

NEW BUSINESS MODELS FOR THE SPANISH CERAMIC SECTOR

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ABSTRACT

The AEI (Association of Innovative Enterprises) in the Ceramic Tile sector represents one of the most innovative sectors in Spanish industry. This paper forms part of a project called "Innovation-oriented Competitive Intelligence in the AEI of the Ceramic Tile sector", which has been designed to explore lines of future innovation for the Spanish ceramic sector from a qualitative and quantitative perspective through consultation with experts, as well as to identify changes in the business model that could lead to disruptive innovations in the sector.

The Ceramic Tile sector's AEI (Association of Innovative Enterprises) started with 40 member companies, as well as the Institute of Ceramic Technology. It represents one of the most innovative sectors in Spanish industry and draws on the strength of a cluster that was forged in the eighteenth century. In a natural way, favoured by contextual circumstances, Spanish ceramic companies have built up a prosperous tradition of collaboration, technological development and know-how that spans more than two centuries.

This paper forms part of the project entitled "Innovation-oriented Competitive Intelligence in the AEI of the Ceramic Tile Sector", conducted by ASCER and ITC with funding from the Spanish Ministry of Industry, Energy, and Tourism and the European Regional Development Fund (ERDF).

It presents the results of qualitative and quantitative research focused on identifying future lines of innovation for the Spanish ceramic sector. The project consisted of consulting more than 70 experts across the industry, as well as drawing up a paper on design, technology, markets, and the consumer, which is presented below.

A second part of this project involved analysing the traditional business model employed by the ceramic tile industry. This research has served as a basis for proposing new business models or specific innovations in production processes, product design and management throughout the sector based on the logging of success stories in international ceramic tile companies and companies in related sectors.

1. WORK METHOD

The research was conducted through a mixed approach of qualitative and quantitative methods that included technical documentation, personal interviews, panels of experts and on-line surveys.

- PHASE I: Designing the structure

The first phase consisted of three initial tasks that were necessary for the execution of the rest of the project:

- a. Creating work groups
- b. Detecting knowledge and information needs for the ceramic industry
- c. Developing a research methodology

- PHASE II: Detection of lines of innovation for the ceramic cluster

The objective of phase II was to find the best way of putting the knowledge generated in phase I to use to serve the ceramic sector. This phase was carried out by staging team meetings of experts, who over various sessions proposed possible lines of future innovation in the sector taking into account factors such as new technological developments, new management disciplines, changes in the global economy, changes in lifestyle, etc.

Furthermore, all the results were rated through on-line surveys by more than 60 professionals from the ceramic sector.

- PHASE III: Researching trends

The central aim of this phase was to produce reports based on the lessons learned in phase 1 of the major trends that may have an impact on the ceramic cluster. Four lines were treated separately before subsequently being interrelated within the same phase.

- Habitat and ceramics
- Communications and marketing
- The Consumer
- Technology innovations
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- PHASE IV: Validation of results

The entire cluster of companies in the AEI was invited to share the results through personal interviews with leading experts.

- PHASE V: Analysis of the traditional business model

A panel of experts was called in for this purpose, to complete the data collected previously through on-line consultation.

- PHASE VI: Exploring innovations in the business model

This sixth phase was carried out by means of a creative method developed ad hoc for the project. It consisted of staging a workshop in which people from the sector with varying professional profiles took part.

2. LINES OF INNOVATION FOR THE CERAMIC SECTOR

During the second phase, a consultation process was held in which experts from the ceramic sector – from both the organizations involved in the project and other companies in the sector – discussed the issues of greatest relevance for the ceramic industry in the coming years. The aim was to develop a list of ideas that could serve as the seed with which to grow innovative projects in the areas of product design, technology, consumer marketing, and distribution. Furthermore, the results were validated by electronic consultation of over 60 professionals from the sector.

2.1 SAMPLE SET

The electronic survey of professionals from the sector served as a tool to validate the results, as well as providing assessment on each of the ideas. Thus, the experts' view was cross-checked against the profession's opinion to reach consensus on the most relevant issues to be developed. Those issues were taken on board for the research phase, which is presented in the next chapter. Respondents were asked to rate each of the ideas from 1 to 10 for its relevance to the future development of the ceramic industry. The results show the average rating and the frequency of responses.

A total of 63 people related with the ceramic industry responded to the electronic survey. Nearly all respondents work actively or closely in relation with the ceramic sector and almost 70% of the sample set hold positions of responsibility within their companies. The main features of the profiles consulted are:

- The vast majority of respondents, over 90%, work or have previously worked in the ceramic sector (Figure 1).
- With regard to the type of company they operate in, almost half indicated tile manufacturing, although 46% work in other sectors, such as consulting, education in ceramic training cycles, design, suppliers to the industry, architecture or related areas such as bathroom and kitchen outfitters (Figure 2).
- As far as the department where they work is concerned, over 75% of respondents work in management, R&D, or design departments (Figure 3).
- With regard to actual job positions, most respondents hold positions of responsibility such as area managers, area directors, and managing directors. (Figure 4).

Percentage of respondents that work in the ceramic sector

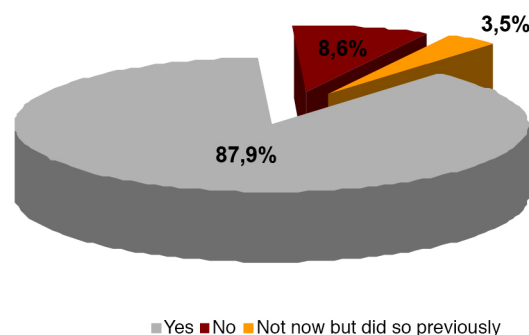


Figure 1. Source: Authors. ITC-ASCER.

Type of company where respondents work

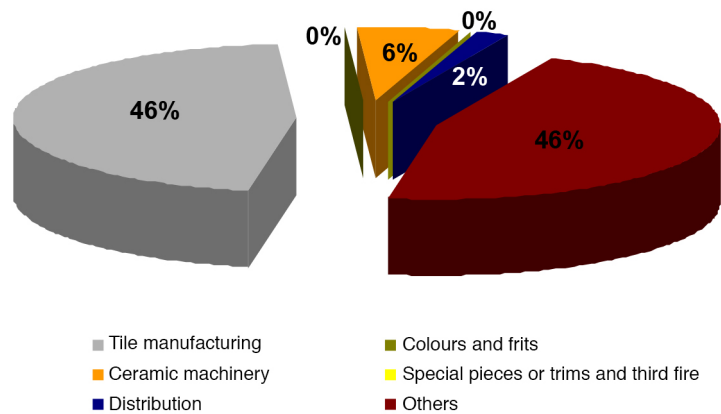


Figure 2. Source: Authors. ITC-ASCER.

Department where respondents work

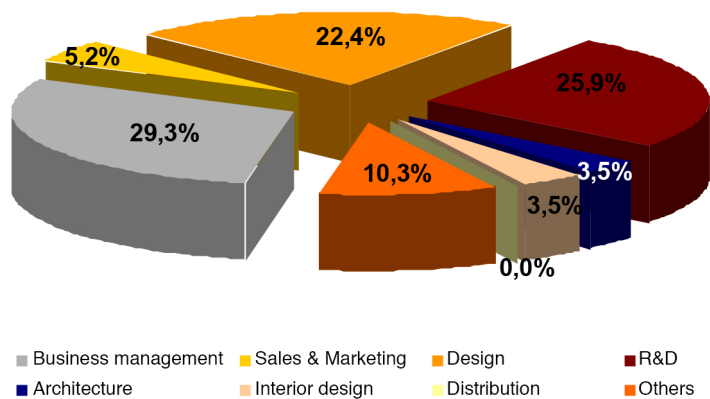


Figure 3. Source: Authors. ITC-ASCER.

Respondents' job position

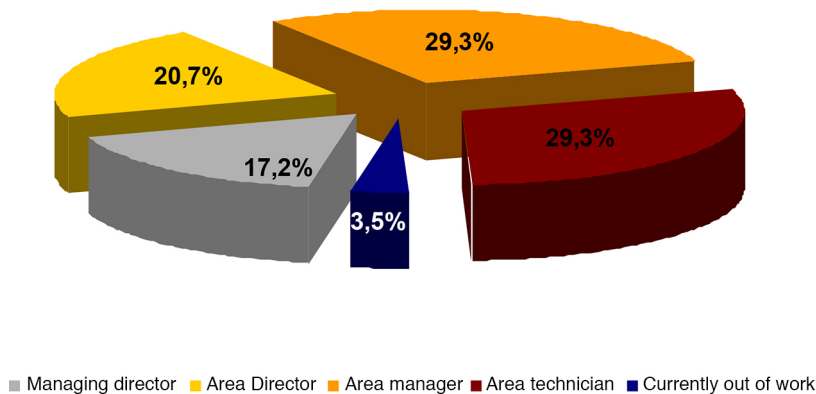


Figure 4. Source: Authors. ITC-ASCER.

2.2 RESULTS

The lines of innovation proposed by the panel of experts are divided within companies into four lines of action: design, marketing and communications, consumer and technology. The intention is to generate a range of possible innovations that provide a response to the ceramic business' current reality, always from the viewpoint of integral management. Ideas were collected on display boards at different consultation sessions (see Figure 5).

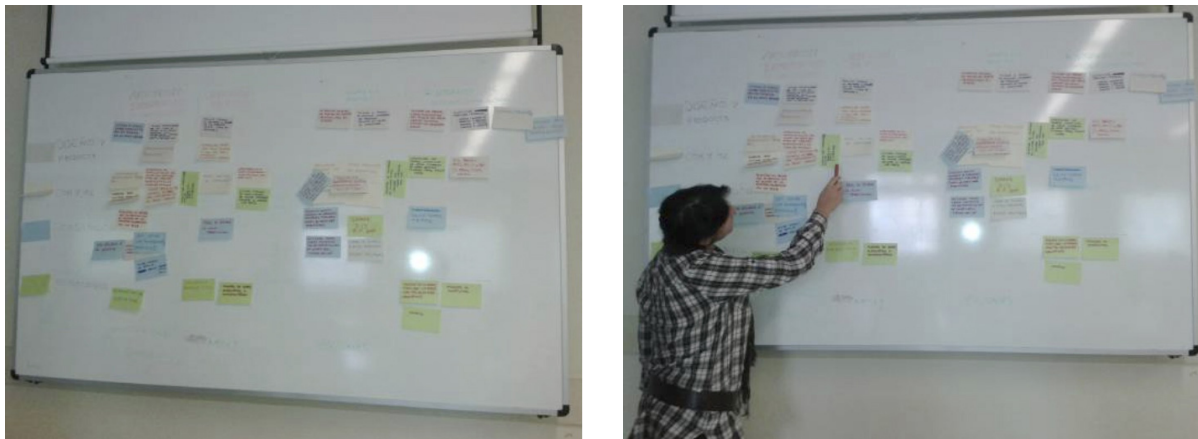


Figure 5. Photos from one of the work sessions.

The results of the consultation were included in the next set of lines of innovation to be agreed upon with the group of professionals through electronic surveying and which were to serve as a starting point from which to develop concrete actions at theoretical level:

- Design
 - 3D manufacturing systems
 - Production systems geared towards customisation and DIY (Do-It-Yourself)
 - Energy efficiency
 - New low-cost product testing systems
 - Design management applied to ceramics
 - New functional materials
 - Ceramics applied to different sectors

- Communications & marketing
 - Trends in B2B marketing (social networks, digital media, etc.)
 - Strategic alliances with other sectors (products, marketing)
 - Digital catalogues
 - Apps on industrial sectors
 - New distribution models
 - Slow motion applied to industrial sectors

- Consumer
 - Trends in B2B marketing (social networks, digital media, etc.)
 - Refurbishment sector
 - Low cost models
 - Apps for refurbishments
 - On-line project design and netnographs
 - New target audiences: children, the elderly, the disabled

- Technology
 - Just in time customisation
 - Home automation and Smart Cities (interactive products)
 - Alternative energy sources
 - Energy efficiency
 - Possibilities of nano-materials

2.2.1 Rating given to product design within the ceramic industry's future development

First, it should be noted that almost all questions related to product design scored around 8, which means that, in general, all aspects were rated very positively. However, it is necessary to consider the differences, albeit small, between the various concepts under assessment in order to set priorities as to what is considered to be most relevant.

On that basis, energy efficiency is still seen to be one of the key issues with regard to product design. On the one hand, it is a source of cost savings in the production process and on the other, it generates a supply of more sustainable products. Although the data show that sustainability is important to the consumer, it also suggests that the price variable remains significant. However, in the future, respect for the environment is set to become one of the central issues for consumers.

Other issues related to user experience, such as the development of emotional features or product testing are seen to be less relevant due to the crisis affecting the sector, which thus focuses its efforts on the short and medium term.

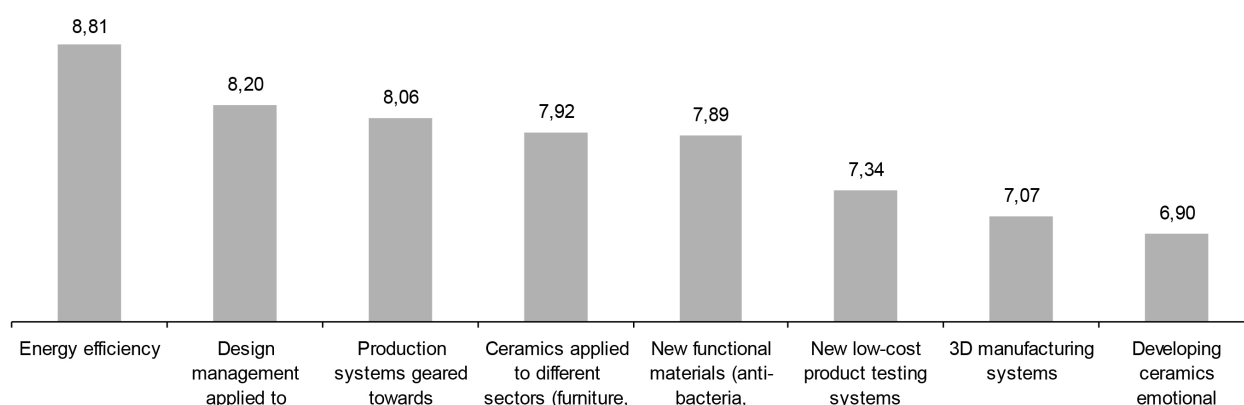


Figure 6. Source: Authors. ITC-ASCER.

2.2.2 Rating given to marketing and communication in the ceramic industry's future development

Again, in issues related to marketing and communications, high scores were given overall, which indicates that in general all these matters are highly valued.

The two issues that most concern the sector are finding new distribution channels to provide alternatives to traditional outlets and the development of partnerships with other industrial sectors. That demonstrates the overall significance of the Habitat industry concept and the need to collaborate with other companies to ensure survival. In addition, other issues were seen to be highly relevant, such as e-business and B2B and B2C marketing, highlighting the influence of technology on marketing. Finally, the only undervalued aspect was slow motion transferred to the needs of the sector.

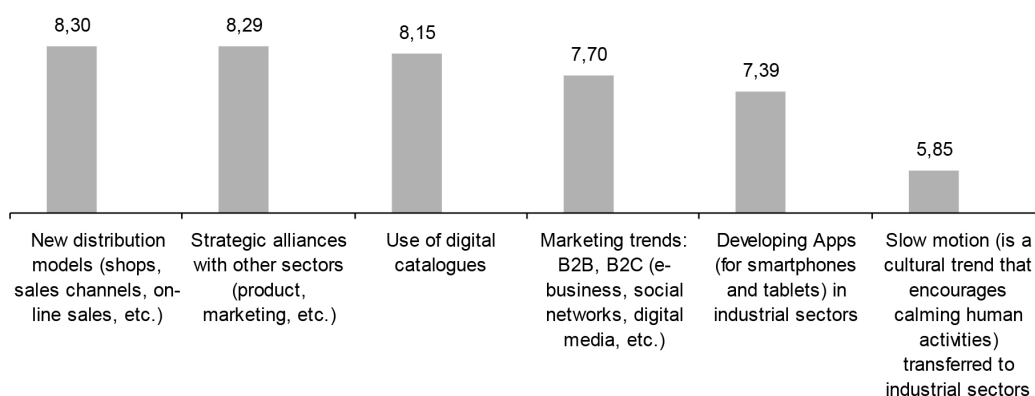


Figure 7. Source: Authors. ITC-ASCER.

2.2.3 Rating given to consumer-related issues in the ceramic industry's future development

The crisis in the construction sector has heightened the importance of the refurbishment market, especially in Spain, forcing the industry to put more effort into that market in regard to domestic consumption.

Another issue that industry professionals indicate as a key point to address in coming years is the development of tools that enable the sector to have direct contact with the end user of the product. They also highlight consumer analysis tools that provide the company with more information about end user's tastes and preferences.

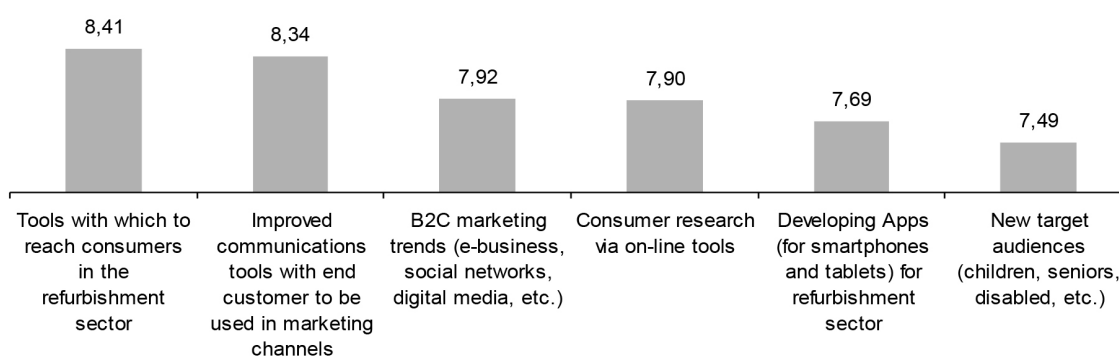


Figure 8. Source: Authors. ITC-ASCER.

2.2.4 Rating given to technology-related issues in the ceramic industry's future development

As was observed with Design, in this case issues relating to energy conservation and the search for alternative energy sources are seen to be the most important questions for the sector as far as technology is concerned. Similarly, industrial processes that enable just in time customisation to be implemented also score very highly.

Further down the list, although with still very positive scores, come other issues such as home automation, nano-materials or the possibilities of ceramics in other fields, perhaps because they are more experimental issues and thus raise some misgivings as to their your application.

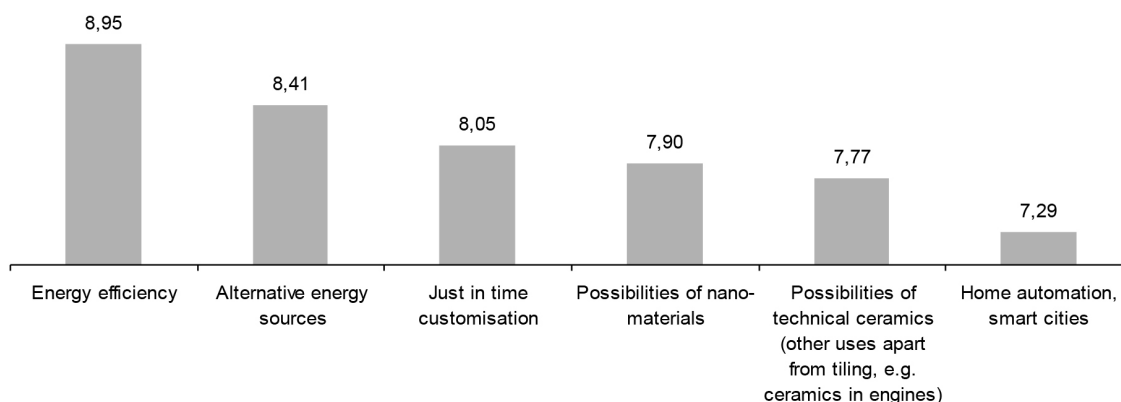


Figure 9. Source: Authors. ITC-ASCER.

3. . INCORPORATING INNOVATIONS INTO THE BUSINESS MODEL IN THE CERAMIC TILE INDUSTRY

3.1 ANALYSIS OF THE CURRENT BUSINESS MODEL

The first phase was to analyse, in conjunction with a panel of experts and professionals, the ceramic sector's traditional business model. To do so, new tools that have appeared in recent years and provide a strategic and creative vision of how to approach the analysis of a company or industrial sector were used. Specifically, the project relied on two tools, which are quite similar to each other but reveal different nuances, so that our analysis based on both tools together produced a more comprehensive and detailed view of the reality of the sector. The two tools used were:

- **Business Model Canvas** is a strategic management tool that can be used both to develop new business models and to analyse existing models. It is a visual table for describing the main features of a business, such as its value proposition, infrastructure, customers, and finance system. The scheme was created by Alexander Osterwalder and is a predominantly visual tool that allows many people to work simultaneously on the model.
- **Fluid Minds**, developed by strategic consultant Patrick Stähler, offers a similar scheme to Osterwalder's Business Model Generator, although it joins the different sections together into just four main categories: Value Architecture, Value Proposition, Revenue Model, and Team & Values. The main difference is that this model gives primary importance to the issue of the value perceived by the end user.

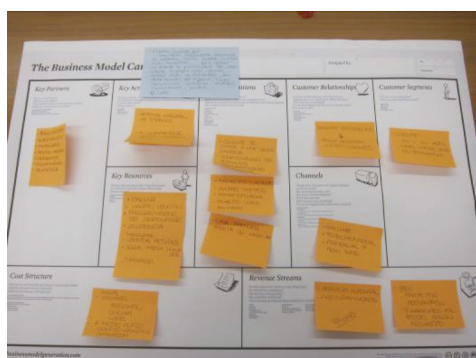


Figure 10. Osterwalder's Business Model Canvas.

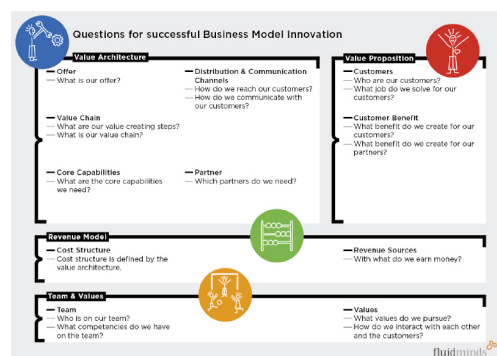


Figure 11. Fluid Minds.

3.2 INCORPORATING INNOVATIONS INTO THE BUSINESS MODEL

This stage of the research was carried out through creative workshops with professionals from the ceramic tile industry, the results of which are currently being processed. An ad hoc methodology was developed based on tools from the Design Thinking school. In recent years, design thinking has become a prominent tool and a permanent feature of the innovation toolkit used in the business world. Not surprisingly, in 2009, Business Week wrote an article that explained how companies like Procter & Gamble or Nokia used it as an innovation technique in their business. Furthermore, in recent years, the discipline has found itself a place on the syllabus of undergraduate degrees and MBAs at top business schools around the world.

Design Thinking is used to solve problems associated in whole or in part to intangible processes. It proposes a new approach to business management. Where other business models have proven inadequate, design thinking is a school of thought in business that combines the skill of empathy for the context and the problem with the application of creativity to generate solutions and the reasoning capability to evaluate and analyse those solutions.

Ultimately, design thinking proposes applying design processing to solving problems for the company and to creating not only products, but also services, business strategy, communications, etc. In that sense, the process is simple and always involves the same 6 steps:

1. Observe and understand
2. Imagine and create (conceptualise)
3. Prototype
4. Assess (test)
5. Implement
6. Learn iteratively

The workshop consisted of generating graphical depictions of new business models for the ceramic tile sector and testing them through a hypothetical situation in which various possible business models are confronted, so that once polished, they would improve the sector's ability to cope with market threats.

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