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Innovation: An Intersection Point between Design, Economics, and Sociology

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Abstract: The deep connection between Design and Innovation has its origin from the meaning and from the interpretation of these two terms. This is more significant if we apply a cross-disciplinary point of view to read the contemporary scenario where processes related to product design innovation are developed. Design is not only what teachers and professionals intend about it: it is very important, at the same time, the meaning of design for the “outside world”, for users, customers, buyers, ... According to its positive perception, society and economy now confers the Design discipline a leading role, but it can reasonably be expected that, at the same speed of its development, the importance of Design could one day start to decrease. The methodology used in the present article is an etymological analysis, associated with a lecture of what experts mean about Design and Innovation. A case study and the didactical experience of the author supported the conclusion.

Key words: Design, innovation, project, cross-disciplinary.

1. Design and Innovation

Design and Innovation are two words that are frequently associated: we can see this pair in exhibitions, articles, papers, publications, congresses, websites, reportages, ...

Both concepts unavoidably generate a form of attraction, for their inherent link with the concept of progress, for their many present and future implications, both political and social, for the primary power of each innovative process, that is to generate value and therefore money.

The word Design internally contains the meaning of innovation. Design is (also) innovation. But we cannot assume the contrary. Innovation can exist even without design: it is possible to improve a product, a process, a service without the features and the possibilities offered by a design approach but, in so doing, it can be expected that such form of innovation is at risk of not fully expressing its potential, of being

misunderstood, of being upstaged by a more advanced form of innovation where design is a founding element.

2. Interpretation

The role of Design is leading and strategic: even in product design, it never has only an aesthetic connotation. In certain types of products, the role of design is crucial and vital, especially in today's world where the strength of a product lies also in the meaning that a user is capable of assigning to it [1].

Flusser [2] stresses that the word Design is simultaneously verb and noun, that is purpose and result at once. This reflection can help us to understand its force: “the word design managed to carve out a key role in the daily language because, if we start to not believe anymore that art and technique are sources of value, then we realize that art and technique are supported by the intention: the concept of design replaces the concept of idea”.

Since many are the components and the specialists involved in the processes connected with

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innovation¹ (Fig. 1), the capability to emphasize an idea is an important hallmark. It is so important that it acts as a binder between the different players involved in those processes: in fact Design is the key-discipline that plays a fundamental role of synthesis and coordination between the various project features, also because of its non-scientific nature that allows it to be more agile, more flexible, more ready to change, more ready for the future than traditional scientific disciplines.

3. The Future

The future is the key-concept that deeply connects Design and Innovation.

“Future comes in the back” was what the ancient Greeks said. “It is born from the past. We believe that the future is made of endless chances, actually, it is a consequence of what we chose, almost never a surprise” [3]. The present is the moment when we build the future, and this interpretation is strictly project-related. It has a real importance both in innovation and in product design.

In this respect, Jones [4] argues that Design is the only discipline capable of living the future as the only possible time dimension: “The main point of difference is that of timing. Both artists and scientists operate in the physical world as it exists in the present

¹The proposed taxonomy includes references to economics, Design, social sciences; an original part has been inserted, related to the project matrix (product innovation) directly derived from educational experiences and research. Some macro-categories have been identified (approach, motivation source, ...), with a substantial focus on product innovation, closer to the world of design. It is interesting to observe that the fever around this topic generated new theoretical definitions over the past decade: *Open Innovation*, in Chesbrough H. W. (2003), *Open Innovation: The New Imperative for Creating and Profiting from Technology*, Harvard Business School Press, Boston; *Disruption*, in Mcquivey J. (2013), *Digital Disruption: Unleashing the Next Wave of Innovation*, Academic Press; *Jugaad Innovation*, in Radjou, N., et al. [12]; *Reverse Innovation*, in Govindarajan V., Trimble C. (2013), *Reverse Innovation: Create Far From Home, Win Everywhere*, Harvard Business Review Press, Boston. In particular, *Pop Innovation*, in Magaudda P. (2013), *Innovazione Pop*, il Mulino, Bologna is a fascinating hypothesis of a real connection between science and popular imagination proposed by movies and books.

(whether it is real or symbolic), while mathematicians operate on abstract relationships that are independent of historical time. Designers, on the other hand, are forever bound to treat as real that which exists only in an imagined future and have to specify ways in which the foreseen thing can be made to exist”.

If we extend our reasoning to sociology, we discover that the word future is still important, in fact, in this discipline, innovation is “a step in the future within the range of collectively organized mind” [5].

4. Usefulness and Acceptance

It is clear that the future is a dimension that links Innovation and Design, but they have in common other features: the concepts of usefulness and acceptance.

Usefulness is the first boost necessary to spend energy, time and money; acceptance is the first verification of a creative process, where a new rule breaks the existing one, and where the achievement is due to the fact that the new rule is an improvement.

Innovation expresses its full potential because it generates something that is better, useful and accepted by the collective. This collective interest can reveal also an ethical dimension: if an invention is something new, but not necessarily a plus, innovation always includes a benefit, from an economic, technical, social or cultural point of view.

Schumpeter [6] argues that “an innovation is not a simple invention, it is an invention which is understood, identified, communicable and therefore socially acceptable: this confers legitimacy”.

But this also confers a big responsibility for a designer.

If the designer is primarily involved in generating innovation, why do economists mainly deal with this topic?

5. Appeal and Risk

The improvement due to an innovation motivates changes in processes, products, techniques and at the

same time, it encourages the demand for products. Companies generate value from their sold products, but they must invest much, and the investment is

strictly connected with the risk. Many of the economic studies about innovation are made in order to reduce and to manage this risk.

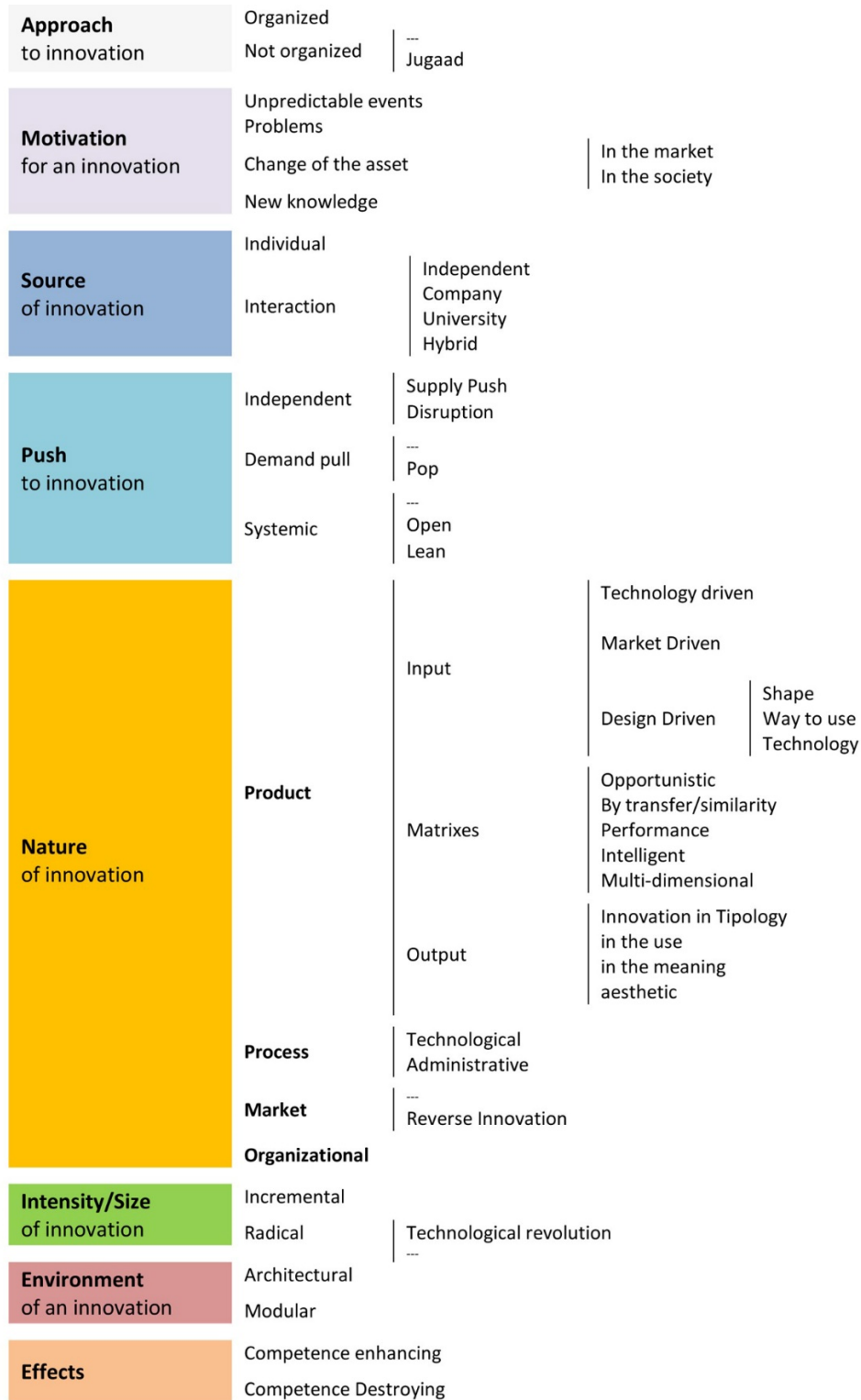


Fig. 1 Overview of the main forms of innovation.

Source: Mancini [7].

Coming back to a sociological point of view, also for a human being it is important to control the risk that is related to something which is new and unfamiliar.

Many reflections were made about the behavioral analysis of an individual that forefronts the unknown dimension of the *new*.

Petrarca [8], in the *Familiarum Rerum*, wonders why “we fear the new things and we despise the common ones” while Freud [9] deepens the concept differentiating the new into primary and not-primary nature. About the first, he speaks of psychic waste caused by uncertainty, that can evolve into distress. In non-primary nature circumstances, the *new* can generate an intense attraction, instead.

This uncertainty, unavoidably, brings with it also a certain amount of appeal: the new is unknown but potentially is able to improve one or more parts of our life.

Now we can link also the two points of view, the economic and the sociological one, by finding a common attempt to manage the risk related to an innovation.

But then, why do economy and sociology, which are two important, longstanding, scientific, established disciplines, need Design to fully express the power of an innovation?

6. Design: Why?

One possible answer is that, if Innovation grows together with Design, then some of those risks can be reduced: the risk that the new product will be misunderstood by the market, the risk that the used materials will reveal unpredictable externalities, the risk that the formal side will not be up to the technological one, ...

If we deepen the meaning of Design, and we go beyond the project of shape, function, material, and sense, we find that, nowadays, it is closely related to the meaning of Idea. When an idea materializes in a product (or process, or service) it becomes tangible

and usable, the product reveals itself and, at the same time, it crystallizes. From now on the future matches the present. It is at this point that Design can express its full power: the idea becomes shareable and creates innovation. But from now on also the past matches the present: “Design, by generating the shape of products, confers through that shape a historic significance to products” [10] so that, simply by looking at it, we can determine the age of a product. Design, in that sense, produces the perceived quality of an object.

In every operation aimed at generating innovation, from a practical aspect, beyond the result of the design activity, while we ask for Design we ask for the capacity to manage “the real construction of an idea” [11].

Many scholars identify complexity as one of the features of contemporary society [12] and right through the lean method of Design it is possible to summarize all the different aspects and requirements prescribed by all the disciplines involved in the project of innovation. Design has the ability to channel an idea into an effective solution.

De Biase [13] claims that “The design is the well-rounded project, from industrial reason to aesthetic emotion, to functional rationality. It is the meeting point of vision, technology, and creativity [...] It is a cross-disciplinary answer to a demand of society: the demand of sense”. The importance of Design is therefore also in its social inclusion, more effective than a basic marketing strategy. In our liquid society [14], in the sea of over-exposed products, not everything that is industrially conceived is able to reveal its inner idea or its positive features: to act with design methods means also not to waste opportunities in order to better exploit economic, social, technological energy.

Design for Growth and Prosperity [15] is a document, produced by the European Union, where all these concepts are gathered also for a political purpose.

Basically, it became clear that design methods have the capability to improve also different areas, such as

medicine, through the materialization of a quantum leap.

Lastly, Citterio [16] describes one of the reasons why economic and social disciplines understand that Design is more able to influence the market: “Much has changed with respect to the historical condition to which the reputation and the idea of design were related. Today design is central in enterprises acting, in the media attention, in the evolved consumer’s behavior. Beyond a helpful notoriety, attention, and promotion, this has led to some ambiguities so that the same word ‘design’ is used for different and conflicting things.

In such over-communication, able to affect the market, it happens that an eye catching product, with a high visual impact, ideal for magazine covers, is sold as ‘good design’, to the detriment of a complex, global approach.”²

In conclusion, an interpretation of the couple Design & Innovation may be represented right by this hyper-communication, where each term derives its strength from the other one: Design includes Innovation, Design holds and drives Innovation, but Innovation qualifies the concept of Design by reducing the ambiguities that are related with its wide range of opportunities.

7. Creativity: A Case Study

About the evolution of the interpretation of a word, it is interesting to report a study of the word Creativity, by Cinque [17].

The word is etymologically derived from the Latin, but its root KAR is also present in other ancient languages, as Sanskrit and Greek (where Kronos is the Time, that is the Creator).

“The word (Creativity) for ages was referred to a divine sphere, only, because the creation was an

exclusive ability, not granted to humans. To refer creativity to a human being was considered blasphemy (trans)” [17].

The word “creative” started to spread with its contemporary meaning only in the twentieth century, thanks to the influence of the English language, where it is associated to the skills necessary for the creation (Oxford Dictionary).

“Since the 70s, the adjective ‘creative’ has been enriched with connotations that make it synonymous with ‘productive’, ‘inventive’, ‘fantastic’ and above all it has been transformed into a substantive related to a specific professionalism (trans)” [17].

Nowadays the word “Creative” refers to Design, graphics, marketing, fashion and other fields (creative cooking, for example).

“In some contexts, the adjective ‘creative’ has taken also a negative meaning. This happened because in the common language the term has become the opposite of logic and rationality (from here some negative locutions were born, as ‘creative finance’, ‘creative ethics’). The semantic drift was such that ... no one would call ‘creative’ an artist (trans) as Stanley Kubrick or Elton John because it would be reducing” [17].

This case study demonstrates that creativity is not a qualifying and ever positive term, such as Design and Innovation.

8. Conclusion

It can reasonably be expected that, as “creative” evolved, also Design and Innovation will evolve, with the risk that some of their positive features will fade out and decline, due to their over-communication.

In the contemporary, a new term is spreading with the same positive qualities and connotation of Design and Innovation: this term is “Concept”.

“Concept bar”, “Concept store” (the project of a space), “Concept car” (the project of a product), “Concept hair”, ... all these are increasingly popular locutions, where “Concept” replaces “Design” in the sense of “Vision”, “Idea” and, at the same time, it

² In this respect, in a recent article, provocatively the author proposed the definition of *Design-driven obsolescence*, as opposed to *Design-driven innovation* (Mancini, M. 2019. “Design-Driven Obsolescence.” *The Design Journal* 22: 2243-6).

represents a result, an effective and shareable application, similar to the meaning of “Innovation”.

Design is not only what teachers and professionals intend about it: it is very important, at the same time, the meaning of Design for the “outside world”, for users, customers, buyers, ...

According to its positive perception, society and economy now confers a leading role to the Design discipline, but it can reasonably be expected that, at the same speed of its development, the importance of Design could one day start to decrease.

In an overall humanistic vision, the present paper aims to spread the importance of a cross-disciplinary attitude of dealing with innovation. When the economy, sociology, and Design have the opportunity to work together about innovation they can have a strengthening in return: their peculiar features become fundamental in a wide-ranging perspective, aimed at increasing the duration, the meaning, and the importance of an innovation project.

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