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it is our pleasure to introduce you this proceedings. This book contains all accepted papers from conference, which is described below in more details. We hope published papers contribute to the academic society and provide interesting information for researchers world wide.

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- Conference full name: **Scientific Conference**
- Conference short name: **SCIECONF**
- Conference edition: **4th**
- Conference dates: **June 6 - 10, 2016**
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Each registered paper was evaluated in double tier approval process.

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2. Conference Editorial Board.

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All accepted papers were presented at the conference during conference dates. Asynchronous online chat was prepared for each paper, where all conference members could freely discuss the topic. During the conference, the Section Chairmen Committee steered the conference discussion. Short presentation were proposed for effective conference discussion.

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Sincere thanks for:

- **Scientific Committee** and **Section Chairmen Committee** for their volunteer work during reviewing.
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Stefan Badura
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June, 2016

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Sustainable Design in Fair Trade Shops

A project to increase the environmental awareness of consumers

Silvia Barbero, Giada Rivella

Politecnico di Torino

Department of Architecture and Design, DAD

Turin (TO), Italy

silvia.barbero@polito.it, giada.rivella@polito.it

Abstract—The subject of this study is to define the possible strategies in order to reduce the environmental impact of designing store and to increase the consumers' awareness about the new sustainable design in fair trade shops.

From the analysis of some crucial elements in the store at environmental level, the weaknesses and the strengths of fair trade store sector are underlined. All of them are examined in order to define the concept and guidelines for the executive project. The resulting concept brings to the showcase many reusable local materials and background poster that tells the products' place of origin and their history to embodied the ecodesign principles and to educate costumers on sustainability principles. The products are places above shelves made by abandoned fruit boxes already wasted in the store, matched labels that will be re-used as business card.

This research defined a project able to give answer to technical and marketing store's requirements, but also to environmental sustainability needs.

Keywords- Fair Trade Store, Environmental Sustainability, Consumers Awareness, Circular Economy

I. INTRODUCTION

The store environments can have a crucial role in the communication of topics related to sustainability, because they have a continuous visibility so they can provide almost an educational service for the community. Furthermore, this concept is stronger if the company's values are related to the environmental and social sustainability, like in the case of fair trade shops. The ones considered by our study offer a wide range of products (not only foodstuff, but also clothing, handicrafts, body care products and detergents for home). This products are mainly made with raw materials coming from the South of the world like Indian tea, Nepal's wool, and Morocco's argan.

To effectively communicate the company's message is necessary a deeply understanding of its values, its history and the information about the sold products and services.

It is important to rethink the role of glazes in order to train the consumer to a more social, ethical and sustainable behavior and to respect, in the design realization, the environment requirements of industrial products.

All the visual communication elements (including corporate image, colours, icons,...) have to be homogeneous and coherent with the values of the store, reducing at the same time the environmental impacts and the chaos in the showcases.

II. LITERATURE REVIEW

In the preliminary phase of this research, the specific scientific literature was deeply analyzed to understand the actual guidelines and trends. The books studied belong to two categories: the books that talk about the sustainable issues and that ones that talk about the way to set a glaze.

The first group includes for example:

"Il fare ecologico" by Tamborini P. and Barbero S. [1], that was fundamental to find the basic principles to design a sustainable glaze and to catch the consumers attention because it explain the values of sustainability and their urgency for the World and for the executive project, e.g. with the use of recyclable materials in the showcase design. The second book is "La civiltà del riuso" by Viale G. [2], that states the priority of the re-use and its implications in environmental sustainability and economic saving. It was useful to choose the materials of the project taking into account the potential reusable products already available in the shop; e.g. the use of ecoflat for the background poster, that can be transformed in bags at the end of its first life. This approach envisages the application of the Systemic Design's guidelines, theorized by Bistagnino L. in his book called "Systemic Design" [3]. He underlines the need to transform the output of a business into input for another productive sector. This topic, that is essential to promote the circular economy and the network relationship between small businesses, has become a key point in the executive project, where the waste of the showcase have become an input for Papili, a local company involved in the re-employment of detained women. Another reference in this group is the article "Integrating sustainability education into international marketing curricula" by Perera C.R. and Hewege C.R. [4]. They underline the crucial role of the sustainability in the education system. This topic it has been included in the project designing a showcase that aims to educate the clients to social and environmental sustainable behaviors.

The second group of literature includes:

The essays "L'ABC del vetrinista" by Kovalenko Nataliya G. [5] and "Visual merchandising. Orientamenti e paradigmi della comunicazione del punto vendita" by Zaghi K. [6], that talk about the principles to set an attractive glaze. They were useful to understand how make a good showcase, reflecting also on the behavior of the consumers. The "Window display design of large scale department stores ad determinant of corporate image and positioning strategies" by Kernsom T., and Moorapun C. [7], was useful to be aware about the

consumers' perception and how it can be influenced by different strategies in positioning the products inside the display. The scientific article "Understanding consumers' in-store visual perception: The influence of package design features on visual attention" by Clement, J., Kristensen, T. and Grønhaug, K. [8] show what are the things that mostly catch the user's attention, like the shape and the contrast of physical elements.

The critical analysis of specific literature on this topic shows the innovativeness in our purpose because very few articles and books talk about both showcasing and environmental sustainability together.

III. GOAL

This research aims to identify the possible strategies in designing fair trade stores with environmental guidelines and to involve consumers with more sustainable behaviors. This study wants to discuss the role of new stores and their environmental impacts especially in their exhibition, informing at the same time the clients about the new sustainable practices that can be daily implemented by everyone.

The theoretical reflections are enforced by a real case study designed with the eco-guidelines and evaluated at economical level.

IV. METHODOLOGY

This research follows the systemic design approach [3], working on the logic to transform the store's output into input, giving values to the producing countries from the South of the World and, at the same time, reducing waste in local Western stores.

The methodology used in this study consists in three steps: scenario analysis, meta-project, and the design phase.

In the first step the goal is to analyze everything about fair trade sector, especially its values and its behavior. For this purpose it is crucial a specific analysis on the store's products, studying not only its values but also their brand communication and packaging's sustainability. This study is a key point to ascertain the effective environmental and ethics sustainability of fair trade shops. The scenario analysis ends with the showcase and shop's analysis and the definition of its weaknesses and strengths.

The second step is about the meta-project phase, in which one of the goals is to define the usual clients, the definition of the new client-target we want to involve with the project, and the definition of the strategy to reach them. In this step the focus of the research is to develop the concept and the guidelines of the project in order to explain every design choice in the next step.

The last step is about the project design itself in order to define the complex of design choices in *unicum*. This phase took into account the economical and the environmental sustainability assessment, responding to the requirement to transform output to input, and reducing the economical costs of fair trade stores.

V. DISCUSSION

The first two steps of the methodology are presented in this paragraph, the last one, related to the design phase, is deeply described in paragraph VI "Results: Design of a sustainable showcase". The first step on scenario analysis includes the following points A-B-C-D; the second step on meta-project includes the following points E-F-G-H.

A. Analysis of fair trade sector

The fair trade glazes are the focus of this research because it is crucial to underline their educational role for the implementation of more sustainable behavior.

After the literature review, a critical activity on fair trade store was implemented. This research avails to understand what are the ethical values related with this kind of store, so a deeper understanding on the values and missions of fair trade shops was done. This activity underlines the safeguard at the equal prices and respectable salary to the worker from the South of the World, and the promotion of socio-economic self-development [9, 10, 11, 12]. After this analysis it was clear that the mission of fair trade stores is to open the market to the small producers, respecting their local environment and culture. The values include the importance to be honest with the southern producers and transparent with the northern consumers, generating a sort of respectful connection. Furthermore, the organization is equitable in the administration of international legislation, with the belief of respecting the democracy that ensures the collective participation to the decisional processes. It promotes the innovation and the respect of the justice in relation with international market.

B. Brand and product's analysis

Another important phase of the first methodological step was the analysis of the actual store's communication in order to understand how their own social and environmental rights are disseminated. In this phase both brand and products communication was scientifically analyzed.

The sold products were grouped in four commodities categories: food, body care, clothes and home detergent. Furthermore, each of them have different brands under the label "Fair Trade". The packaging of food products often shows the product inside through image or by the use of transparency. The body care goods often aim to communicate their diligence in the respect not only of the social sustainability values, but also the environmental ones, including the attention to not make experiments on animals. These products often include the image about their natural ingredients in the front of the packaging [13]. The artisanal clothes and accessories pay attention to the uniqueness of the products and to the organic materials. These specifications are not sufficiently communicate because their labels are very small and do not have information about their careful production. The last category identified is the home detergents, that are made with natural ingredients respecting the environment and the human health. Furthermore, they adopt the bulk logic, reducing the use of disposable packaging. This brand always shows the logo in the front, and its environmental sustainability is strongly evident with an image evocating the

green-world. The packaging is transparent and shows the product inside.

Any of these categories were analyzed not only from the angle of the communication capacities to tell about the company's values, but also the packaging design.

C. Packaging's sustainability

The study of the packaging sustainability was very important to understand how much of the environmental respect declarations are really taken into account in the feasible activities [1].

All packaging were analyzed in according to the methodology implemented by the Observatory of Eco-Pack [14], because it is well recognized and effective for our purpose. In this specific study, we simplify a little bit that methodology because the number of packaging analyzed was very huge, so we consider three important aspects:

- **Space optimization:** this quality is so important to limit the space's consumption, in order to reduce the rucksack of products, decrease the costs of transportation and, consequently, decrease also the pollution.
- **Over-packs:** this is a part of packaging that do not get in contact with the product but it is still the primary one, so it should be avoided in order to reduce the production of useless and disposable components.
- **Composition and Materials:** this is a key aspect for evaluating the easiness for the consumer to dispose the packaging in the right differentiated container. If it is not possible to use just a single material, the different components should be easily separable. Another strategy can be the design of the possible reuse of packaging after its first proper life, reducing the rucksack of the packaging.

The results of this analysis shows that the packaging that have less critical issues belong to the food products, while the

ones that have more weaknesses are the beauty care goods because they are more often more complex with difficult operational activities to separate the different elements. Furthermore, they do not optimize the space and have often a cardboard box as over-pack. Lastly, another observation is about the use of material: the most exploited ones are paper, plastic and glass, that are often mixed together creating a packaging arduously separable [15].

D. Showcase and shop's analysis

Some stores were analyzed to be aware of their strengths and weaknesses. Some basic rules have been formulated to reach a proper showcase [16, 17, 18, 19,20]. At first, the glaze needs to respect the percentages' rules, avoiding the chaos caused by the apposition of too many products. It is also very important to identify a focal point at the center of the showcase because it is the first point where the consumers look at [6]. The unconscious behavior of the human sight is decisive to put in the right way the products into the glaze. Furthermore, the glaze should not annoy the usual clients, so the best time to change them is about 15-20 days.

The key-roles of the shop glaze are the following:

- Communicate a professional service;
- Underline the presence of some specific and special products;
- Show a good promotion or event;
- Tell the mood of the shop and its philosophy/mission.

Different aspects were taken into deep consideration also in the display of products inside the shop (see Figure 1):

- **Information:** the quantity and the quality of information about the origin of product and the company's value are evaluated.
- **Light:** this aspect includes the artificial light and the quantity of solar light inside the store, taking environmental advantage from natural light to save

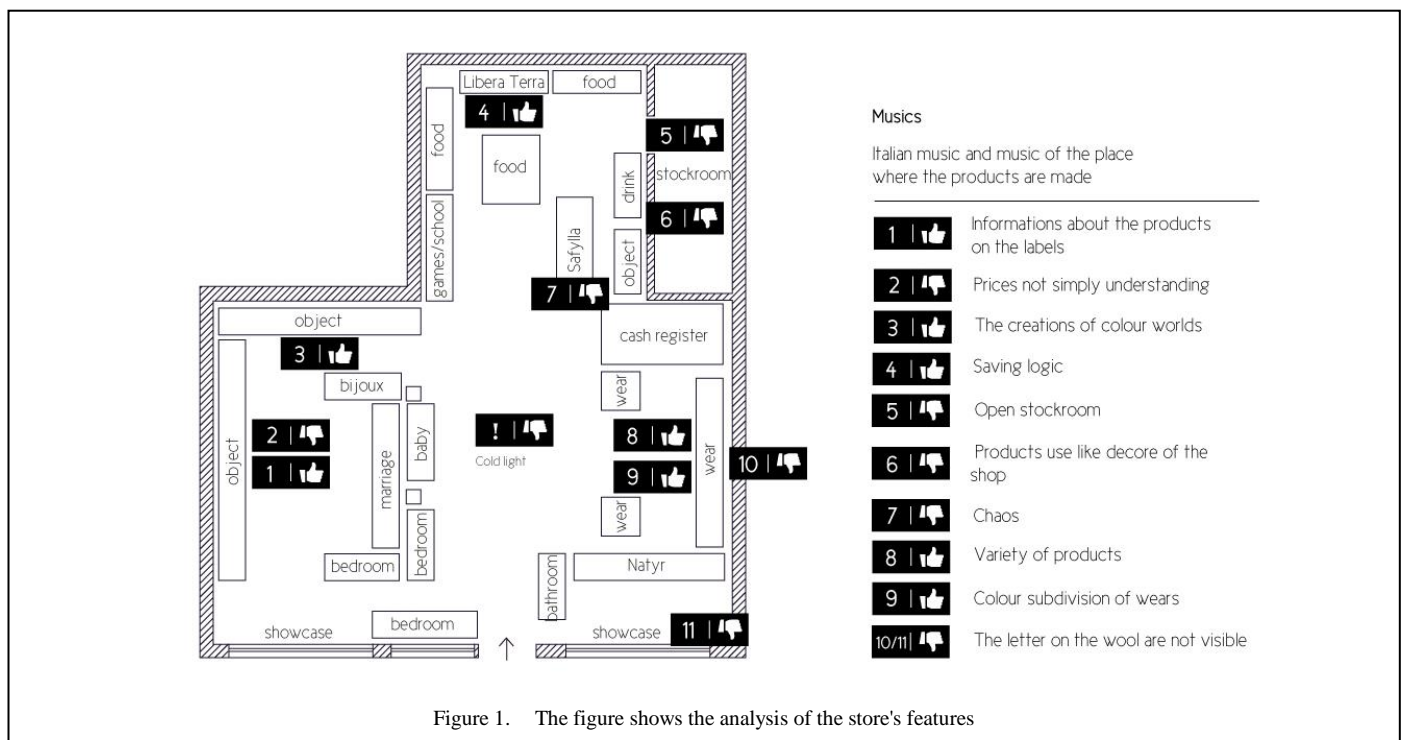


Figure 1. The figure shows the analysis of the store's features

energy. This is a key point also for its responsibility in creating the right atmosphere and the right product's valorization.

- **Music:** it helps to create a specific atmosphere that is capable to communicate soft values.
- **Colors:** they are crucial for the way findings and the visual organizations of the products and to define a right mood, for example with the walls colors.

As result of this part of the work, was clear that the glaze have not to be chaotic so can be useful to put fewer objects at the center of the set. Furthermore, the creation of a story around the showed products can be able to communicate the huge number of messages that the fair trade shops have. Some real and short details help to amaze the consumers and sensitive them on sustainable topics. The use of pictures and colors are able to convey emotions, atmosphere, seasons or specific moments. All of these elements have to be accompanied by the right illumination, and by informative and educative data.

E. Common clients in the shop

Two different kinds of target that usually buy in fair trade shops were analyzed in order to answer to their conscious and unconscious needs. The first type was the "aware and loyal" consumer that is mainly composed by mature people with high level of accord with the fair trade values. They know very well the products and their origins and try to keep being always informed in a very proactive way. The second one was the "unaware and careless" consumers that sometimes buy there because they find specific goods not available in other distribution channels, like supermarket where they usually buy. This target do not know very well the principles and the quality of the fair trade products, so often they complain about high prices.

One of the project goals is to consider mostly the second target to be more effective in the communication and giving them the tools to understand better the fair trade philosophy and the high value of the products in terms of quality of ingredients and ethical respect of people.

F. Requirement's table and values to communicate:

Thanks to all the previous phases of analysis, the requirements table was mapped in order to assess the sustainability characteristics of the fair trade showcase. In this list was underlined the importance of creating a set into the glaze, separated with the inside part of the shop, with few objects and some large posters able to give specific information with a narrative language.

The analysis of fair trade showcase shows how this type of shops need to put more attention on the evidence of its values and philosophy. To increase the quality of consumers' shopping experience, one of the strategies is to give them all the elements that allow them to fully understand the commitment of this kind of stores. The main values of fair trade shop, that should be communicate, are:

- **Honesty:** sincere about the responsibilities towards people from other countries, in constant and continuous improvement of everyone wellbeing.
- **Democracy:** respect strict international laws and human rights, with sharing the decisions and the resources with all the actors involved in the worldwide market.
- **Respect:** take into account the different needs of worker, environment and consumers.
- **Innovation:** continuous change to be updated in every aspect.
- **Handmade:** fair trade products are often handmade, and it implies the uniqueness of the goods, with a big added value inside.
- **Ethics:** the goods are promoting the awareness of faraway territories and people, in order to improve their life conditions.
- **Ecology:** respect the environment to guarantee better life conditions and to preserve the resources for the next generations.

G. Concept

The prior analysis gives the information to define a new concept for that kind of store: "Story tell-me, one frame of the history of products".

The concept aims to create a showcase that has to tell a story to potential new clients. The story comes easily if the products selected to stay in the glaze at the same moment are linked together by a single story. This is crucial to communicate in effective way the core of the message that should reach people with charm. For example, one showcase can explain the Indonesian products sold inside the shop: if the available glazes are three (like our specific case), in the first one we can put the food production (for example the rice farming with farmers inside the image and their work tools), in the second one the artisanal products (for example, the valuable ceramics and clothing products made from local cooperatives), and in the last one, some specific information in a visual and easy way, to explain the Indonesian cooperatives' role, showing their position in the territory and explaining the division of workforce.

The challenge aspect is that the story, told by the showcase, must explain the key issues of the fair trade shops month by month.

H. Guidelines

From the definition of the "Story tell-me" concept, fourteen guidelines were specified to answer the four main features identified in the previous analysis: the chaos absence, the ability to easily change, the ability to telling a story and the information easily given to consumers.

The first group includes:

- **Study of the colors:** the glaze has to be designed with a coherent use of the colors to generate the right atmosphere and emotions.

- **Choose coherent materials:** the products and the materials used to set the glazes have to be respectful of the values and the philosophy of fair trade stores. The design of the elements in the glaze should be coherent with what the consumers will find inside the shop.
- **Clear set:** the set have to be clear and essential, even if the information to be communicated is dense and complex.
- **Dense quality:** messages and products simplification gives different level of deepening for different target sensitivity. Clear and dense message could be easily memorized by viewers, also the accidental ones.
- **Optical principles:** the whole glaze have to be designed taking into account the ways in which the human brain elaborate the information and the images.
- **Balanced relations:** the relationship between the areas that are empty and the ones that are full of stuff have to be studied properly. The glaze needs some empty space to let breath the entire scenery.

The second one includes:

- **Evoke past experiences:** to involve consumers is useful to evoke real past experiences that they already have done.
- **Sensitize by emotions:** the consumers memorize the events that involve them emotionally, so the showcase can communicate messages not only with images and words, but also with sensations and emotions.

The third one includes:

- **Communicate values:** learning the values of the fair trade can increase the consumers' fidelity and promote their active support.
- **Narration:** a story is able to stay longer in the mind of

people with its contents on products and workers.

- **Requirements of warehouse:** the space in the warehouse is always costly, so it is necessary to show and promote the products that risk to remain for long time there.

The last one includes:

- **Information about products:** the specific data about the products, their origin, the people that made them are necessary to demonstrate how fare they are.
- **Intellectual involvement:** the communication has to be easily understandable to make simpler the memorization of the right and important messages.
- **Prompt recognizable glaze:** the showcase must be recognizable, discernible and talkative in comparison to other competitors.

VI. RESULTS: DESIGN OF A SUSTAINABLE SHOWCASE

A. Projects approach

After the deep analysis and the definition of the concept and the guidelines, the project itself comes clear. Reached a high level of details, designing all the elements (industrial design and graphic areas) and evaluating also its economical feasibility.

B. Poster

Each shop windows can have a specific background with large posters that cover all the space and that prevent the external viewers to look inside the store. This solution has a double benefits: from one hand the viewers are curious to see what happen inside and the light inside the shop can be totally controlled. Furthermore, these posters should tell the story and have the important role to catch the attention of fortuitous pedestrians. They are showing the places of production where the goods in the glaze are made by (see Figure 2).

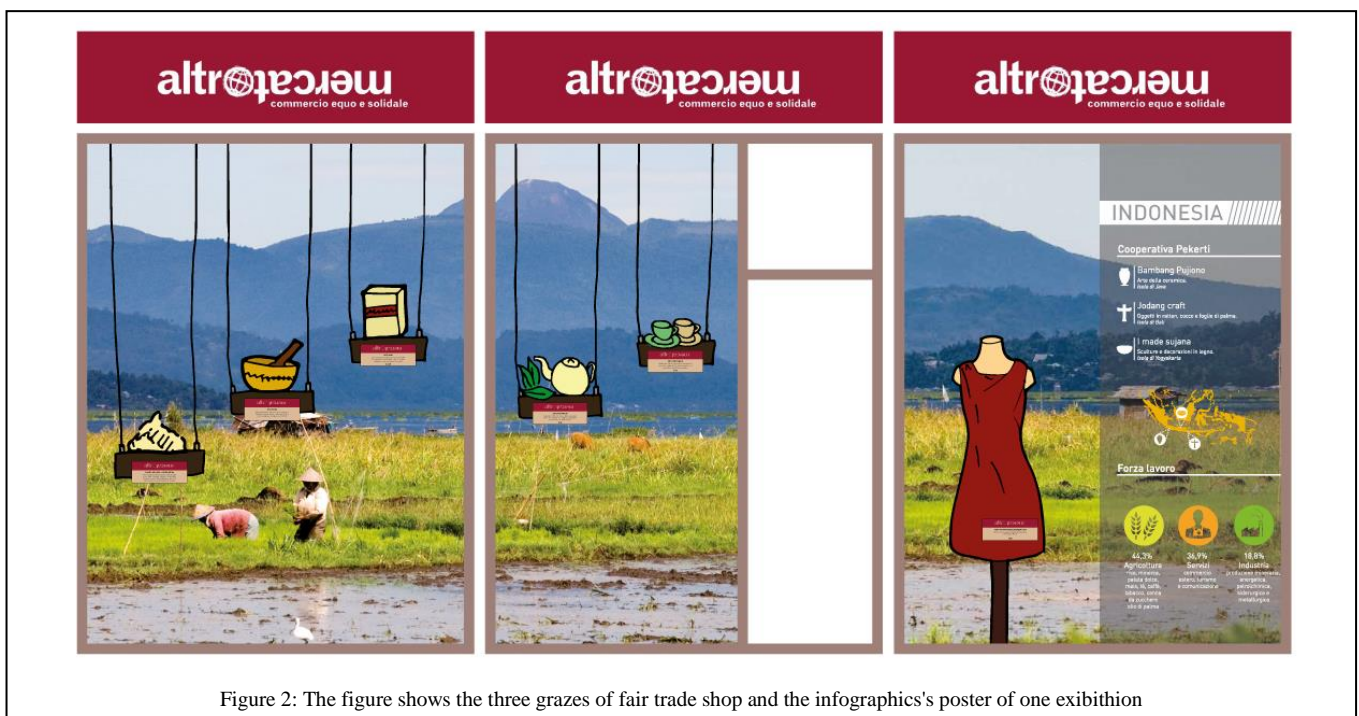


Figure 2: The figure shows the three glazes of fair trade shop and the infographic's poster of one exhibition

Every set-up presents a different location where it's possible to see the small producers at work and the costumers can see how the artifacts are made. The material used for these posters is Ecoflat, that is chosen because it is multi-layers material made with PVC-PET-PVC, with high added value because at the end of its first life it can be easily reusable producing bags, wallets,...). For that purpose, a local cooperative Papili that work with women convicts, was involved in order to produce the reused products. The company benefits from the sell of these products and eliminates the costs of dismantle them. Posters, hold by a flexible and reusable structure, can be changed every three weeks, keeping alive the interest of consumers and viewers. For that reasons, seventeen settings were designed in order to cover an entire year. Seventeen places will be shown together with their local cooperatives from all over the world that works with the fair trade.

Every set was designed to understand its properly collocations during the year. This choice follows the seasonality of the products, the special events and the colors.

C. Infographics

Every set needs to inform the consumers about specific data of the specific products and locations showed in the glaze. So the designed infographics included the places where the products are made, and the local cooperatives that produce them. The infographics were designed in order to be coherent and easily identifiable.

The design of this communication included also the choice of fonts and colors to be easily readable and to create a coordinate image.

D. Products

The displayed products in every exhibition change every week, but they come always from the same territory shown in the posters behind (that stay there for three weeks). One glaze has to be especially dedicated to the history of products, through the presence of the raw materials and the tools used to make them. In the same glaze, the background poster shows one or two local workers. In this way the glaze helps the consumers to understand the values and the real world of the fair trade. Furthermore, as explained in the previous paragraph,

another glaze has to present some specific information using infographics. In the last one, only a single product was settled there in order to avoid chaos and be focused on the main important contest.

One of the key words of the project is the re-use [2], in fact the products shown in the shop's windows are placed on shelves made with fruit boxes already abandoned in the store after their first usage. The axes of the shelves are bonded together through a network of natural hemp rope, and are held on the ceiling with a coupling system of easy realization and maintenance. The latter consists in anchors with hook, tensioners, shakes and terminals. (Figure 3 showed the physical model of the project's glazes in scale 1:10).

E. Labels

The products in the shop windows are equipped with their own labels that tell the name of the product and its specific information like the costs. Also in that case, the reuse of them was designed from the beginning; furthermore, they are printed on recycle paper. This choice makes the labels more similar to the philosophy, centered on the respect of the nature and the people of the fair trade shops. Each label, at the end of its first life, can be reused as business cards, printed in its backwith a coherent graphic. Lastly, these labels are also economically sustainable because their press and cut was made by the single shop center avoiding additional costs (see Figure 4).

F. Economic answer

All the analysis and project phases paid attention to all the aspects of sustainability, also the economical one. Thanks to this systemic and circular approach the final project is not a further cost for the shop but can save the resource and have a small encouraging income (in table 1 list summarized the economical evaluation).

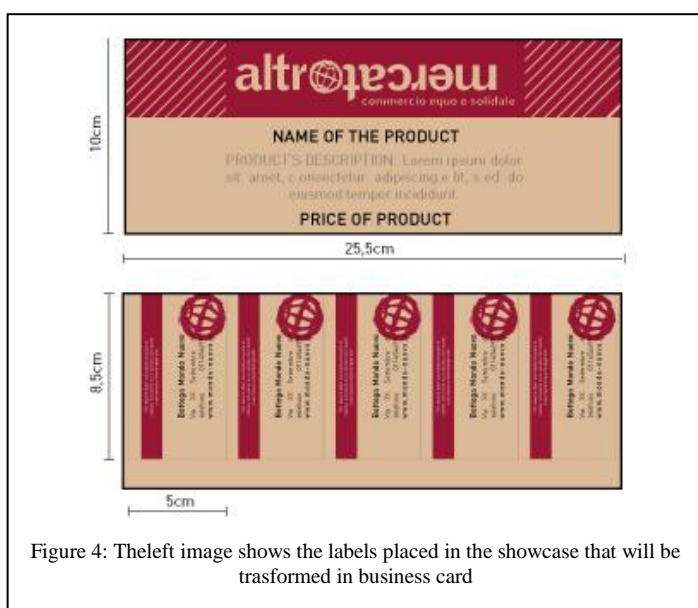


Figure 4: Theleft image shows the labels placed in the showcase that will be trasformed in business card



Figure 3: The left image shows the model of the three glazes designed

TABLE I. COSTS TABLE

EXPENSES		REVENUE	
Poster production	4.500,00 €	Sold Papili's accessories	5.200,00 €
Poster fixing materials	200,00 €	Saving of business card printing	50,00 €
Hook system	50,00 €		
Hemp rope	50,00 €		
Fruit boxes	0,00 €		
Print labels	100,00 €		
Labour cost dedicated to showcase changes	200,00 €		
TOTAL COSTS	5.100,00 €	TOTAL REVENUE	5.250,00 €
NET PROFIT: 150,00 €			

VII. CONCLUSIONS

The final project is a concrete realization of the fair trade glazes design that respect all the values found in our analysis. It is able to educate the consumer to the fair trade, while the institutions can't do it. The education of fair trade needs to constantly communicate its message for a good understanding by the people, and the glazes can ensure this type of perseverance and can underline these messages, that are the same values of this type of shops. Furthermore it responds also to the economical issues with the abolition of all the cost.

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