DIGITALISATION OF CERAMIC RETAIL OUTLETS TO OPTIMISE SALES

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1. ABSTRACT

This project arose from the need to solve the problem detected by tile manufacturers concerning the lack of product display optimisation at the point of sale.

In the entire innovation process undertaken to provide a solution to this problem, the reference framework used is so-called Human Centred Design (HCD) and more specifically within that, Design Thinking, as the actual method or strategy, the fundamental concept being to improve user experience.

As a strategy, Design Thinking comprises a series of non-linear stages that vary according to different authors: empathising, defining, ideating, prototyping and testing.

In the first stage of the method, **empathising**, several studies were carried out to acquire a better understanding of the actual situation at ceramic outlets in Spain, which looked in detail at consumers' behaviour during the purchase process and distributors' needs for product promotion on the premises.

In **defining**, the information and data thus collected were sorted to identify the most relevant Insights, the ones that truly added value, in order to reach a solution that would best appeal to the various target audiences. That is, this stage identified the problems for which finding solutions would be key to obtaining an innovative result.

The third stage was **ideating**, in which several dynamics were implemented with various cognitive immersion techniques by means of role plays in order to generate, on the basis of the detected Insights, what is called a "product backlog" or list of priority features that the prototype should contain. This product backlog then led to different ideas being proposed that eventually came together in the form of a smart display stand.

In the **prototyping stage**, a benchmarking study was carried out of successful retail promotion stories in general from various sectors and a list of currently available technologies for digitalising retail outlets was compiled. Armed with all that information and identified requirements, the work focused on producing the smart display stand solution, plus the relevant software and an intuitive dashboard.

The project is currently under development, with **testing** in a controlled/simulated environment and in a real environment yet to be performed.

2. INITIAL CHALLENGE – GENERAL PROBLEM STATEMENT

At present, ceramic companies invest large amounts of money each year on preparing promotional items for their new product releases, usually in the form of display panels, cradles and catalogues that they supply to distributors, in many cases free of charge, for them to set up in their shops and use in their sales actions.

However, despite such large monetary outlays, which according to the Institute of Ceramic Technology's Market Observatory usually account for between 2% and 5% of the cost of sales, companies have no feedback on how those promotional materials are used or of the effectiveness they have in generating sales.

The solution would seem to lie in digitalising those promotional materials so that they generate data that can be crossed with other sales, price or production variables to enable decisions to be made in anticipation of market trends.

In this sense and bearing in mind the aim of the project, meetings were held with two ceramic manufacturing companies, members of the eco-system of collaborators in this project, to define which of the needs detected were real, according to their own business vision. These needs turned out to include variables such as:

- The length of **time to market**. Companies refer to a certain time lag between the promotional items being sent to ceramic distributors and that product promotion being visibly displayed at the retail point of sale.
- Unjustified and uncontrolled variations in **prices** between different ceramic outlets. Manufacturers notice they have little control over the end price, which remains in the hands of distributors and varies significantly from one point of sale to another.
- The importance of **imagery**. It is assumed that display panels with images, known as 'technical panels', are currently the ones that generate the most sales among private customers. However, the sole use of quartered product display panels is beginning to be considered for professional customers for the contract channel.
- There is no control over **information flow**. No feedback is available about what item receives the most enquiries or in what order enquiries take place in regard to different variables such as technical characteristics, formats, colours or prices. Knowing which variables are the most relevant to articulating an optimal purchase process and minimising walkaways seems to be a good sales strategy.
- **Customer traceability,** which is an important challenge in switching from on to off, bearing in mind the fact that the channel is not one of tile manufacturers' own channels, as tile manufacturers generally rely on multi-brand distribution.

3. TARGET AUDIENCES

In the process of prototyping a new solution that would solve the issues raised by tile manufacturers, two further audiences were detected that needed to be studied and whom it was essential to address if we were to produce a successful solution to launch to the market.

Therefore, the scope of our target audience included the following:

- Ceramic tile manufacturers
- Ceramic tile distributors and specifically the sales force selling to tile and building materials outlets where ceramics play an important role.
- Ceramic tile consumers, who are involved in the purchase process.

We excluded from our target audience both large DIY shops and more exclusive boutiques that focus on selling to architects and decorators.

The process of selling ceramic tiles involves other types of consumers, such as builders, refurbishment professionals who, according to the 2018 study on Tile Consumers in Spain prepared by ITC's Market Observatory ***[1]***, are used by 13% of consumers; and specifications writers, usually architects and interior designers. Given the disparity of opinions and diverse needs of different buyers, it was decided to choose only private consumers and focus the study on them.

4. HUMAN CENTRED DESIGN AS FRAMEWORK AND DESIGN THINKING AS METHODOLOGY

Having defined the problem and the various target audiences, the so-called Human Centred Design (HCD), also designated by many authors as User Centred Design, created by American consultants IDEO, was taken as the framework for the entire innovation process.

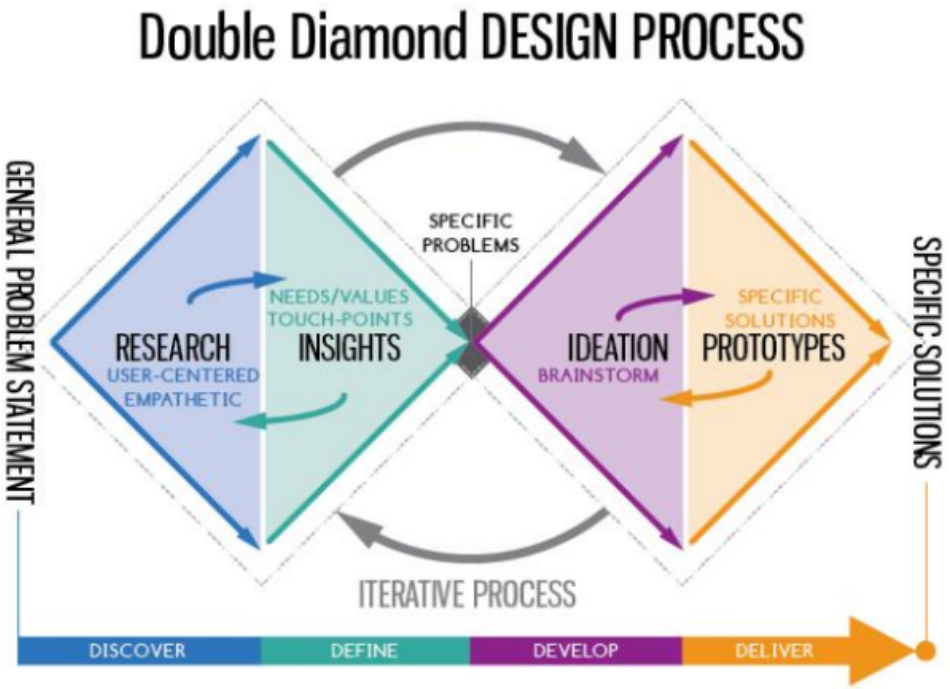
Within this reference framework, Design Thinking was implemented as the methodology or strategy ***[2]***, taking into account the fundamental concept of improving user experience.

ISO standard 9241-210 ***[3]*** describes six key principles that characterise this framework:

- Design is based on an explicit understanding of users, tasks and settings;
- Users are involved in the design and development;
- The design is directed and profiled by user-centred assessments or tests;
- It is an iterative process;
- It includes all the user's experience; and
- The design team is multidisciplinary.

Design Thinking is a concrete strategy that enables problem-solving to be addressed systematically within the framework and consists of **several non-linear stages**: empathy, definition, ideation, prototyping and testing.

Many authors use the so-called Double Diamond Model, as expressed in this image ***[4]***:



Source: Service Design Vancouver

As this is not a linear process, it is and has been possible to move forwards or backwards and even to skip non-consecutive stages at any time. However, for this presentation and for the purpose of understanding the process, the stages are turned into phases, as explained below.

5. EMPATHY: PRELIMINARY EXPLORATORY STUDY

The first step was to perform exploratory research that would provide the necessary insights in the form of needs and values, both from the point of view of the distributor (how ceramics outlets are currently organised, focusing mainly on merchandising and on how the sale takes place), and from the point of view of the consumer (what process consumers follow when purchasing and how different promotional materials influence in their decision).

Specifically, the study included:

- 18 interviews with sales forces from ceramic tile and building materials distributors across Spain
- 18 ethnographic interviews with consumers who were planning to buy ceramic tiles at outlets in Madrid and Valencia
- 10 pseudo-purchases at outlets in Madrid and Valencia

Photographs of different promotional materials in ceramic retail outlets

6. DEFINITION: DETECTION OF INSIGHTS OR NEEDS

In the Definition phase, the information collected from the research on the different target audiences was sorted and the most relevant Insights identified, the ones that truly provided value for each of the selected target audiences. Problems were identified for which finding a solution would be key to obtaining an innovative result.

Each target audience revealed different, even contradictory, needs and opinions on various aspects of the process. Therefore, the challenge was to satisfy the needs of all three target audiences and thus obtain the most successful solution for all the points of view involved.

The resulting insights were sorted into the following categories:

- Time to market
- Prices
- Panels and cradles
- Purchase flow and travel
- Stock
- Catalogues
- Digitalisation
- Product
- Customer service
- End of sale
- Other aspects

Insights generation process as part of the project

7. IDEATION: COGNITIVE IMMERSION AND GENERATION OF PRODUCT BACKLOG

In the third phase, which included the ideation process, several dynamics were implemented using various cognitive immersion techniques through role plays in order to generate what may be called a "product backlog" or list of prioritised features that the prototype should contain based on the detected Insights. This product backlog was then used to generate different ideas, which were finally brought together to form a smart display stand.

Role playing to define the solution's product backlog and generation of ideas

8. PROTOTYPING: CREATION OF A SMART DISPLAY STAND, MINIMUM VIABLE PRODUCT

In the prototyping phase, a benchmarking study was carried out on success stories of retail promotion in general in various sectors to pool all currently available technologies for retail outlet digitalisation.

Based on this information and the requirements identified previously, the work focused on producing the smart display solution plus the software and an intuitive dashboard. That led to the development of what is known as the Minimum Viable Product (MVP) ***[5]***, "a product with sufficient features to satisfy initial customers and provide feedback for future development".

Analysing display stands and sensorisation possibilities at the Fustecma facilities

Analysing display stands at the Fustecma facilities and working with sensors to develop the prototype.

9. TESTING IN A CONTROLLED / SIMULATED ENVIRONMENT AND A REAL ENVIRONMENT

Finally, in the testing phase, some measurements were taken from the technical part of the smart display in a controlled environment, and from the dashboard in the usability part, with the different target audiences. As many modifications as needed were performed to optimise the solution according to the testing results.

The project is still in the development stage, and testing in a controlled / simulated environment and in a real environment has yet to be performed.

It is intended to carry out the testing phase of the smart display stand in a controlled environment, both in its technical and data generation part, and of the dashboard in the usability part, with the different target audiences prior to presenting it at the Qualicer 2020 Congress.

The project will end with a testing phase in a genuine retail outlet with panels belonging to the two firms participating in the project, Colorker and Azteca, for a couple of months, from which data will be collected that will then be crossed with sales data to enable companies to make optimised decisions on product promotion.

On a final note, this project will continue with a second phase in 2020 that will entail advanced data analysis to equip the display stand with artificial intelligence, so that it can make optimal promotional decisions autonomously.

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10. REFERENCES:

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