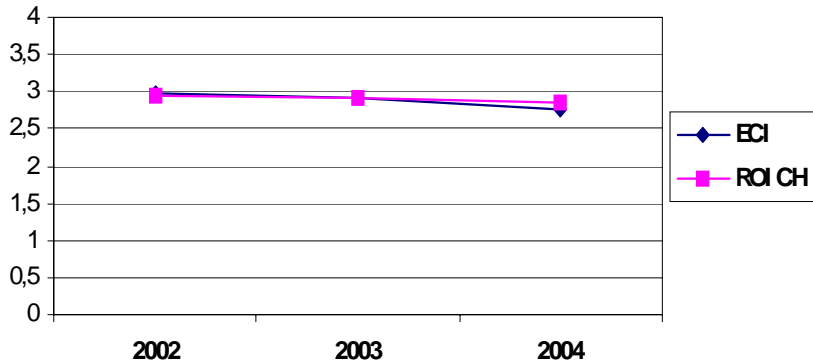
• We can assume that ICE strongly influences the value creation performance in Hotel Lisboa

• The next step is finding out what training practices are the most adequate to improve ICE and financial performance

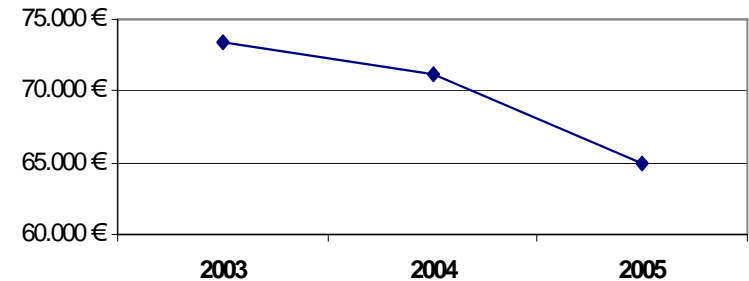


# Primary Results Hotel Madeira

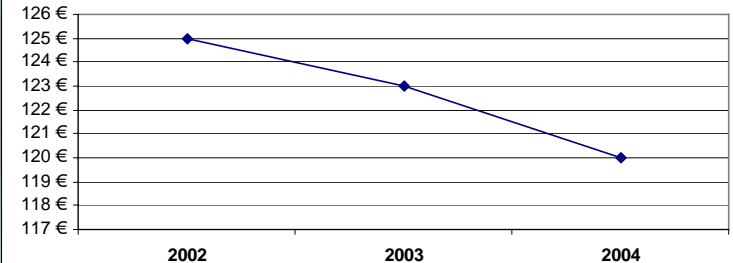
Hotel Madeira - ICE vs HCROI



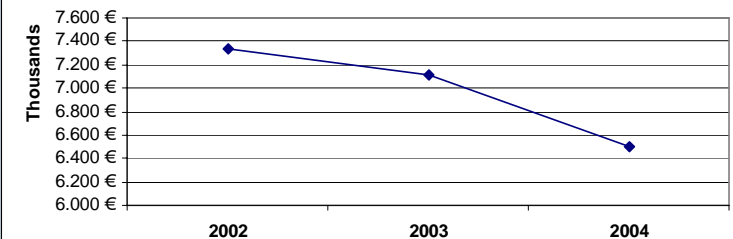
Hotel Madeira - Productivity



Hotel Madeira - Average Room Rate (Profitability)



Hotel Madeira - Value Added

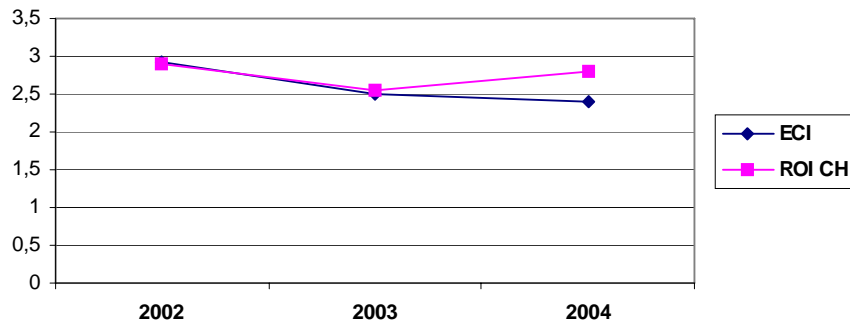


- There is a strong correlation of ICE, HC ROI, Productivity and ARR performance
- We can assume that ICE strongly influences the value creation performance in Madeira
- The next step is finding out what training practices are the most adequate to improve ICE and financial performance



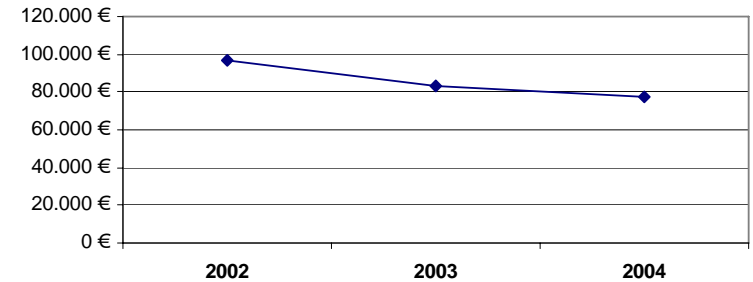
# Primary Results Hotel Algarve

Hotel Algarve - ICE vs HC ROI

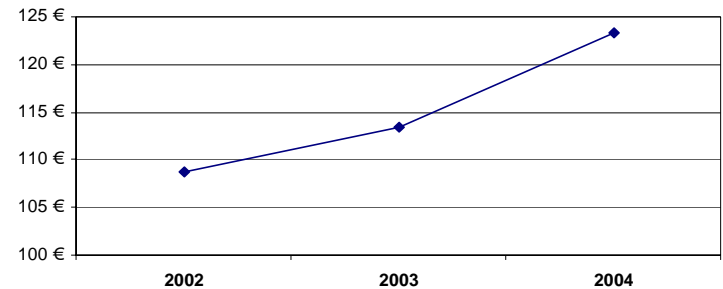


- There is a significant correlation between ICE and HC ROI until 2003 – but in 2004 we notice a slight divergence
- ICE, Productivity and VA revele the same pattern of behaviour
- ICE, VA and Profitability (HC ROI (in part) and ARR) don't revele any association
- We can assume that financial performance doesn't derive from IC – the business suatainability maybe under threat
- The next step is finding out what training practices are the most adequate to improve ICE performance

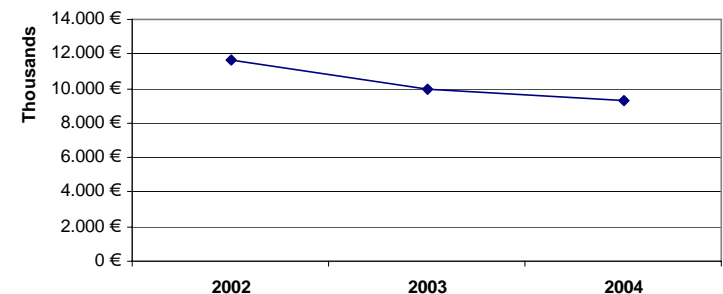
Hotel Algarve - Productivity



Hotel Algarve - Average Room Rate



Hotel Algarve - Value Added





# IC and Training Valuation in the Portuguese Hotel Sector

Financial approach Research step n° 4:

Calculation ROI of Training (focus on business critical competencies) for the years 2002, 2003, 2004

Measurement ROI of Training for the years 2002, 2003 and 2004, but only for those focused in the enforcing of business critical competencies (like sales or client service, for example)





# IC and Training Valuation in the Portuguese Hotel Sector



## Method for ROI of Training calculation:

- 1 – Identify the training program benefits (sales increase, client satisfaction, etc.)
- 2 – Convert those benefits in monetary value (€)
- 3 – Sum of the training program costs
- 4 - Compare the monetary benefits against the program costs







# IC and Training Valuation in the Portuguese Hotel Sector



ROI of Training =

Training Net Benefits € (\*)  
----- x100

Training Costs €

*(\*) Training Benefits – Training Costs*





# IC and Training Valuation in the Portuguese Hotel Sector



3 – Comparison of ICE, HC ROI, Productivity and ROI of Training values for...

...identifying an estimate of training impact in business value creation

**Example:** if the ICE trend is a rising one, but training ROI is low, we can interpret that though the application of intellectual capital is in well shape, that should not be related to the training given to the employees





# IC and Training Valuation in the Portuguese Hotel Sector



Research Step n° 5: sociological and anthropological approach

## Identification of Training Best Practices

1. Questionnaire applied to managers and employees of the hotel units
2. Interviews with the hotel managers using the Learning Story method of MIT in order to register the learning culture that creates IC and Value





# IC and Training Valuation in the Portuguese Hotel Sector



**Final Product:**

**Intellectual Capital and Critical Training Culture Report - a Best Practices IC and Training Investment Guide**

With all the data and information collected and treated, create a scorecard board that can be used as a management tool for training and intellectual capital of hotel units





# IC and Training Valuation in the Portuguese Hotel Sector



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