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Silver Linings: Design Strategies and Projects for Packages Born in Times of Crisis and Analyzed with a Systemic Approach

El lado positivo: estrategias y proyectos para envases nacidos en tiempos de crisis y analizados con un enfoque sistémico

Abstract. The Covid-19 health emergency has changed buying habits and behaviour, eating habits, as well as the relationship with packaging. For many business models, the pandemic represents a turning point; for others, the crisis, reveals hidden vulnerabilities and a potential inadequacy for the contemporary world. However, the packaging sector has not stopped. It had to organize, coordinate, find new ways of distribution, and at the same time, it opened to new opportunities in terms of innovation. The packaging industry has shown a proactive and resolute attitude, and unconsciously has been able to deal with problems that go beyond the Design of a container. The analysis of strategies and practices adopted by the packaging sector in managing the emergency allowed us to define the research framework. This contribution investigates the changes not only at an economic level but also at a cognitive-behavioural and environmental level, towards which Design is called to act with increasing responsibility. A Design that will necessarily have to shift the vision from linear to systemic, starting from education.
Keywords: Education, food and pharma packaging, pandemic, sustainability, systemic Design.

Resumen. La emergencia de salud Covid-19 ha cambiado nuestros hábitos y comportamientos de compras, hábitos alimentarios y también la relación con los embalajes. Para muchos modelos de negocios la pandemia representa un punto de inflexión; para otros, la crisis ha sido la prueba de vulnerabilidades ocultas y de una potencial insuficiencia para el mundo contemporáneo. Sin embargo, el sector del embalaje no se ha detenido. Fue necesario organizar, coordinar y planificar nuevos métodos de distribución, y al mismo tiempo se abrió a nuevas oportunidades para la innovación. La industria del embalaje ha demostrado una actitud proactiva y resolutiva, y ha podido lidiar inconscientemente con problemas que van más allá del Diseño de un contenedor. El análisis de las estrategias y prácticas adoptadas por el sector del embalaje en la gestión de emergencias nos ha permitido definir el marco de investigación. Esta contribución investiga los cambios no sólo a nivel económico, sino también a nivel cognitivo-conductual y ambiental, hacia el cual el Diseño está llamado a actuar con responsabilidad cada vez mayor. Un Diseño que necesariamente debe cambiar la visión de lineal a sistémica, a partir de la formación.
Palabras clave: Diseño sistémico, educación, embalaje de alimentos y farma, pandemia, sostenibilidad.

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Introduction

The Covid-19 health emergency has completely changed the rules of society and sociality, business, the perception of ourselves, and our behaviour at home and work.

Above all, the pandemic has suddenly and imperatively transformed our attitudes towards purchasing in general and our perspective towards packaging in particular, making us much more sensitive not only to features related to health and safety, but also to those associated with the supply of necessities and new daily consumption practices.

Surveys such as that conducted by Kantar (2020) on people's attitudes, behaviour, and expectations in the post-lockdown period give a clear sign that the continuing concern about safety, financial pressures, and modified habits will hinder the return to pre-pandemic behaviour.

The study found that 52% of respondents (in particular 57% among millennials and 55% among Generation Z) say they will maintain lockdown behaviours, including improved hygiene, healthy eating, personal growth, and family time.

Another 66% says that they will continue to avoid crowded or enclosed places, including retail locations, while 40% of consumers say they have significantly increased their online purchases (Kantar, 2020).

Furthermore, it is precisely in this scenario that the concepts of sustainability and unsustainability, right and wrong, urgent and extendable, have undergone a reformulation and redefinition of their most intrinsic and original meaning. The impact on the economic/financial system has been disruptive, and in some ways devastating. While the spread of the Covid-19 pandemic has demonstrated the fragility of some systems, it has and continues to have merit generating opportunities to re-modulate the way we produce, distribute and consume, with a view to sustainability in both the short and long term.

The universally practised restrictions, together with a tension towards hygiene that is never sufficient, have changed habits and behaviour with particular emphasis on the food sector, and have forced the sanitisation of any food and non-food product guilty of coming from a distribution shelf.

Suffice it to say that in the pandemic scenario consumer awareness of hygiene and safety has increased dramatically and will probably persist for a long time after the coronavirus crisis has subsided. A recent survey conducted by G&S Business Communication showed that more than two-thirds of US consumers are concerned about contracting Covid-19 from food packaging and that more than 40% use household disinfectants to clean the products they buy (G&S Business Communication, 2020).

The entire user-experience has evolved, from the relational logic to the product relationship, with growing attention to containers as well as contents. This new scenario has therefore opened new opportunities for both the packaging industry and the Design sector, bringing to light the necessary reflections. It is crucial for this reason to rethink packaging beyond the *must have*, considering

reasonable costs, convenience and performance, seizing urgent challenges and allowing for new questions and possibilities for development, both in addressing the dynamics of Design and in defining a renewed role for Design, starting from its education.

The packaging sector has always been at the centre of heated debate, seen on one hand as responsible for global pollution and climate change and, on the other, as a guarantor of safety and protection.

Although a massive return of single-use packaging has thwarted the efforts made over the past decades in the fight against disposable packaging, it is possible to recognize the return of glass as a *safe choice*. Though we have seen fruit and vegetables packaged individually, the packaging industry has demonstrated its fundamental role in keeping major supply chains operational for humans and their basic needs.

Therefore, the packaging sector has not stopped. It had to organize, coordinate, re-structure, it had to plan new ways of distribution and use, but it never quit. On the contrary, it has seen the opening of new opportunities in terms of innovation and sustainability.

This paper investigates and analyzes the practices adopted so far by the world of packaging Design in the management of health emergencies. Practices that have brought about a change not only in economic models but also in cognitive-behavioural and environmental ones, towards which Design is called to act with increasing responsibility and urgency. The urgency needs to be solved with a holistic vision; the responsibility needs to be addressed from the earliest stages of packaging designer training. The first section of this paper will explore the role of packaging as a debated protagonist of the pandemic era, and the second will show the implications of this artefact as a complex system to enable sustainable and safe behaviour in the future.

The specific and extraordinary time frame of the research stresses the awareness that the packaging sector, between angels and demons, has been and will always be a sector prone to innovation and in continuous evolution.

An analysis of several case studies examined with the systemic Design approach and the methodology of the Eco Packaging Observatory (OEP) of the Politecnico di Torino define the research framework. The case studies are considered useful for research, not to highlight how the health emergency has caused substantial losses for the international economy, but how it has activated positive and proactive synapses in the packaging sector for sustainable innovation purposes.

The paper concludes with some reflections on the challenges of packaging designer training.

Packaging in the pandemic era

Knowledge of ourselves, the world, and the phenomena that surround us has always been a challenge in complexity. The systemic approach shows us that we do not live in a linear, Newtonian world, where actions provoke predictable

reactions, but we are part of a complex environmental, socio-political, and economic system. A system that continually re-configures itself, and our actions always influence that. In this set-up, it is evident how a small change can be transmitted quickly and amplified by the intrinsic interconnectedness of the system to have enormous consequences, in the short and long term, in a limited place as on a global scale.
The Covid-19 crisis is an example of the metamorphosis of a system, and of how a distant change from a given sector can generate structural changes within it.

When we talk about packaging, we are faced with a series of objects that since the twentieth century have taken on a real deuteragonist role in the food culture scene and beyond, which has brought a multiplicity of functions to converge upon it (Bucchetti, 2015). From performance functions to operational characteristics, passing through everything that is the world of communication and information; functions that in the recent pre-pandemic period have been leveraged for continuous research and forever-new experiments with a view to sustainability.

In the emergency, some of the functions of packaging have been amplified to guarantee safety, others have been at the centre of strong debate, also to the detriment of the environmental issue, and others have emerged spontaneously to respond to new needs and to defuse the chain of contagion linked to tactile contacts.

If the production of consumer goods has suffered a setback during the health crisis, the production of packaging has not stopped, and from the outset has been working to establish new scenarios and solutions, not only to live with the emergency but to overcome it. Just think of the food sector. The food and beverage sector alone accounts for 55.3% of the turnover of the Italian packaging industry and 17.3% of the pharmaceutical and biomedical sector (UCIMA, 2019). Packaging, which plays an essential role, with demand for food, medicines and other essential goods at the highest levels, with its stoppage could have caused a significant interruption in the supply chain. For this reason, in Italy and the rest of the world, suppliers of raw materials for printing, packaging, and production facilities have been declared essential companies.

This has only increased the pressure on packaging manufacturers; so have individual consumers, who have changed their habits significantly during the lockdown. During the first phase of the epidemic consumers gave up several categories of purchases, reducing demand for certain types of packaging but accumulating stocks of necessities, causing a temporary and unpredictable peak in the sale of certain specific products considered useful in tackling the epidemic (Feber, Lingqvist, & Nordigården, 2020). Restaurant closures and time restrictions in food shops has also fuelled consumers' desire to stockpile, and their panicked purchases have turned to food, drink, and home care products.

So, while consumers were spending less to buy only essential goods, there was a need for longer-term preservation of the food and therefore highly efficient packaging in this respect.
Emergency purchases certainly favoured Design and packaging that demonstrably addressed consumer hygiene and protection issues, such as those that minimised the possibility of virus survival on the surface of the

packaging, those that minimised contact, and those that were easily sanitised, for instance those made of plastic materials at the expense of paper and cardboard.

Although the virus has been found able to survive on packaging surfaces for a specific amount of time (apparently 24 hours for cardboard), neither the Centers for Disease Control (CDC) nor the World Health Organization (WHO) have confirmed transmission through packaging. The likelihood of this happening is low; however, one of consumers' most significant habits in this regard is to sanitise their purchases or to wait before storing them.

This is a notable example of how perception and misinformation can quickly cause a change in consumer behaviour. In cases such as these, might it be necessary for packaging Design to reflect on solutions for protection embedded in packaging or the development of new virus-resistant materials?

On the other hand, psychosis towards contagion indicated that 35% of consumers chose to avoid supermarkets and shopping malls. In comparison, a further 32% replied that buying online was a much more positive experience than buying retail where there was a fear of contagion and equipment obligations to ensure safety (Kantar, 2020). This, in turn, had a long-term effect on online sales of necessities and convinced even the most skeptical consumers to rely not only on e-commerce but also on home shopping services (e-grocery).

However, the real battle was being fought outside the home; increased safety procedures in hospitals has increased medical packaging and related by-products, including blisters, and single-use tools. Similarly, in daily practice, there has been an increase in essential supplies of drugs dedicated to allergies and long-term therapies stocked up during lockdown. Health and safety concerns in the context of the pandemic have been shown to have a higher priority, overshadowing efforts to date towards sustainability (Munford, 2020).

The quantitative survey, commissioned by Comieco and managed by the SWG Research Institute, with a representative sample of 1,000 individuals, revealed that the health emergency we faced led 33% of users to change their purchasing choices in favour of packaged products; 46% of consumers who bought mainly bulk products before the emergency declared a radical change of habits in favour, again, of packaged products (Comieco, 2020). All these changes testify that packaging represents an essential guarantee in terms of safety and protection from the virus.

Certainly, the disposable takeaway options are reinforcing the resumption of some unsustainable packaging practices, as they are more in demand as the post-lockdown phases progress. In addition to the business boom for the usual delivery service giants, individual restaurants and local food companies have also been working to launch or improve takeaway services, re-adapting their business models to meet new consumer needs. In the short term, this required packaging to ensure that the food delivered was safe, warm, and *attractive*. Further, while waiting for a valid, completely safe reopening, some catering services have invented new ways to offer alternative consumption experiences,

following the footsteps of established delivery services. Thus, cocktails and pizza mixes have been reinvented, in a version that divides ingredients to be delivered to homes, opening up new alternative scenarios and new Design opportunities for the packaging sector.

While we have been witness to the implementation of unsustainable practices, the Covid-19 emergency has seen the acceleration of some investments in new departments and ecological production. For instance, the Italian company Madel, based in Cotignola, which produces packaging for some lines of disinfectants, took advantage of increased sales to invest in recycled and eco-plastic materials, assuming that the trend of sanitization by consumers will be maintained over time (Casadei, 2020). Another example that follows this direction is the leading food delivery company Just Eat, which replaced its traditional packaging with sugar cane packaging during the lockdown (Ucima, 2020).

Furthermore, among the behaviour of consumers towards a sustainable attitude, there is undoubtedly a trend toward healthier and, above all, safer products, confirmed not only by a growth in the consumption of organic fruits and vegetables (+14%) but particularly those that are packaged and wrapped (+24%). Combined solutions, such as the choice of organic and the use of sustainable packaging, could therefore present some advantages that go beyond the packaging industry itself, because a product with these characteristics has the possibility of being preserved longer, leading to a reduction in food waste.

Materials, technical solutions, new packaging lines, re-Design of formats, and structure of packaging: the crisis has highlighted that practical and creative ideas will be needed to preserve, guarantee, and reposition the perception of both the products we consume daily and the packaging in which they were purchased. Packaging Design will have new assets to practice. Elements that alone can constitute the consolidation of purposes, but which inserted in complex environmental and behavioural systems offer opportunities for new attention in the era of virus awareness. Some of the best practice will be analyzed, investigated, and described in the next paragraph to demonstrate that we have already seen the impact of this combination of emergency management with keen environmental awareness. Other solutions are still to be designed, and require that the vision of the designer and the packaging itself as a bearer of meaning move towards a systemic change.

Methodology

Encouraging systemic thinking means, first, to identify a new mindset, able to pursue a real change of perspective. This shift involves different perspectives: from disconnection to interconnection, from linear to circular, from silos to emergence, from parts to whole, from analysis to synthesis, from isolation to the correlation of different components; a series of insights that are necessary to enable a systemic mentality, capable of generating a positive, responsible impact (Acaroglu, 2017).

Promoting systems thinking means generating new opportunities based on the power and strength of the relationships between all the actors and

components of a system. It considers the possibility of outlining and planning the flow of matter streaming from one system to another, organizing and optimizing all the parts within an ecosystem so that they evolve coherently with each other, accompanying and leading the mutual dialogue between the various actors involved in this new cultural terrain in all phases of project development (Bistagnino, 2011). The result of a project based on a systemic Design approach is, therefore, a complex, dynamic, and non-linear system in which the relationships between the parties acquire strength and cohesion, such as to generate themselves autonomously and give life to an open and autopoietic local system aimed at the consumers' needs (Bistagnino, 2017).

Therefore, starting with a precise time frame, the contribution is configured as a research project on innovative and sustainable packaging Design, which is part of the wider research of the Eco Packaging Observatory (OEP by its acronym in Italian). This observatory is an Italian institution created to bring the world of scientific research and academic training closer to the world of business.

The objective of the OEP is to research in the packaging field, starting with a detailed analysis of packaging that is currently on the market, concepts and student work, with a specific quantitative/qualitative methodology. Comparative analysis of the data obtained is useful to provide a comprehensive overview of strengths and weaknesses at a functional and communicative level of the state of the art in question, thus allowing to define and specify new guidelines for a complete re-Design of packaging (Barbero, Pereno & Tamborrini, 2011). Finally, to develop the ecosystem, the logistic distribution system to and from retail is taken into consideration, as well as the articulated information/normative system for the disposal and correct reuse or recycling of the packaging product.

In this project framework, due to a precise methodological reference, the research has identified a clear operational focus. Reflections such as the choice of case studies raise a fundamental question in the field of packaging: have the pandemic, the health emergency, and what comes next, been and are they still an opportunity to accelerate the change towards a systemic approach and thinking, perhaps in a more fluid and *natural way*?

Case studies

In this section we will discuss, analyse and deepen our understanding of some suitably categorised case studies, considered relevant for the discussion in question. Almost all cases are characterized by a strong multidisciplinary approach, but differ in terms of objectives, challenges, and sectors involved: from food to pharmaceuticals, from communication to service.

This selection of case studies, critically analysed with the systemic Design lens and Element Occurrence (EO) methodology, aims to provide a multifaceted overview of the strategies implemented in times of crisis.

The selection criteria included:

a. The singularity of the project concerning the product category;
b. The company's timeliness and resilience to change;

Figure 1. Gel Ramazzotti filled in Canelli (Italy) and sent to the Italian Red Cross and Civil Protection. Credits: Ramazzotti
Source: https://www.symbola.net/approfondimento/storia-di-una-riconversione-dallamaro-ramazzotti-al-disinfettante-per-le-mani/

c. Relationship and compliance with the guidelines characterising eco-Design and systemic Design (Lanzavecchia, 2004).

Not Just Economic Resilience

From definition of autopoiesis (Maturana & Varela, 1975) to that of self-organization (Kauffman, 1993), the 1990s saw the evolution of theories on the concepts of resilience, self-regulation, and complexity. Resilience to contextual changes defined over time or unexpected, global as well as local. Resilience that, despite the difficulties, allows companies to evolve and transform while maintaining their state of equilibrium.

In an emergency status, some stop and others adapt. The packaging industry has demonstrated its vital contribution in keeping the food and pharmaceutical supply chains operational, supporting the public health sector, and safely remedying the shortage of essential goods. Brands such as Disaronno, Campari, Ramazzotti (Figure 1), and Brewdog in the alcohol category, Japanese Ohishiya in the food sector, or Bulgari for perfumery and personal care, are just some of the companies that have converted entire supply chains to produce alcohol-based hand disinfectant gels for local communities and associations.

Eco To Go Food Packs is the Design of an adjustable, disposable, and recyclable cardboard visor (Figure 2). In this case, the company used its machinery for the production of cardboard packaging with thin plastic film windows, and reorganized the entire production aimed at the food and luxury goods sectors to create anti-fog shield masks from scratch. Specifically, the structure is made of die cut cardboard while the visor is made of a thin plastic film. These components and materials are easily separable and therefore, disposable.

Changes and crises are an integral part of evolutionary processes. One of the critical strategies for increasing resilience mechanisms is to live with these phenomena rather than trying to remove possible causes or mitigate their effects. The ability of these companies to re-invent themselves and to

collaborate with the local system has not only guaranteed them an economic return but has also enabled a real strategy for sustainable development and the safeguarding of the socio-economic and cultural system.

A New Concept of Community

The territory is not a closed entity, characterized exclusively by endogenous factors, but has a strong relational component. The same territory could vary according to the social component that lives in it, defining a further characteristic, that of constant evolution. Furthermore, it is precisely the relationship between territory and community that allows the development of project actions capable of triggering processes of sustainable enhancement of local resources, whether they are material, immaterial, or human. Although a territory may appear mainly as a physical place, it becomes fundamental and challenging to consider above all the relational and social dimension present in it.

In this regard, the Covid-19 pandemic has had significant repercussions on the concept of human beings, both biologically and socially. It has produced a reversal of perspective: social distance and isolation become synonymous with social responsibility. The concept of trust has changed, the bonds, the notions of individual and group are modified. The concept of community is definitively re-configured. From these assumptions, some companies have created new and original forms of support and help for local communities, conveying extra-product packaging messages of hope and solidarity to the motto of *everything will go well.*

Campania Packaging, a leading company in the fruit and vegetable packaging sector, for example, has decided to do its part by creating ad hoc packaging to promote the message of hope. The packaging is available for all customers and producers who want to contribute to the cause: part of the proceeds are donated to the Cotugno Hospital in Naples. In the end, the production of anything, from a microwave to compact, ecological, and recyclable cardboard trays, offered the possibility of printing a message directly on the container,

Figure 2. Eco To Go Food Packs (United Kingdom) Disposable and Recyclable Face Visor.
Credits: Eco To Go Food Packs
Source:https://www.packagingnews.co.uk/top-story/eco-go-food-packs-launches-disposable-cardboard-face-shield-27-05-2020
Source:https://ecotogofoodpacks.co.uk/product/eco-staysafe-shield/

Figure 3. #Andràtuttobene (Italy) Fair Trade Beer.
Credits: andrà tutto bene ; mockups-design.com
Source: https://www.andratuttobenebirra.it

Figure 4. Melinda (Italy) Campaign "With Melinda, Time Flies".
Credits: Melinda
Source: https://melinda.it/in-compagnia-di-melinda-il-tempo-vola/

without the need for additional labels. The Forum Iulii Brewery took similar action in Cividale (Italy), creating a line of solidary craft beer (#AndràTuttoBene – *everything will go well*) and donating the proceeds to the Civil Protection and the Intensive Care Unit in Udine (Figure 3).

Also worth mentioning is the project promoted by the Pool Pack group which, as part of the solidary initiative that has seen a substantial donation to the V.I.M.M. research foundation and the Giuseppe Orlando Foundation, has decided to involve its customers directly in the creation of their bags. The company has collected dozens of drawings of rainbows and other positive symbols to create an original texture with which to make the packages to be distributed to bakeries, butchers, and food shops.
Finally, Melinda, a Val di Non consortium, is involved in the cultivation and sale of apples. During the quarantine period, it entertained and amused its consumers by promoting the project "*With Melinda, time flies*" (Figure 4). Recipes, games, and images for colouring have appeared on the apple packages. This idea was possible thanks to the use of an innovative digital printing technology that makes it possible to produce even minimal numbers of packaging.

The pandemic caused a tangible and disruptive change, but with an exceptional communicative charge; a change that has officially shifted the attention from all those values linked exclusively to consumerism and production, towards social, cultural, and ethical values; a change that sees man at the centre of the project (Germak, 2008).

Resource Effect: When the Output of One System Becomes the Input of Another

The output-input relationships created within a complex system are the basis of the systemic methodology. As in nature, what is not used by one system becomes a raw material for the development and survival of another; in production processes the waste (output) of one system can become a resource (input) for another, thus creating new economic opportunities (Barbero, 2009). As already highlighted in this article, with the pandemic some resources have

Figure 5. First Mile and Delphis Eco, Call for Bottle Closure Recycling.
Credits: Cynthia Vanzella
Source: https://www.britishplastics.co.uk/News/delphis-eco-and-first-mile-call-on-the-nation-to-recycle-cle/

become more urgent than others, and some business models have had the opportunity to reinvent their production cycles to respond to the emergency and not stop the entire supply chain. This is the case of Delphis Eco: through a virtuous collaboration with the recycling company First Mile, it has urged families across the country to become involved in keeping supply chains active despite the pandemic. The company moved towards sustainability when the main production sites for plastic bottle caps, generally China and Northern Italy, were in isolation, resulting in a global supply shortage. The process end-users, in this case the consumers, were called upon to collect and re-deliver the plastic bottle caps and closures to the company to be put back into circulation. The operation involved the launch of a free collection service called Recycle Box by First Mile, which sorted and cleaned the caps and sent them back to Delphis for reuse.

The selected case study demonstrates not only the possibility of creating healthy relationships in the territory but also that Design for components is possible and necessary. Correctly, the exhausted output of a process is put back as an input to re-establish the balance of a production process that was suffering the crisis, proving a resource.

Conclusions: Towards the design of a whole system of meanings

Despite the unexpected situation, as never before, the packaging sector has proved a marked tendency towards continuous growth, innovation, and evolution.

Experimentation with materials, exploration in the field of graphics, communication and storytelling, research for social impact, the emergence of e-commerce services increasingly oriented towards the end-user, and the upstream application of Sustainable Development Goals (SDGs), have shown us in recent years that packaging can and must be sustainable (Giovannini, 2018).

The case studies and experiments proposed, in a prominent way, and the related companies, in a conscious way, have demonstrated resilience and feasibility at the process level and partial compliance with the axioms of systemic Design. However, what is not yet happening today is a holistic vision

of the packaging system in its most sophisticated and articulated meaning. Many authors stress the need for a holistic view of packaging since the early 1990s from different points of view: Sörås, Erlöv & Löfgren (2000) from an environmental perspective, Harckham (1989) from a global commercial perspective, and Johnsson (1998) and Dominic et al. (2000) from a logistic point of view; however, the cases are rare where the training of packaging designers has returned to this form (Olsmats & Dominic, 2003). If on one hand the figure of the packaging designer is part of a wide, varied context, thirsty for skills and professionalism, capable of suggesting correct and innovative solutions to respond simultaneously to the needs of producers and end consumers; on the other hand, designers find themselves having to rethink the entire system of meanings, and for this reason their training will also have to be reviewed.

What the right tools or the right methodologies are to face this challenge is still an open question. The sure thing is that designers today are increasingly encouraged to consider the entire life cycle of packaging, not only its primary function, but a complex ecosystem made of social impacts, relationships, messages to transmit, behaviours to promote, and much more. From these reflections emerges a theoretical reflection on the role of packaging designer training, which together with didactics, will necessarily have to shift attention from a linear Design approach to a transdisciplinary one that addresses complexity. An education capable of training a professional that is able to dialogue with the different areas of the packaging system, whether related to the world of production, Design, or distribution.

Ultimately, what emerges from the Covid-19 crisis is that the concept of sustainable packaging is a complex and fragile balance between different factors: consumer perception, material efficiency and sustainability, ease of disposal and much more. The packaging is the protection of the product, organization of logistics, presentation, and information to the final consumer: a strategic and fundamental component for those who produce and buy.

It is an object of use, with operational and performance functions, referring both to its nature as a container of the product, [...] and to that of tool that facilitates, in consumer contexts, the physical interaction of the user - consumer with the product [...]. It is also, at the same time, a communicative device, characterized by diversified functionalities referred to its nature of signalling system, interface, medium (Ciravegna, 2010, authors' translation).

In conclusion, the role of Design in the packaging sector today goes beyond the purely self-referential dimension of Design or that of mere problem solver, to become a promoter of new methods, models, and approaches aimed at complexity (Germak, 2016). Design intended as a flexible and dynamic tool to interpret the transformations of today's society, cultural values, a tool for the enhancement of skills, a mediator of needs (Celaschi, 2008), a tool to trace new routes for sustainable innovation, an instrument to explore new contexts and reading social, territorial, and productive changes. A reality in which Design as a cultural catalyst imagines scenarios aimed at greater responsibility, transparency, and sustainable innovation from a systemic point of view. A reality that officially shifts the object of discussion from purely environmental and economic sustainability to a real systemic awareness of action.

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