

GLOBALISED MARKETS AND LOCALISED NEEDS. RELOCATING DESIGN COMPETENCE IN A NEW INDUSTRIAL CONTEXT

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ABSTRACT

Globalisation implies several phenomena, such as the expansion of markets and the relocation of production. However the success of global production depends on business companies' capability to generate local and individualized solutions. In order to put together global production and local solutions, industries have to develop a new capability to mobilize local networks of actors and enable final customers to play an active role in the production of the final solution. This implies a radical change in the social role of business companies and, from the designer's perspective, a *genetic change* for the design discipline. Designers should shift their focus from products to solution platforms around which different technical and socio-economic instances can *catalyse*.

The discipline of design and design education have to consider this shift, because of its relevance for the future of designers, at least in the most industrialized countries. This paper aims at repositioning design competences in the new scenario and suggest new areas of explorations on for design education.

Keywords: globalization local solution, new industrial contexts, system design.

1. BACKGROUND

Industrial systems, as well as the global economies, are undergoing enormous and rapid changes that are challenging the development model of industrialised countries.

Globalisation implies several phenomena, including the expansion of markets to developing countries, the relocation of work activities and the employment of natural resources up to a critic threshold beyond which the planet's balance is at risk.

The expansion of markets to new regions is often based on the expansion of resource intensive consumption patterns and lifestyles, typical of western countries. At the same time huge differences in labour costs and a decrease in transport costs are encouraging the relocation of industrial production to developing countries. For some years now, western companies have been relocating manufacturing activities, and are now moving service activities, too. At the moment developed countries are retaining management and decisional functions, including design, because of their strategic role; however the growth of the new markets will require part of those functions to migrate, as well. More and more designers will be needed, for instance, to address the specific preferences of customers in Asian markets, where design services will be offered for a lower price.

A more critical analysis of globalisation however, would clearly emphasise a different perspective, even when starting from the same assumptions: globalised markets are not globalising needs, indeed needs are always related to a cultural, economic, social and technological context. This implies that global production will not necessarily satisfy the needs of local markets and consequently that globalised industrial production will be challenged to develop the capability to differentiate the final product beyond the present models of market segmentations, whose development started back in the '70s and

eventuated in mass customisation. Accordingly, designers will possibly be employed to develop solutions platforms (e.g. modular structures consisting of combination of products and services) on the basis of which local and global production will meet individual needs.

2. OLD AND NEW MODELS: DISABLING AND ENABLING SOLUTIONS

When moving the focus from global production to individual needs, a new logical shift emerges, concerning the role of industrial production: so far industrial production has provided users with products and services to *relieve* them from the many tasks in everyday life. This role has become pervasive and, in the last fifty years, have changed the most common private and public functions: Tasks that in the past we could handle by ourself or within our networks of social and family links (our informal economy) are now performed by something (a product) or someone else (a service). Those functions have shifted to the formal economy [1]. This relieving logic is leading to a progressive “passivization” of customers, i.e. given the problem (washing clothes rather than finding a boyfriend) a solution is offered for a price, thus relieving the customers from any physical work. This logic, although comfortable, is very expensive, not only because it requires a monetary transaction, but also because it compromises our future capability to find our own solutions to everyday problems. This logic is in fact *disabling* people [2], because it makes them *unable* to solve problems in the future. What we now save in physical effort or time, we will pay in the future in terms of lost knowledge and skills, we will need more and more services and products to find solutions we could well find by ourselves. Customers, in this logic, represent problems, expressed in form of a set of needs. Their involvement is often not required for the definition of a solution, very little participation is needed from them, very few skills. Needless to mention that this logic is sometimes undermining our social relationships, as it replaces personal links and social networks with technological products or services.

Fortunately the complexity of demand patterns are making sure that this logic does not remain the only one: business companies are urged to balance the huge increase in their production size with a capillary fragmentation of demand, scaling market segments down to the individual level. The key of success for global companies is to extend their horizon even beyond mass customisation, towards individual solutions.

Once industrial production and individual solutions represented a contradiction in terms, nowadays, thanks to modern communication technologies, this is possible, but it requires a revision of the role of business companies. Norman [3] observes that the new role of business companies is now to *organise value creation*: customers are no longer seen as *consumers* (i.e. *destroyers* of the value created by the chain of production and distribution processes), but as *co-producers* of value. This new role extends business companies’ interest far beyond their formal boundaries, out in the logical and physical space in which the value is co-produced. Here companies should act as facilitators among other actors, including local services providers, local institutions and customers.

Although Norman describes a landscape that is already changing, this change represents in fact a mutation of the *genetic code* of industrial production, because it affects the core of business companies’ identity: the concept of value production. According to this scenario, business companies would loose their prominent position in the value creation process and become part of a networked process of change.

3. LOCALISATION AND INDUSTRIALISED SOLUTIONS

The cultural and *genetic* shift suggested by Normann has relevant implications in the way industry, society and institutions will possibly cooperate, especially at the local level. The success of globalised companies will possibly be decided in the space and

time of the interaction between companies and customers (the *moment of truth* as defined by Norman [1]). Here a system of actors, services, technological infrastructures, cultures, rules and roles will converge in a process of value co-production. The number of actors converging in this moment is huge, especially in the most complex services available everyday; the *density* of performances, interaction and expectation is very high and, if not adequately designed, this can be the moment in which critical failures can emerge, which could compromise the whole system.

This emphasises the importance of refocusing design on the local dimension. Global processes are accurately planned according to management criteria. Every product reaching our shop is in fact the result of a complex interaction between the providers of components, packaging, logistic services, manufacturers, and many other actors. The growing emphasis on enabling and individual solutions, however, emphasises the need for a more consistent organisation of local actors' networks, often including final customers. This implies the development of a new planning and design approach, which has several analogies with the logic of industrial production.

This epochal shift is similar to the shift from handicraft to industrial production. At that time the craftsman work was the result of implicit knowledge and a sequence of actions and events which were not written, though clearly defined in the craftsman's mind. The design process supporting industrialisation, in that case, consisted in disassembling the production process in its simple components, that could then be re-assembled into a new production system. The craftsman's production was based on implicit knowledge, whereas industrial design made such knowledge explicit and clearly transmittable between different places and times. Industrial manufacturers were therefore able to create economy of scale, optimisation of resources and a clear subdivision of roles. A similar process of industrialisation, applied to the complex system of interactions at the local level, could help creating industrialised solutions for individualised needs. At this point, however, some critical differences emerge, between the early industrialisation process and the logic of co-produced individual solutions.

Such solutions in fact, are not processes that can be totally described and controlled through codified sequences of actions. They are based on social interactions and are systemic in their nature. Any prescriptive description of such complex solutions could be easily demolished by the arbitrary or unplanned interference of individual behaviour. Services are based on people, rather than machines.

4. THE ROLE AND THE CHALLENGE FOR DESIGNERS

The challenge, in designing the new solutions, consist in managing the heterogeneous system generated for the new solutions, in which actors with different backgrounds, skills, knowledge, needs and cultures will need to co-produce new value. Designers are in a privileged position to work in this context, because of their attitude towards planning interactions (objects, services, or events) and finding a balance between technologically possible and socially desirable. However the genetic mutation affecting industrial production in the new global-local scenario will possibly be mirrored in a radical change in the designers' role and competences.

The binding link between designers and industrial products should be broken, in favour of a wider view of design as an activity applied to a system of social innovation in which business companies may not have a dominant role. Designers will have to catalyse heterogeneous elements in a new production (or co-production) process.

The new clients designers will work for are local networks of small companies, local institutions (banks, libraries, hospitals and local administrations), associations and cooperative groups. For those people designers will no longer be required to produce

finite solutions, but rather scenarios and operative strategies to enable them to co-produce their own solution.

Although the demand for such solutions become more and more pressing, the new actors have very little knowledge about designers' skills (the usual picture of the design as a creative decorator is instead the dominant reference) and have rarely considered the possibility that design contribute to address the new demand. It is therefore important that such new potential clients for designers revise their idea about designers' competences, but at the same time industrial designers must learn a new language and acquire new operative tools to operate in the new context.

5. CHANGING DESIGN EDUCATION

It is clear, at this point, that the main challenge for design schools is to generate new professional profiles. Several design schools are very much attached to their traditional focus on product design. Furthermore, the genetic origins of the design discipline, which have their roots in applied arts, are keeping some of those schools along a very traditional profile, in which the art and craft traditions are prevailing on issues related to industrial production system. The rigid separation between the artistic and creative tradition of design schools and the systematic and methodological tradition of other disciplines, such as engineering and information technology is preventing the evolution of design education towards wider models including professional competences to manage the new paradigmatic conditions.

Design schools, need to develop a methodological approach to operate on systemic solutions at the local level. On the basis of this approach, new techniques can be borrowed and adapted from other disciplinary contexts. The process of incorporating existing techniques into a methodological approach has been defined as *methodical procedure*. Only when a methodical procedure is applied, an existing technique can be seen as a method, in relation to a specific methodological approach. The application of such methods into a concrete problem has been defined as a *methodic*. Methodical procedures and methodics are the elements of an *operative paradigm*. [5]

The search for a new operative paradigm opens different fronts in design education. The most significant ones are: 1) The analysis and interpretation of the context; 2) The development of the system; and 3) The representation and communication of the solution.

The following paragraphs will synthetise the wide landscape of contributions and studies that may prove relevant to explore such new fronts.

The analysis and interpretation of the context

The new systemic solutions are a social construction resulting from the interaction of several actors. Their heterogeneity derives from the different background, competences and skills of each actor (whether individual, or social group or public institution or industrial company). Each actor shapes the system according to his/her own knowledge, needs and expectations and according to its own role.

Analytical tools can be borrowed by social construction studies, in order to create logical maps of the actors shaping the solution. Such maps should also include actors, infrastructures and rules that are indirectly shaping the system [6]. Social construction studies also suggest analytical frames to identify the actors' motivations and expectations, possibly highlighting also those actors and conditions that are likely to contrast the new solution [7].

The solution is also influenced by spatial conditions, technological infrastructure and social, cultural and institutional rules. Sangiorgi [8] proposes an analysis based on the

concept of situated action, in order to map the heterogeneous set of criteria influencing the systemic context in which a solution will be developed.

Ethnographic studies are also being considered by designers, in order to investigate more thoroughly on the user's perspective.[9, 10].

Designers, however, can also contribute with their own *designerly* way of analysing and interpreting reality. Therefore methods, such as *Design Orienting Scenarios* [11], which are based on the projection of future scenarios back to the present, can be used to interpret reality in relation to possible design actions.

Designing and developing the system

While the development of the physical features of a product is based on an exploration of dimensional, functional, esthetical technological and mechanical characteristics of products, the heterogeneous components of the new solutions introduce new dimensions, such as time, interaction, expectations and social habits.

The methods to be explored to deal with the new tasks derive from different approach to systemic design. IDEF0 [12], for instance, is an objective description of a system, that allow for different views, from a broad perspective to a detailed description of process sequences. Students' projects on system design challenged the flexibility of IDEF0, a method developed in engineering studies: the high number of subjective choices suggested the use of more flexible tools, such as *platforms* and *system architectures*, which provide semi-finished solutions to support a set of individual solutions. Other methods, such as use cases (borrowed from studies in information technology) provide a tool to plan user's actions in relation to the system behaviour [6, 13, 14].

Representation and communication of solutions

Although designers are very familiar with representation techniques, the design discipline's focus on product design does not provide enough valid tools to deal with systemic solutions. Designers, in other words, are not used to represent some characteristics of systemic solutions, such as time and interaction.

The development of new representation methods, however, is even more critical than in the traditional design discipline. Being based on co-production, i.e. on the direct participation of customers, the new solution must be adequately communicated to people who are not familiar with the usual design notations. Designers have to learn how to talk with technical people, on one hand, and with common customers (including elderly people, children or any other subject that is not supposed to spend too much time in learning a new language).

The graphic notations used in some of the methods mentioned above should be integrated with other, sometimes more *colloquial* forms of communication (including scenarios, storyboards or even movies), in order to communicate with all the actors involved in the co-production process and, of course inform about roles, rules and relevance of the new solution.¹.

6. CONCLUSIONS

This paper shifts the focus of the discussion on globalization, from the mainstream topics of extension of markets and production relocation to the emergent phenomenon of localization of needs and individualization. Such phenomenon is a product of the same evolutionary patterns that lead to globalization, although the design discipline is sometimes avoiding a thorough analysis of its implications.

¹ A more detailed exploration and mapping of the new methods has been presented in the paper the author presented together with C. Tollestrup in this conference.

Designers are very likely to be involved in local innovation phenomena. Such phenomena, though, have systemic aspects designers are not traditionally used to deal with and require the discipline and design education to open new explorations. Although the design discipline is traditionally located between different domains, the technical as well as the cultural one, the social domain as well as the communication one, the assumption that the traditional culture of design is sufficient to deal with the new systemic context is no longer valid. This is not business as usual for designers. On the contrary designers are often missing an adequate toolbox to deal with those problems.

This is a big challenge for design schools, which, so far have kept too conservative perspectives on those phenomena. This paper however, suggests that the exploration has already started, with the help of other disciplines that are already familiar with some of the problems emerging in the new context.

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