Design and the Virtual Organization

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The word *design* is of English origin and it is linked to the concept of plan or project, to ideas such as draw, intention, or configuration. The term implies the conjugation of two levels in permanent dynamic tension, the abstract level of conceiving/projecting and a more concrete, of giving form, materializing the idea. Furthermore the term does not refer only to manufactured objects; it can be used to refer to the design of a molecule, a structural arrangement, or the construction of curricula (Denis, 2000). It is also considered that a universal definition of design, valid independently of historical and socio cultural contexts, does not exist (Barnard, 1998). But, even if designing, as any other activity, is constrained by the social and cultural role assigned to the designer in a given society (Dormer, 1990; Downton, 2003; Manzini, 1993), that does not mean that we cannot present a general definition of design. So, although there are different areas of intervention for the designer, from common objects, to visual and verbal communications, services, systems, and environments, we can consider design as the conception and planning of the artificial (Margolin, 1995), having in mind the direct consequences for the consumer/user of this way of given material form to an idea (Bonsiepe,1999).

Discussing design in the scope of the networked and virtual organizations (NVO) implies that we have to regard design as an activity in the context of the market economy, where the designer functions as stabilizing element (Baudillard, 1975), renewing/innovating the world of the objects at the level of the appearances and at the level of the use requirements. From this perspective we also have to consider that since the 80's the product started to be valued as a strategic factor in the context of global competition which redoubled the importance of design as an essential activity in creation of a competitive distinction between products (Lorenz, 1991). And finally because of this global competition, we must pay attention to the connection between design and manufacturing as nowadays activities like production and distribution depend frequently on outsourcing—a fact that enhances the importance of the information and communication technology (ICT) and recommends partnering between organizations in order to achieve the benefits of industry scale. Different organizations with different skills may start to work together and communicate without a planned structure but soon the need to a more consistent approach supported by standardization of business process and communication procedures will lead to a networked virtual organizations model.

DESIGN CONTEXT OF AFFIRMATION AND EVOLUTION

The work of the designer is today, visible through many of the objects that surround us, from furniture to posters yet, this is a relatively recent area of professional activity, whose affirmation is connected to the transformations that occurred in the sequence of the Industrial Revolution.

During many centuries the objects were mainly handcrafted. Their production was characterized by certain stability in terms of models, stability interrupted, from time to time, by a true innovation. Gradually, the production of objects passes from mainly handcrafted to mostly mechanized, and mass production system is adopted.

It was from the 19th century-on that this way of manufacturing became common, making it possible for an astonishing increase in production and a reduction of costs. Diverse objects and printed matters become thus accessible to an increasing majority.

The labor structure changed and those who conceive are not, any more, the ones that actually make the objects. The project is in the base of the mass production. The industrialization started the process that would lead to the affirmation of the designer as a professional specialized in the conception of objects suitable for man. We were talking about the changes in the productive process, but those do not constitute the only factor that would stimulate the development of design. From the middle of 19th century-on, design

tries to affirm itself as an instrument capable to revert the critics to the bad quality of the industrial production, conceiving objects of aesthetic quality, namely with William Morris and the Arts Crafts Movement (Schmutzler, 1982).

Design can, equally, be seen as a way to innovate in the creation of forms for mass produced objects. Bauhaus, the most paradigmatic school of design known until today (Droste,1992), followed this way and was responsible for the affirmation of a formal style that revisited a question always present in the creation of objects—the relation between form and function.

In the first 30 years of the 20th century, the question of the competition between manufacturers and nations gained importance; some institutions connected to education and promotion of design were determinant in the affirmation of the competitiveness of the national industries—schools as the Deutsher Werkbund or the already mentioned Bauhaus and great companies who bet on design as the AEG.

The acceptance of the designer as a professional responsible for the qualification of the products had still not occurred. Painters, sculptors, and architects thought the objects of daily use. From the 20's and until the 50's and 60's, these professionals are pledged in the quest of universal formal solutions applicable to the conception of objects in general, from furniture to posters—an international style based on pure and functional forms eventually distant from the taste of the majority.

Meanwhile, in the United States, there was a new orientation in the conception of objects for industrial production advocating the investment in the exterior aspect through use of appealing forms, capable of pleasing the sensitivity of the public—the styling. The good economic situation of the United States in the end of the First World War contributed to the adoption of this trend that supported the acceleration of the fashion cycles and led to what is called planned obsolescence (Rodgers,1999).

In the 60's the reaction to the functional approach led many designers to conceive objects that incorporated the stylistic trends in vogue, others used humor and an artistic, instead of a rationalist approach.

The 80's were plural, in the realm of design personalities like Philippe Starck or Neville Brody and movements as Menphis or Green Design surfaced along with many relatively anonymous professionals.

Since that time the generalization of the use of computers brought alterations to the practice of design, facilitating the visualization and finishing of the projects, blurring borders between the different areas of design that are now supported by the use of common tools and originating new specific areas as Web design.

DESIGN: A TASK IN THE CONTEXT OF VIRTUAL ORGANIZATIONS

A new worker and his work, the project, and the material form of the idea emerged from the industrialization process and the changes in the labor structure. Since those times an important element—technical drawing, the language that the designer uses to express the project—has contributed to make the design process suitable to be developed in the context of networked and virtual organizations, as this technical language also known by the production engineer in the factory supports the exchange of information obviating communication problems. In fact, technical drawings and all the detailed specifications that constitute the project represent, nowadays, a key factor permitting that the sector of production work in a "net" with the designer.

Nowadays the design process occurs independently, and many times quite far away, from the production plant. The designer could work in France, as Starck does, while his projects are being manufactured all over the world. So, we can say that design takes part in the new reality of networked and virtual organizations. As we referred before, the project, using technical language, constitutes an ideal support of communication and now, with the generalization of the use of the Internet, the increased capacity of computers and velocity of Internet accesses, the whole process is more proficient.

We have, in fact, multiple examples of this new reality. If we look at big retailers like IKEA or Zara, we find out that the design projects—the effective drawing work—once concluded, they are sent over to the manufactures who offer the best conditions to produce in an outsourcing logic. The global quest for specific production capabilities, low-cost manufacturing processes, or specific materials enhances the importance of network, and it is facilitated in the context of virtual organizations, mainly by the use of information technology to communicate and coordinate efforts among

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