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Industrialisation and Social Innovation: Design in a New Context

N Morelli
Aalborg University, School of Architecture and Design, Aalborg, Denmark | nmor@aod.aau.dk

Background

Almost thirty five years ago, Viktor Papanek pointed out designers' responsibilities with respect to major social and environmental needs (Papanek 1985). Papanek's call was an alarm bell calling for a change in the design profession, but for many years it did not have too large consequences among designers and did not address the design approach towards the satisfaction of those needs.

For several years, the majority of designers interpreted their social role as complementary to business strategies; this approach was very critical towards any design initiative that was not based on the traditional market-driven approach. It is true that a small group of designers was proposing interesting but isolated design contributions for the solution of social or environmental problems, but the logic of economic rationalism seemed unbreakable and did not help any exploration in the middle realm between pure market-based industrial logic and socially responsible design.

Yet, in the last decades, many things happened: 20 years after Papanek, a study on sustainability promoted by the Dutch government (Weterings, 1992) offered a more substantial argument for change: a model using some projections of critical planetary factors suggested that a 90% reduction of the global ecological impact (*factor 10*) is needed, by 2040, to preserve a significant amount of resources for the next generation. The study animated a debate about how to work for that reduction (Jansen, 1994; Manzini, 1997; Von Weizäcker, Lovins, Lovins, & Club of Rome., 1997) and was most probably one of the references for setting the target for the Kyoto protocol. Furthemrore it gave a strong warning not to expand the western development model to developing countries.

The expansion of markets to new regions is in fact based on the expansion of western resource-intensive consumption patterns and lifestyles. This, from an environmental point of view, implies catastrophic predictions in medium and long terms about the use of planetary resources, whereas, from a socio-economic perspective suggests the uninteresting scenario of a global society flattened on the western countries'

consumption models. Many corporations though, preferred to pursue short term and market oriented strategies and ignored such a warning.

More recently globalization added a new dimension to the debate started by Papanek. For several years globalization was only a possible (and not necessarily desirable) future. In the last few years the rise of some sleeping economic giants, such as China, focused the debate about globalization on more tangible questions, including the relocation of work activities and the emergence of evident social inequalities.

Huge differences in labour costs, together with 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, as well[1]. Anti-globalisation movements emphasised the social inequalities caused by the relocation of work[2], but such inequalities are not only related to different geographical areas of the world; even within western countries the high level of unemployment caused by this phenomenon is increasing the difference between social classes and generating new or more serious social problems.

The risks suggested by the most pessimistic interpretation of Papanek's warning seem to become reality, and it is now time that design, together with other disciplinary area, address those problem as critical for their own profession. While scientists and technologist focus on the physical aspects of social metabolisms, with the aim of driving the future planetary developments far from environmental catastrophes, other social actors, including designers, are urged to work on the major social, cultural, political and economical instances brought about by globalization.

By shifting the perspective of design action towards those problems, however, this paper will emphasise interesting elements of change, that may lead towards less pessimistic scenarios. If the mainstream industrial production is going towards the most aggressive models of globalisation, the operative strategies of global companies are often forced to pay more attention to local context. Competitive advantage for companies consists in generating innovation at the local level and for individual people; furthermore it is based on a different interpretation of the relationship between industry and customers, according to which the customer is no longer a passive receiver (a *consumer*) of the output of industrial production, but rather an active co-producer of his/her own values[3]. When shifting the perspective in this sense new opportunities emerge, which are also supported by existing methodological contributions, from research projects and academic activities, which may help designers to play a central role in innovation processes with relevant social implications. This paper will

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[1] So far designers in western countries were rarely touched by this phenomenon. Because of its strategic role, design services have not migrated yet, but the growth of the new market is likely to require local design expertise, therefore causing a massive relocation of design centers in developing countries.

[2] The book "No Logo" by Naomy Klein (Klein, 1999), was possibly among the most significant explorations of the landscape of social injustice and human rights violation due to an unscrupulous use of outsourcing agreement when moving production from western to developing countries.

explore this area, explaining the entity of the ongoing shift towards new models, suggesting new focuses and new methodologies for designers' activities and finally reframing this contribution in the debate started by Papanek and recently revived by others.

Market-driven models and social quality

Although debate on globalisation requires a wide perspective on planetary problems, a real understanding of the present situation is only possible when focusing on local instances. Market and production are globalising, but, at the local level, new local problems are emerging. In western countries for instance, the relocation of jobs is creating mass unemployment; but at the same time substantial immigration flows are changing the labour market and the socio-cultural patterns. Finally, unemployment is eroding the economic basis for the welfare systems, which are also challenged by the ageing of population and the emergence of new cultural patterns. The new situation is generating new demand for solutions with high social and cultural value. This is an opportunity that the mainstream globalised production is often unable to seize.

In social studies, where those instances became clear quite a long time ago, the distinction suggested by Papanek, between market based and non market based interventions on social processes has vanished. De Leonardis (De Leonardis, 1998) notices that market-driven initiatives are progressively expanding to cover social services, thus taking over the space made available by the shrinking of public intervention on social problems. However the same author observes that the quality criteria on which market-driven initiatives are based do not always match the criteria related to social quality. The question arising in this area is to what extent the traditional market driven approach can generate high quality social services.

The traditional market-driven approach is based on the idea of *relieving* people from the many tasks in everyday life. This idea, which shaped the idea of *comfort* (Manzini, 2005) and the social role of industrial production, have changed the most common private and public aspects of our life: Tasks that in the past we could handle by ourselves 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 (R. Normann, 2000). This relieving logic is leading to a progressive "passivization" of customers, i.e. given the problem (washing clothes as well as finding a boyfriend) a solution is offered for a price, thus relieving the customers from any physical work or responsibility. 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. This logic, although comfortable, is very expensive, not only because it introduces new monetary transactions, but also because it compromises customers' future capability to find their own solutions to everyday problems. This logic is in fact *disabling* people (Manzini, 2005), because it deprives them from the capability to solve problems in the future. What customers now save in physical effort or time, will be paid in the future in terms of lost knowledge and skills, people will need more and more

[3] This perspective is suggested by the works of Norman and Ramirez (R. Normann, 2001; R. Normann, and Ramirez, Rafael, 1994; Ramirez, 1999)

services and products to find solutions they could well find by themselves[4]. Needless to mention that this logic is sometimes undermining social relationships, as it replaces personal links and social networks with technological products or services.

The problem of shifting to a new logic has therefore wider implications, as it requires a new approach to social problems, that empowers social and individual capabilities. The revision of the traditional market-driven logic, in other words, must be done in parallel with the revision of the idea of social quality. De Leonardis (De Leonardis, 1998) defines social quality as the *measure of citizens' capability to participate to the social and economic life of their community in conditions that improve both their individual wealth and the conditions of their community*. This definition emphasizes two aspects of social quality: the first aspect concern the individual capability of citizen in a community to be an active part in a process of value production: social quality increases when more citizens are in the condition to participate and contribute to the creation of value that addresses individual and community needs. The second aspect concern citizen's participation: social quality increases when more citizens are in the condition to participate and contribute to the development of their own community.

Social quality implies therefore the inclusion of those parts of the society (especially in developed countries) which are otherwise excluded by social life and those communities (mainly in developing countries) whose consistency is undermined by poor socioeconomic conditions, which limits individuals action to a mere fight for subsistence.

Reviving Papanek

The debate opened by Papanek was revived in recent times. At the "Common Ground" conference, in 2002 Butenschon stressed the need for a design agenda that addresses those problems. (Butenschon, 2002) This call was echoed in the same conference by Margolin (Margolin & Margolin, 2002), which suggested a new paradigm in which the role of designers is clarified. Margolin (Margolin, 2002) also provided some examples of designers' contributions and some methodological suggestions, based on the experience of interventions in social studies.

Those contributions, together with some research project developed in the last few years, inspired Morelli's proposal for a shift of designers' activities from products to systemic solutions (Morelli, 2003). In order to support this shift, Morelli suggests exploring the possible convergences between industrial logics and social instances.

Following this line this paper aims at contributing to the debate about a new design agenda on two points:

- The emergence of new contextual conditions in industrial production and business companies, and

[4] In his "Development as Freedom" (Sen, 1999) Amartya Sen argues that capability deprivation is more important as a criterion of social disadvantage than is the lowness of income, since income is only instrumentally important and its derivative value is contingent on many social and economic circumstances. Even if Sen's perspective is focused on more radical forms of capability deprivations, his approach - based on the consideration of human beings as active, rather than passive receivers - provides an interesting point of view to revise the approach to social problems also within the most industrialised countries.

- The possible utilisation of the industrial logic in the solution of social problems (i.e. the *industrialisation* of socially responsible solutions)
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The first point relocates the design activity in a new industrial context, in which the success of global industries is linked to their capability to solve local problems
The second issue is related to the capability of designers to contribute to local social problems by using and adequately adapting models and criteria borrowed by industrial production.

Design in a new industrial context
Although a paradigm shift is advocated by many of the authors inspired by Papanek, including Margolin, a nodal point that would support such a shift is usually not discussed: the link between designers and industries. When talking about this link designers (and design schools) implicitly refer to a *client* for design services, whose profile often correspond to the traditional product manufacturer. Globalisation has not changed this link: designers are still thinking their profession as related to the production of products; globalisation is shifting the location for manufacturing, while technology is increasing the flexibility of production processes and client management, but none of those phenomena is believed to bring about radical changes in the design profession.

In fact, if we cast our sight beyond this link, we could observe that the social and economic role of business companies is undergoing a radical change. The same advanced technological infrastructure that allows for the relocation and management of manufacturing activities also makes offering from business companies more and more complex. In fact globalisation corresponds with a fragmentation of market segments, in order to respond to a very sophisticated demand pattern, which is sometimes very localised and personalised. While trends towards globalisation seems to reduce the distinctiveness of local and regional contexts, the local capability to generate context-related solutions is the source of differentiation and competitive advantage for companies (Becattini, 2004). Local and contextual solutions are only possible if global companies become an active part in local initiatives, also involving institutions, companies and final customers. Global businesses are challenged to develop the capability to differentiate the final offering (not just a product) beyond mass customisation, towards the definition of *individual segments*. All those phenomena are signals of a change towards a different conception of the social role of business organisations. A first relevant shift is from the provision of products to the organisation or support of local networks of actors. A second shift is from the provision of finite solutions (products) which are often *relieving* people from their own tasks and responsibilities to the provision of *semifinished platforms* including products and services, that will *enable* people to create value according to their individual needs[5]. In other words business companies are becoming *organisers of value creations*, shifting their role from principal or sole actor in the production system to co-producer of value (R. Normann, 2001) together with other actors, including final customers.

[5] This condition possibly contradict Margolin's statement (Margolin & Margolin, 2002) that"While the world's design needs are evident, reinventing the design profession is not." When demand patterns come to individual segments in fact, the world's design need become less evident, but the designer will possibly have a different role in addressing them.

Norman suggests IKEA as a typical example of value organiser. The company provides part of the solution (the furniture, the exhibition and the catalogue) and final customers provide the rest of the work for the production of the solution (collection of the furniture, transport and assembly). Remarkably, the catalogue is a powerful tool for customers to learn how to design their own ideal home.

This contextual condition would address the design agenda towards a different role for the designer: the new *clients* the designers will work for include local networks of small companies, local institutions (banks, libraries, hospitals and local administrations), associations, cooperative groups and individual customers. For those people designers will no longer be required to produce finite solutions, bur rather scenarios, platforms and operative strategies to enable them to co-produce their own solution.

The revision of the link between designers and their clients is therefore based on two main instances:

1. The *industry* designers are talking with, have a different social role, which is not limited to the production of products, but is extended to the definition of solutions
2. designers should consider new referents for their activities, including local institutions, service providers, associations and local groups and even individuals.

Although the demand for new solutions becomes 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. The public perception of design agency in society should be revised, but at the same time industrial designers must learn a new language and acquire new operative tools to operate in the new context.

Social instances and industrial logics

The second relevant point in the new design agenda concerns the way designers can contribute to the new solutions. The most evident social problems are usually characterised by a sense of urgency and a complex plot of critical conditions. They often emerge in areas that are not covered by market driven policies. Even public intervention is often unable to provide valid solutions to such problems. In this context it seems quite difficult to talk about industrial design, especially when the design activity is framed in the traditional industrial context. The industrial culture, however, has generated an *operative paradigm*[6] to operate on production and consumption processes within the traditional industrial production paradigm. This culture can provide several interesting insights on how to produce solid and sustainable solutions, i.e. solutions that are not only addressing an individual need, but are also empowering individuals and other social actors (service providers, institutions) to generate new social quality.

As mentioned before, the solution to problems that cannot be addressed by global production must be solved by mobilising individual knowledge and skills. Several examples can be made, in which innovative solutions

[6] The term *operative paradigm* was introduced by Arbnor and Bjerke (Arbnor & Bjerke, 1997). The term is clarified in the next section of this paper.

have been produced by creative attitudes of local communities[7]. Although such solutions are intrinsically *placed* in their geographical and cultural context, the design discipline can help distilling indications about organisational structures, products and services that can be used in different contexts to solve similar patterns of needs.

We are facing an epochal shift that 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 capture and transform part of the tacit knowledge at the local level, in order to activate this knowledge in a *platform architecture* that can provide a set of systemic solutions that address individual 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. The new solutions are based on people, rather than machines. Furthermore those people use different languages and cannot communicate through an unequivocal language.

The *platform architectures* designers should work on are modular structures in which the competences and role of different actors and organisations are specified. On the basis of such platforms, different combination will be possible, which allow each single actor to generate economy of scope. 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 (an *engineering* approach) and socially desirable (a user-oriented approach).

In search of an *operative paradigm*: mapping existing contributions

The new contextual conditions require a new methodological approach, on the basis of which a new *toolbox* for designers is defined, for designers to operate in the new context. Arbnor and Bjerke (Arbnor & Bjerke, 1997) suggest that such a tool box is generated by importing methods from different disciplinary area (*methodical approach*) and adapted into methods to be used for solutions in specific problem areas (*methodics*). The same authors define such a toolbox as an *operative paradigm*.

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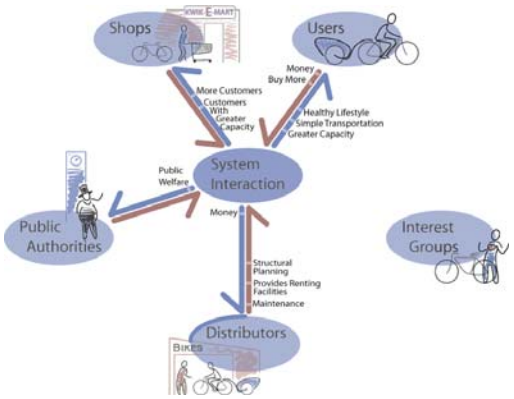
[7] A recent EU funded project, called EMUDE, collected a series of cases of social innovation generated by a bottom-up approach to social problems. Creative communities have been spotted, which, instead of waiting for government support, have solved some social problems (such as child care, isolation of elderly people, problems in socially disadvantages areas of big cities) by using their own social network and mobilising their individual skills. The collection of cases has been published on www.sustainable-everyday.org.

Margolin's contribution to design action for social responsibility goes in this direction, borrowing a procedure from social science, which articulate intervention in six steps: engagement, assessment, planning, implementation, evaluation, and termination (Margolin & Margolin, 2002). In order to be part of the designer's operative paradigm, Margolin's proposal should be adapted through *d*esignerly methods, in order to provide concrete methodics. Although the procedure described by Margolin has a solid methodical foundation is social sciences, when translated in the design discipline it may prove too rigid. In fact design processes are usually less linear and alternate analytical and design phases since the beginning of the design process. Designers, for instance are more and more interested in using analytical methods used in ethnographic studies. The results of the use of those studies in the design discipline are a wide range of methods, from video ethnographic studies (Buur, Binder, & Brandt, 2000; Buur & Soendergaard, 2000) to cultural probes (Gaver, 1999). All those studies however, are using the analysis on target users as a quasi-design phase, in which users are often directly or indirectly engaged to provide suggestions and contributions to the design process. In other words a designerly approach is often shifting from the logical space of problem definition to the solution space. The assessment and evaluation of scenarios or possible solutions is a way to work in the engagement and analysis phases.

The contributions in the following sections are instead examples of methodics derived by the designerly adaptation of methods from different disciplinary areas (from social sciences to information science). Although those examples are not necessarily related to the solution of social problems, they may provide interesting methodological insights to this area.

Identifying actors and motivations

Local systems of innovation are defined by network of actors directly or indirectly participating in the development of solutions. The identification of the actors is critical to explore the system of interests, skills and (tacit and explicit) knowledge that can be mobilized. Social construction studies suggest mapping tools to identify such actors and qualify their interaction with the system. A design-oriented use of such maps consisted in a series of models of the interaction between stakeholders, on the basis of different innovative scenarios (Figure 1). The design contribution in this case consisted in the definition of a model to analyse different possible scenarios.



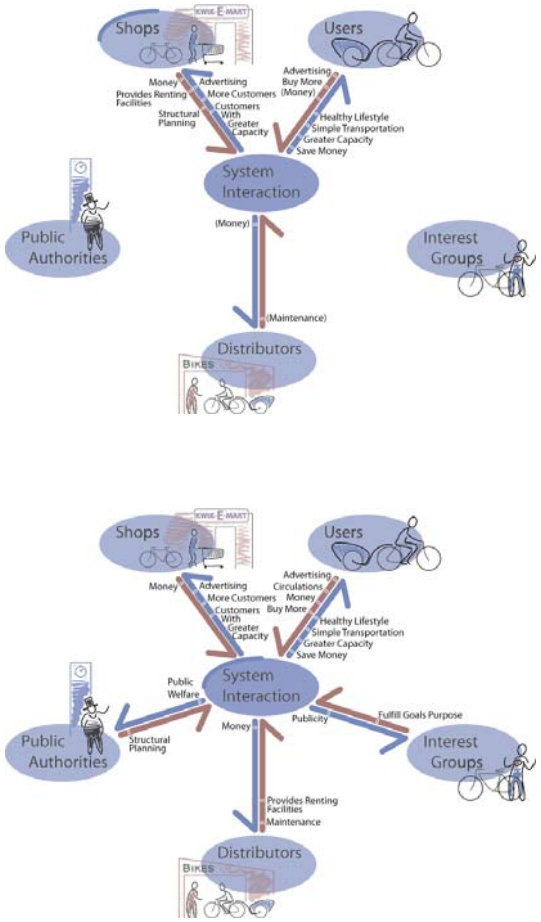


Figure 1 Modelling a system through the analysis of the actors' network: in this project for a shared bike-trailer system different hypotheses were done on who should promote the system and how this would impact on the other actors' involvement. (Source (Morelli, 2004)

Another very powerful tool to manage the cooperation within local innovation system is the motivation matrix. By filling in such matrix the stakeholders have the opportunity to clarify their expectations about their own participation into the system and from their cooperation with each of the other actors involved in an initiative (Figure 3).

gives to...	organic food manager	meal producer	appliances producer
organic food manager	. find and move to new prospectives to develop activities and services in the field of organic food	. organic brand identity differentiation . organic food expertise . selling channel	. organic brand identity . organic food market expertise
meal producer	. food processing expertise . catering management expertise	. find new areas of business as: - new contexts of use - better fit of special customer's needs	. food preparation expertise . dedicated recipes and processing
appliances producer	. competences in food processing	. new competences in food processing . set up criteria for designing new convenience food	. find new application fields for advanced cooking and preserving solutions

Figure 3 In the motivation matrix each actor will define the expectations from his/her involvement in the system (diagonal cells) and from the other actors in the system (columns) Source (Manzini, Collina, & Evans, 2004)

Design Orienting Scenarios (DOS)

DOS have been introduced in the EU-funded SusHouse project. They are a typical application of this designerly approach. The aim of DOS is to generate visions of the future that are subsequently orienting operative design decisions. Manzini and Jegou (Manzini & Jegou, 2000) emphasize the difference between DOS and the more commonly used "policy orienting scenarios" (POS). According to the authors, "POS" tends to characterize the effects of various political decisions on a plurality of individual choices, by using one or more global visions of society. "DOS" instead, tend to show the effects of single decisions of a group of actors on the focused system through one or more visions of this particular focused system. "POS" tends to be used by the public or private sector to assess and show possible effects of different policy alternatives. "DOS" are used by single social actors or a small group of actors to orient their own future and build appropriate business solutions." (Manzini and Jegou 2000).

DOS are aimed at generating a plurality of hypotheses, involving local actors, possible users and other stakeholders in the development of the scenarios. The use of a narrative structure helps communication between stakeholders with different cultural and technical background. A structured process based on brainstorming sessions with all the actors and some well defined evaluation criteria enables the stakeholders to generate a set of semi-finished solutions, that can be further developed through the use of other methods (such as platform architectures or use cases).

Industrialising innovation: Platform and solutions architecture

While the previous methods aim at catalysing actors' knowledge and participation around systemic innovation at the local level (they can be used in the engagement phase of the design process), the following methods support the planning phase and are fundamental tools for the *industrialisation* of innovative initiatives in the new context. When talking about industrialisation in a context of social innovation not all the characteristics of the industrial logic can be considered. Mass production, for instance is far from the scope of social innovation.

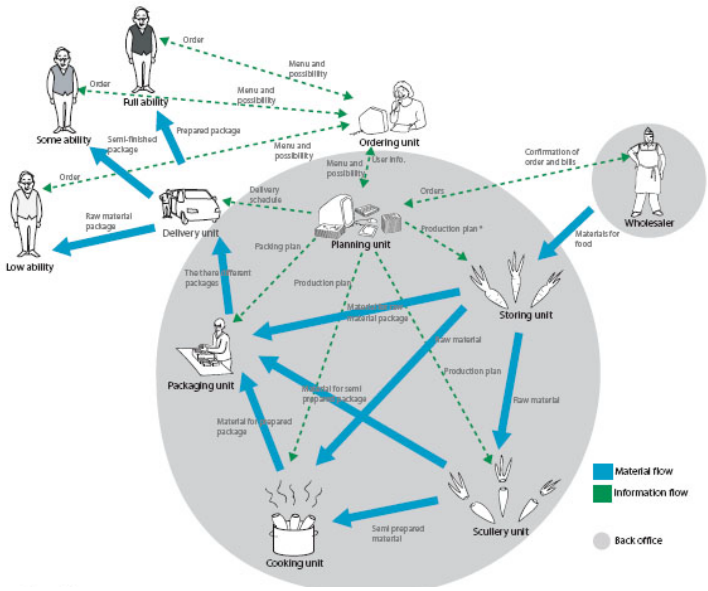
But, as mentioned in a previous section of this paper, the evolution of the concept of industrialisation in the last decades has largely abandoned the focus on mass production, shifting the attention to other characteristics of the phenomenon of industrialisation. Recent studies on industrial districts, for instance, emphasise the strong link between production of goods and the reproduction of the material and human conditions from which the productive process itself starts. Beccattini, for instance, suggests that in industrial districts, production of goods *includes the social reproduction of the 'productive organism': a really complete productive process should co-produce, together with the goods, the values, the knowledge, the institutions and the natural environment.* (Becattini, 2004). This brings the debate about new forms of industrialization very close to the issue of generating economically, socially and environmentally sustainable social innovation.

Many industrial districts, however, have grown on the basis of unplanned natural or social characteristics. This raises the question whether similar cases of social innovations can be generated as a result of a planning activity.

Several research works[8] suggest that a planning activity to support social innovation could use industrial logics to generate organisational structures, to capture codified and (to a certain extent) tacit knowledge and to generate economy of scope. This planning activity is far from been considered as prescriptive as the traditional planning in the old industrial context, but can solidly support the generation and reproduction of social innovation. The new solutions are not defined in all their components, they are rather semi-finished platforms which are meant to organise material and immaterial flows, specify roles and competences and possibly generate new knowledge that some actors (such as service providers or institutions) may add to their existing competences. The generation of a solution platform is therefore the basis for a co-production process.

Designers are nowadays very familiar with the concept of product platforms in product design. Industrial production is often structured by platform architectures, which organise production systems around subsystems, generating flexible configurations, from which different products and families of products can be generated.(de Weck, 2003; Ulrich, 2000).

When used in the new context and for generating new co-production systems, platform architectures can be observed from different perspectives. An overall view, for instance can provide indications of front and back-office of a system (i.e. the parts of the system that are visible or invisible to the final customers) as well as describe flows of information, goods and money (Figure 4).



[8] The most relevant research works in this case are some EU-funded projects, such as HiCS ((Manzini, Collina, & Evans, 2004) and EMUDE.

Figure 4 an overview of a system for a food delivery system to activate elderly people Source (Nilsen, 2006)

A progressive focussing on the system may specify flows and define some solution lines. Figure 5.

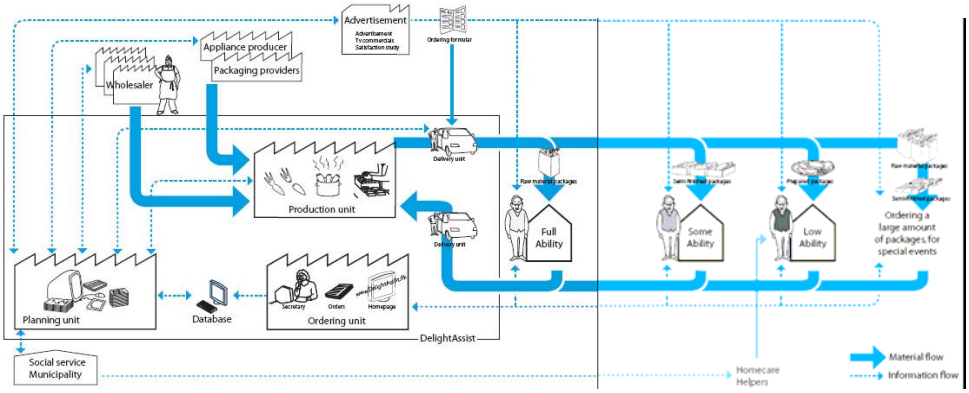


Figure 5 Solution platform for the same system as Figure 4. Here material and immaterial flows are specified in relation to different sets of solutions

Finally, the platform can be analysed in its subsystems, to understand their articulation and combination (who does what? For which result?). (Figure 6)

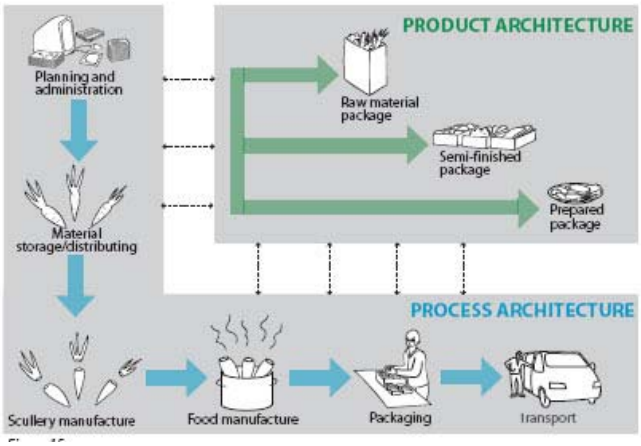


Figure 6 Solution platform: analysis by subsystems

A detailed view: user and use cases

The overall view provided by platform architectures corresponds to the general view of a product in product design. More detailed views are necessary to have a closer insight of how a social system will behave during the use phase. The analysis at this level should consider a wide range of possibilities generated by users' behaviours. Short stories about possible cases of use can be generated, which can be described step by step, as in a storyboard. Information technology introduced a similar procedure to define the requirement for new software. Information system architects generate *use cases* (Kulak & Guiney, 2000; Leffingwell & Widrig, 2000), i.e. a description of a user's behaviour. Information architects use plain language and basic illustrations, whereas designers, who have borrowed the same procedure also to work out indications about movement in

space, context and interaction, used more figurative techniques (Morelli, 2002, , 2004), in order to generate a most understandable representation language.

For each photogram of the use case, the behaviour of the system can be described. This allows for a detailed structure of the system components and the actors role.

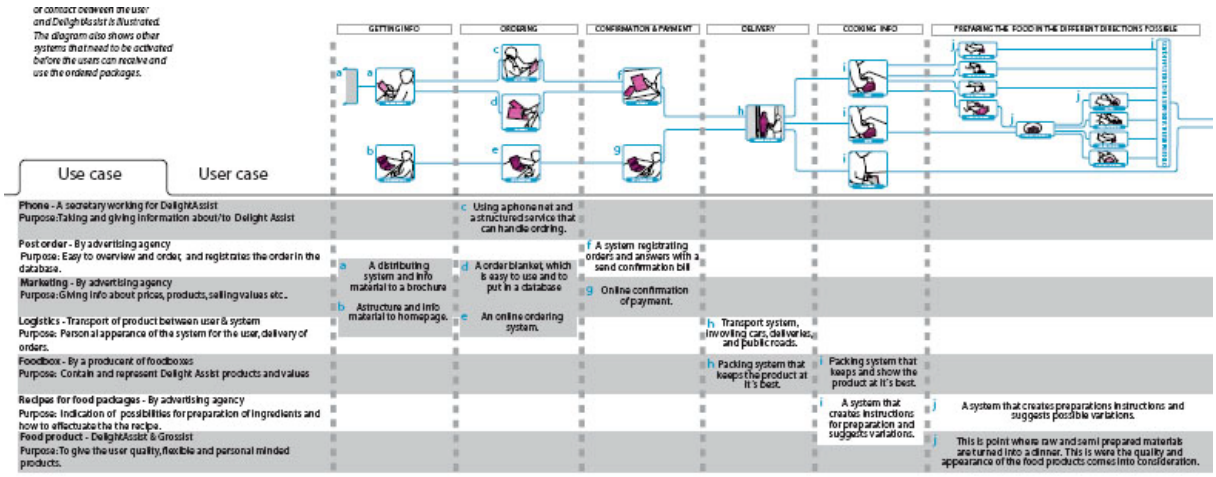


Figure 7 User/use case for the same system as in Figure 4. The user's behaviour is described in the upper part, whereas the lower part describes the corresponding behaviour of the different components of the system

Conclusive remarks

The contribution offered by this paper to the redefinition of the design agenda can be synthesised in three points:

- **Why** should designers look at different perspective, focusing on social problems;
- **What** are designers supposed to do in the new system; and
- **How** are designers supposed to work in the new context

In order to place this contribution in the debate started by Papanek this paper should be able to address the criteria proposed by Margolin (Margolin & Margolin, 2002) for the revision of such agenda. More specifically, Margolin proposes that such revision addresses the following criteria:

- public and agency perceptions of designers,
- the economics of social interventions,
- the value of design in improving the lives of underserved populations,
- a taxonomy of new product typologies,
- the economics of manufacturing socially responsible products, and
- the way that such products and services are received by populations in need.

Public agency and perception of designers

The role and perception of designers is changing in relation with the radical shift in the social role of industrial companies. The new condition implies a genetic change in the role of industrial system and, consequently a genetic mutation of designers' role and activity. Both companies and designers will no longer be proponents of a set of products and services to passive users, but rather the facilitators of a system of value co-production. They will therefore loose the central role they had in the previous

contextual condition and become catalysers in a networked system. This requires that the public perception of designers' role is changed and that designers learn new methods and languages to operate in the new context. This paper offers some insight about such new design competences.

The economics of social intervention

The new perspective for social intervention is based on the social participation. Social actors that were passive receiver of services in the past will become active co-producers and co-designers. Even if the economic of this new situation can only be evaluated case by case, the intrinsic characteristics of enabling solutions imply that actors are mobilising hidden or sleeping skills, competences and capabilities, which, once activated can generate new solutions. Furthermore an approach that borrows methodological criteria from industrial production, as suggested in this paper, could generate the conditions for a better use of resources within the local system and generate new knowledge and economy of scope. Finally, it is also clear, from the crisis of welfare systems in the most industrialised countries, that the traditional approach to social intervention is economically unsustainable and new solutions must be found to address this structural crisis. This approach could open a window on a territory to explore in order to address the challenges of welfare systems.

The value of design in improving the lives of underserved populations

Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime. (Chinese proverb)

The traditional disabling (and product centred) approach offers very few opportunities to improve life conditions of underserved population. In the traditional industrial context, designers were working on gaps or deficiency in social groups. When the result of the designer's work was a product, the efficacy of the solution depended on the product's lifespan. In the new context instead, designers should work on customers' (residual or full) capabilities and consider customers as a resource, rather than a problem. In this sense design becomes also a facilitating tool for people to learn their own way to satisfy their needs, thus providing solutions for a lifetime.

A taxonomy of new product typologies

The new approach should break the link between designers and product design. This link is possibly at the basis of the disabling approach that characterised the old industrial paradigm. By breaking this link designers should open their competence to the definition of solution platforms, which are a support to co-production, rather than a range or typology of finished products.

The economics of manufacturing socially responsible products

The argumentation in this paper shift the focus from product manufacturing to co-production of solution. It therefore cannot cast any new light on this point.

The way that new products and services are received by populations in need

Once again the new approach breaks the barrier between producer and user of a product or service. It rather changes the role of the customers from *consumers* (i.e. those who *consume* the value accumulated during the production chain, from manufacturing to final sale) to co-producer. Customers are no longer external actors of the value chain but rather part of a value-creation constellation.

The time is mature to review Papanek's recommendations from a new perspective, that reduces the distance between market-based and socially oriented initiative. The challenges proposed by global issues, such as

sustainability, relocation of jobs are bringing about radical changes in industrial production, as well as in public institutions and welfare systems. This paper hopefully demonstrated that, if the question of social sustainability is framed in this context, new opportunities emerge that could bring towards new territories to explore with a design-oriented approach.

References

Arbnor, I., & Bjerke, B. (1997). *Methodology for creating businesss knowledge* (2nd ed.). Thousand Oaks, Calif. ; London: Sage.

Becattini, G. (2004). *Industrial districts.* Cheltenham: Edward elgar.

Butenschon, P. (2002, 5-7 September 2002). *Worlds Apart: An International Agenda for Design.* Paper presented at the Common Ground, London.

Buur, J., Binder, T., & Brandt, E. (2000). *Taking Video beyond "Hard Data" in User Centred Design.* Paper presented at the Design. Participatory Design Conference (PDC 2000).

Buur, J., & Soendergaard, A. (2000). *Video Card Game: An augmented environment for User Centred Design discussions.* Paper presented at the Designing Augmented Reality Environments (DARE 2000), Helsingør.

De Leonardis, O. (1998). *In un diverso welfare. Sogni e incubi.* Milano: Feltrinelli.

de Weck, O. L., Eun Suk Suh and David Chang. (2003, September 2-6-2003). *Product Family and Platform Portfolio Optimisation.* Paper presented at the DETC'03 2003 ASME Design Engineering Technical Conferences, Chicago, Illinois, USA.

Gaver, B., Dunne, Tony and Pacenti, Elena. (1999). Design: Cultural Probes. *Interaction, 6*(1), 21-29.

Jansen. (1994). Towards a Sustainable Future, en Route with Technology. In D. C. f. L.-t. E. Policy (Ed.), *The Environment, Towards a Sustainable Future.* Dordrecht, Boston, London: Kuwler Academic Publisher.

Klein, N. (1999). *No logo : taking aim at the brand bullies* (1st Picador USA ed.). New York: Picador.

Kulak, D., & Guiney, E. (2000). *Use cases : requirements in context.* New York Boston, Mass. ; London: ACM Press ; Addison-Wesley.

Leffingwell, D., & Widrig, D. (2000). *Managing software requirements : a unified approach.* Reading, MA: Addison-Wesley.

Manzini, E. (1997). Designing Sustainability Leapfrog: Anticipations of a Possible Future. *Domus*(789), 46-47.

Manzini, E. (2005). Enabling Solutions for Creative Communities. *Designmatters*(10), 64-68.

Manzini, E., Collina, L., & Evans, S., (Ed.). (2004). *Solution Oriented Partnership. How to Design Industrialised Sustainable Solutions.* Cranfield: Cranfield University. European Commission GROWTH Programme.

Manzini, E., & Jegou, F. (2000). *The Construction of Design Orienting Scenarios. Final Report. SusHouse project* (No. Final Report). Delft, Netherlands: Faculty of Technology, Policy and Management, Delft University of Technology.

Margolin, V. (2002). *The Politics of the Artificial. Essays on Design and Design Studies.* Chicago and London: The University of Chicago Press.

Margolin, V., & Margolin, S. (2002, 5-7 September 2002). *A 'social model' of design: issues of practice and research.* Paper presented at the Common Ground, London.

Morelli, N. (2002). Designing product/service systems. A methodological exploration. *Design Issues*, 3-17.

Morelli, N. (2003, 28-30 April 2003). *Design for Social Responsibility and Market Oriented Design: Convergences and Divergences.* Paper presented at the Techné, the design wisdom, Barcelona.

Morelli, N. (2004, 17 - 21 November 2004). *The System Around the Product: Methodologies and Experiences Focusing on Material and Immaterial Aspects in Design Solutions.* Paper presented at the Futureground. Design Research Society International Conference, Melbourne.

Nilsen, S., M. Schou Ohana, S.C. Svarrer, N. Gram Thomassen and J. Vestergaard. (2006). *Delight Assist. Project and process Report 7. Semester ID.* Aalborg: School of Architecture and Design, Aalborg University.

Normann, R. (2000). *Service management : strategy and leadership in service business* (3rd ed. ed.). Chichester ; New York: Wiley.

Normann, R. (2001). *Reframing business : when the map changes the landscape.* Chichester: Wiley.

Normann, R., and Ramirez, Rafael. (1994). *Desiging Interactive Strategy. From Value Chain to Value Constellation* (1998 ed.). New York: John Wiley and Sons.

Ramirez, R. (1999). Value Co-Production: Intellectual Origins and Implications for Practice and Research. *Strategic Management Journal, 20*, 49-65.

Sen, A. K. (1999). *Development as freedom* (1st. ed.). New York: Knopf.

Ulrich, K. T., Eppinger, Steven D. (2000). *Product Design and Development* (2 ed.): McGraw-Hill.

Von Weizäcker, E., Lovins, A. B., Lovins, L. H., & Club of Rome. (1997). *Factor four : doubling wealth - halving resource use : a new report to the Club of Rome.* St Leondards, N.S.W.: Allen & Unwin.

Weterings, R. A. P. M., Opschoor, J.B. (1992). *'The Ecocapacity as a Challenge to Technological Development'*: Advisory Council for Research on Nature and Environment, Rijswijk.