METHOD FOR DESIGNING SUSTAINABLE BUSINESS MODELS FOR CERAMIC TILES MANUFACTURERS BASED ON LIFE CYCLE APPROACH

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1. PROJECT OVERVIEW

Coordinating Beneficiary:

GresMalt (Group Malt)

Expertise in the industrial production of ceramic tiles, among, the main Italian manufacturers (Top 10).

Associated Beneficiary:

UNIMORE

Expertise in ceramic materials science and technology and impact assessment methods.

Associated Beneficiary:

Universidad Rey Juan Carlos

Expertise in business science, competitive strategy and organization design.

Consultants Partners:

With the contribution of the LIFE financial instrument of the European Community.
Project Duration: October 2017 – September 2020
2. PROJECT BACKGROUND

- 193 GOVERNMENTS
- 17 SDGs
- 169 TARGETS
- Over 240 INDICATORS

ACTION PROGRAM for people, planet and prosperity signed in September 2015 by the governments of the UN
One of the biggest challenges for European industry is to introduce sustainability principles into business models.

The present state of knowledge lacks a comprehensive operational tool for industry to support decision-making processes geared towards sustainability.

This is particularly important in raw material and energy intensive manufacturing sectors such as the Italian ceramic district of Sassuolo.

Industrial districts (ID) are the structures where the interaction between territories and companies in the supply chain is best observed.

However, in the analysis of ID, the relationship between companies and their local context has long lacked a fundamental dimension in the logic of sustainability.
4. PAPER OBJECTIVE

GENERAL PROJECT GOALS

1. To integrate all three pillars of sustainability (environment, economy and society) into the company's business model.

2. To transform impact assessments from static actions carried out on final results (looking back, e.g. from the previous year), to an analysis performed moment by moment (looking ahead) in a dynamic way.

PAPER SPECIFIC

✓ NEW INSIGHTS FROM BM & LSCA

✓ LOOK INTO DINAMYC MODEL

RESEARCH QUESTION

How to practically integrate the principles of sustainability into management practice and thus adapt the business model to this new vision.
5. THEORETICAL BACKGROUND: THE TOOLS

INDUSTRIAL DISTRICT CONCEPT
5. THEORETICAL BACKGROUND: THE TOOLS

**LCSA FRAMEWORK**

![LCSA Diagram]

**LCSA** = **LCA** + **LCC** + **S-LCA**

- A key tool in achieving quality & sustainability
- Focused in **implementation** & **control**

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**ISO 14040**
**ISO 14044**
**ISO 15686**
Guidelines
5. THEORETICAL BACKGROUND: THE TOOLS

- new unit of analysis
- different forms of value (economic or social)
- A key tool in achieving better performance
- Focused in formulation

BUSINESS MODEL (BM)

- VALUE PROPOSITION
- VALUE CAPTURE
- new unit of analysis
6. METHOD & CONTEXT

**Firm**

**Micro Level**

**Innovative Approach**

**Change of Analysis Unit**

**Micro/Meso**

**Method**

**Exploratory Conceptual Research**

**Documentary sources of information from aggregate sectorial data**

**Sassuolo Ceramic District**

**District**

**Meso Level**
6. METHOD & CONTEXT

- NETWORK: **79 firms** of manufacture ceramic tiles.
- CERAMIC TILES produced: **341 million m²**.
- TURNOVER: **5.4 billion euros**.
- EMPLOYEES: **19,000**
- AREA: **2 Provinces, 10 municipalities**.
- POPULATION: more than **120,000**

Glazed porcelainized stoneware PROCESS

- Raw materials
- Milling
- Spray drying
- Glaze preparation
- Pressing
- Drying
- Glazing
- Firing
- Glaze stoneware

2016
THE TOOLS: LCA

Clustering of the productive units of the district

Resources extraction and refining

Manufacturing

Packaging and distribution

Transport

Use

Recycling and End of Life

Carbon footprint

Water footprint

Ecosystems

Resources

Health

DISTRICT

MESO LEVEL

Firm 1

Firm 2

Firm 3...

Firm n°

MICRO LEVEL

Firm 1

Firm 2

Firm 3...

Firm n°
THE TOOLS: LCC

DISTRICT

Firm 1
Firm 2
Firm 3...
Firm n°

MICRO LEVEL

MESO LEVEL

Clustering of the productive units of the district

Purchasing
Operating
Operating
Operating
Maintaining
End-of-life

Resources extraction and refining

Use
Transport
Packaging and distribution
Manufacturing

Recycling and End of Life

CO2
Water footprint
Ecosystems
Resources
Health

Firm 1
Firm 2
Firm 3...
Firm n°

COST OF EXTERNALITIES

Firm 1
Firm 2
Firm 3...
Firm n°

MESO LEVEL

MICRO LEVEL
THE TOOLS: S-LCA

REFERENCES:

- AA1000 standard
8. PROJECT EXPECTED OUTCOMES

LCSA = LCA + LCC + S-LCA

- Spreadsheets for the dynamic evaluation of sustainability
- Multi-criteria analysis
- SBM

- Sustainability divide of at least 10%
- Environmental impacts of the ceramic district

- Design a sustainable business plans
- Sustainability into company practice
Sustainable Business Models (SBMs)

Complementary frameworks for business strategy

7. CONCLUSIONS & IMPLICATIONS

MANAGEMENT

different forms of value
(economic or social)

INDUSTRIAL

LCSA

Decision-making oriented

Create & Capture VALUE

Sustainability

Broader perspective (life cycle)

BM
7. CONCLUSIONS & IMPLICATIONS

Sustainable Business Models (SBMs)

Complementary frameworks for business strategy

- Extends the definition of the business model to the whole life of the product in a circular vein.
- Enable sustainability to become a source of competitive advantage.
- Link in a better way the different elements of LCSA.
- Creating and capturing value compared to the analysis of classic environmental impacts and costs.
8. FUTURE LINES

1. Redefining the LCSA by the integration of its traditional elements, specially the social and economic components
2. The implementation of a dynamic and integrative decision support tool
3. Application to other industries
Thank you for your attention!