

Social Innovation and New Industrial Contexts: Can Designers “Industrialize” Socially Responsible Solutions?¹

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Footnotes begin on page 20.

Background

Almost thirty-five years ago, Victor Papanek pointed out the designers’ responsibilities with respect to major social and environmental needs.² Papanek’s call perhaps was the earliest alarm bell ringing for a change in the design profession. His call drew responses that ranged from blind adulation to cursory indifference, but had less impact in the mainstream industrial production, consumer culture, and on development policies. The polarization proposed by Papanek, between industrial production in developed countries and local production in developing countries, did not help design to become a critical element of development policies. This polarization, in fact, reflects the general view of design—associated with industrial production, and therefore not suitable for the implementation of development policies (although Papanek is clearly contrasting this view).³

For several years the majority of designers interpreted their social role as complementary to business strategies. This approach was very critical of 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, albeit isolated, design contributions for the solution of social or environmental problems,⁴ but the logic of economic rationalism seemed unbreakable, and it did not contribute to any exploration of the middle ground between pure market-based industrial logic and socially responsible design.

Yet much has happened in recent decades. Twenty years after Papanek, a study of sustainability promoted by the Dutch government⁵ offered a more substantial argument for change: a model using some projections of critical environmental factors suggested that a ninety-percent 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 sparked a debate about how to work towards that reduction,⁶ and it most likely was one of the references for setting the target of the Kyoto protocol. Furthermore, it issued a strong warning against expanding the Western development model to developing countries.

The expansion of markets to new regions is based on the expansion of Western resource-intensive consumption patterns and lifestyles. From an environmental point of view, this implies catastrophic medium- and long-term consequences of a continued and increasing use of natural resources, while a socio-economic perspective suggests the uninteresting scenario of a global society flattened on the Western countries' consumption models. Many corporations, though, have preferred to pursue short-term and market-oriented strategies, and continue to ignore such warnings.

More recently, globalization added a new dimension to the debate started by Papanek. For several years, globalization was only a potential (and not necessarily desirable) future. In the last few years, the rise of a few sleeping economic giants, such as China, has 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 labor costs, together with a decrease in transport costs, encourage 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.⁷ Anti-globalization movements have emphasized the social inequalities caused by the relocation of work,⁸ but such inequalities are not solely related to different geographical areas of the world. Even within Western countries, the high level of unemployment caused by this phenomenon is increasing the gulf between social classes, in addition to generating new or more serious social problems.

The risks suggested by the most pessimistic interpretation of Papanek's warning are being realized, and it is now time for the design profession, together with other professions, to address these problems. While scientists and technologists focus on the physical aspects of social metabolisms, with the aim of driving future developments away 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 emphasize interesting elements of change which may lead to less-pessimistic scenarios. If mainstream industrial production is moving towards the most aggressive models of globalization, the operative strategies of global companies often are forced to pay more attention to local contexts. Competitive advantages for companies consist of 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.⁹ When shift-

ing the perspective in this sense, new opportunities emerge which also are supported by existing methodological contributions from research projects and academic activities that may help designers play a central role in innovation processes with relevant social implications. This paper will explore this area and explain the entity of the ongoing shift towards new models, suggest new focuses and new methodologies for designers' activities, and finally reframe this contribution within the debate started by Papanek and recently revived by others.

Market-driven Models and Social Quality

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

In social studies, where these 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 Leonardis¹⁰ notices that market-driven initiatives are progressively expanding to cover social services, thus taking over the space made available by the reduction of public intervention in connection with 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 that arises 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 of the many tasks of everyday life. This idea, which shaped the idea of *comfort*¹¹ and the social role of industrial production, has changed the most common private and public aspects of our life. Tasks that, in the past, we could handle by ourselves or within our social and family networks (our informal economy) are now performed by something (a product) or someone else (a service). These functions have shifted to the formal economy.¹² 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 of any physical work or responsibility. Customers, in this logic, represent problems expressed in the form of a set of

needs. Often, their involvement is not required for the definition of a solution: very little participation and very few skills are needed. This logic, although comfortable, is very expensive; not only because it requires monetary transactions, but also because it compromises the customers' future capability of finding their own solutions to everyday problems. This logic is, in fact, *disabling* people,¹³ because it deprives them of 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 services and products to find solutions they could easily find by themselves.¹⁴ This logic sometimes undermines social relationships as it replaces personal links and social networks with technological products or services.

Therefore, the problem of shifting to a new logic has wider implications since it requires a new approach to social problems that empowers social and individual capabilities. The revision of the traditional market-driven logic must, in other words, be carried out parallel to the revision of the idea of social quality. De Leonardis defines social quality as the "measure of citizens' capability of participating to the social and economic life of their community in conditions that improve both their individual wealth and the conditions of their community."¹⁵ This definition emphasizes two aspects of social quality. The first aspect concerns the citizens' capability to be an active part of a process of value production: social quality increases when more citizens are able to participate and contribute to the creation of value in terms of the needs of the individual as well as the community. The second aspect concerns the citizens' capability to be an active part of the community: social quality increases when more citizens are able to participate and contribute to the development of their own community. Thus social quality implies the inclusion of those parts of the society (especially in developed countries) that otherwise are excluded by social life, and those communities (mainly in developing countries) whose consistency is undermined by poor socioeconomic conditions, which limit the individual's range of possible actions to a mere fight for subsistence.

Beyond Papanek

The debate opened by Papanek has been revived in recent years. At the "Common Ground" conference in 2002, Butenshon stressed the need for a design agenda that addresses these problems.¹⁶ This call was echoed at the same conference by Margolin,¹⁷ who suggested a new paradigm in which the role of designer is clarified. Margolin¹⁸ also provided some examples of designers' contributions and some methodological suggestions based on the experience of interventions in social work. On the basis of those contributions, I proposed a shift of designers' activities from products to systemic solutions. In order to support this shift, I suggested exploring the possible convergences between industrial logics and social instances.¹⁹

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

- A. The emergence of new contextual conditions in industrial production and business companies, and
- B. The possible utilization of industrial logic in the solution of social problems (i.e., the “industrialization” of socially responsible solutions).

The first point relocates the design activity to a new industrial context in which the success of global industries is linked to their ability to solve local problems. The second issue is related to the ability of designers to contribute to the solution of local problems by using, and adequately adapting, models and criteria borrowed from industrial production.

Design in a New Industrial Context

Although a shift of paradigm is advocated by many of the authors, a nodal point that would support such a shift usually is 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 corresponds to the traditional product manufacturer. Globalization has not changed this link: designers still think of their profession as related to the production of products. Globalization is causing a shift in the location for manufacturing, while technology is causing an increase in the flexibility of production processes and client management; but none of those phenomena are believed to bring about radical changes in the design profession.

If we cast our sight beyond this link, we would 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 offerings from business companies more and more complex. In fact, globalization corresponds to a fragmentation of market segments in order to respond to a very sophisticated demand pattern, which sometimes is very localized and personalized. While trends towards globalization seem to reduce the distinctiveness of local and regional contexts, the local capability of generating context-related solutions is the source of differentiation for socio-economic contexts and competitive advantages for companies.²⁰ Local and contextual solutions are only possible if global companies become an active part in local networks of actors as well as institutions, companies, and final customers. Global businesses are challenged to develop their capability to differentiate the final offering (not just a product) beyond mass customization, towards the definition of *individual segments*. All these phenomena are signs of a change towards a different conception of the social role of business organizations. The

first, relevant shift is from the provision of products to the organization or support of local networks of stakeholders. A second shift is from the provision of finite solutions (products), which often *relieve* people of their own tasks and responsibilities, to the provision of semi-finished platforms, including products and services, that will *enable* people to create value according to their individual needs.²¹ In other words, business companies are becoming *organizers of value creations*, shifting their role from principal or sole actor in the production system to co-producer of value.²²

Norman suggests IKEA as a typical example of value organizer. 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 these people, designers will no longer be required to produce finite solutions but rather scenarios, platforms, and operative strategies to enable them to co-produce their own solutions.

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

1. The *industries* to which designers are talking 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, local groups, and even individuals.

Although the demand for new solutions becomes more and more pressing, the new actors have very little knowledge of the designers' skills (the usual image of the designer as a creative decorator is the dominant reference), and they rarely have considered the possibility that designers may contribute to addressing the new demand. The public perception of the design agency in society should be revised but, at the same time, industrial designers must learn a new language and acquire new operative tools in order to function 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 usually are characterized 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 often is 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*²³ to operate production and consumption processes within the traditional industrial production paradigm. This culture can provide several interesting insights regarding how to produce solid and sustainable solutions, i.e., solutions that are not only addressing an individual need, but also are empowering individuals and other social actors (service providers, institutions, etc.) to generate new social quality.

As mentioned before, the solution to problems that cannot be addressed by global production must be solved by mobilizing individual knowledge and skills. Several examples can be given in which innovative solutions have been produced by the creative attitudes of local communities.²⁴ Although such solutions are intrinsically *placed* in their geographical and cultural context, the design discipline can help to distill indications about organizational structures, products, and services that can be used in different contexts to solve similar patterns of needs.

We are facing an epochal shift similar to the shift from handcraft to industrial production. At that time, the craftsman's work was the result of implicit knowledge and a sequence of actions and events which, albeit not written, were clearly defined in the craftsman's mind. The design process supporting industrialization consisted of disassembling the production process into simple components that then could be reassembled into a new production system. The craftsman's production was based on implicit knowledge, while industrial design made such knowledge explicit and clearly transmittable across time and space. Industrial manufacturers therefore were able to create an economy of scale, an optimization of resources, and a clear subdivision of roles. A similar process of industrialization 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* that can support a set of systemic solutions that address individual needs.

At this point, however, some critical differences emerge between the early industrialization process and the logic of co-produced individual solutions. Such solutions are not processes that can be totally described and controlled through codified sequences of

actions. They are based on social interactions and a systemic nature. Any prescriptive description of such complex solutions easily could be demolished by the arbitrary or unplanned interference of individual behavior. The new solutions are based on people rather than machines. Furthermore, these people use different languages and cannot communicate by means of a transcendent and unequivocal language.

The *platforms* that designers should work on support and organize modular structures in which the competences and roles of different actors are specified. On the basis of such platforms, different combinations (“architectures”) will be possible, and which will allow each single actor to generate an economy of scope. Designers are in a privileged position to work within this context because of their attitude towards planning interactions (objects, services, or events) and finding a balance between the technologically possible (an engineering approach) and the 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 Bjerke²⁵ suggest that such a tool box is generated by importing methods from different professional areas (“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.”

Victor and Sylvia Margolin’s contribution to design action for social responsibility goes in this direction, borrowing a procedure from social work practice that articulates intervention in six steps: engagement, assessment, planning, implementation, evaluation, and termination.²⁶ In order to be part of the designer’s operative paradigm, Victor and Sylvia Margolin’s proposal should be adapted through designerly methods in order to provide concrete methodics. Although the procedure they describe has a solid methodical foundation in social work studies, when translated into the design discipline, it may prove too rigid. Design processes usually are less linear, and have tended to alternate between phases of analysis and design from the very beginning of the process. Designers, for instance, are more and more interested in using the analytical methods used in ethnographic studies. This—results in a wide range of methods, from video ethnographic studies²⁷ to cultural probes.²⁸ All of these studies, however, use the analysis of target users as a quasi-design phase in which users often are directly or indirectly engaged to provide suggestions and contributions to the design process. In other words, a designerly approach often shifts 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.

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

Identifying Actors and Motivations

Local systems of innovation are defined by networks 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 to qualify their interaction with the system. Figure 1, for instance, analyzes the actors, services, products, and infrastructures interacting with a traveler during a train trip.

A design-oriented version of such maps consists of a series of models of the interaction between stakeholders on the basis of different innovative scenarios (Figure 2). The design contribution in this case consists of the adaptation of an analytical tool (the actors' map) into a modeling tool to analyze various potential scenarios.

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

Figure 1

Map of actors, products, services, and infrastructures interacting within a train trip.

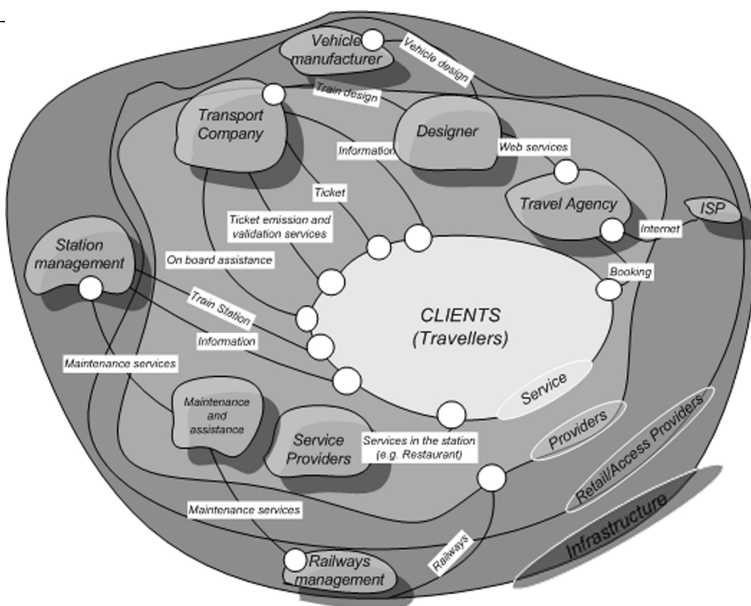
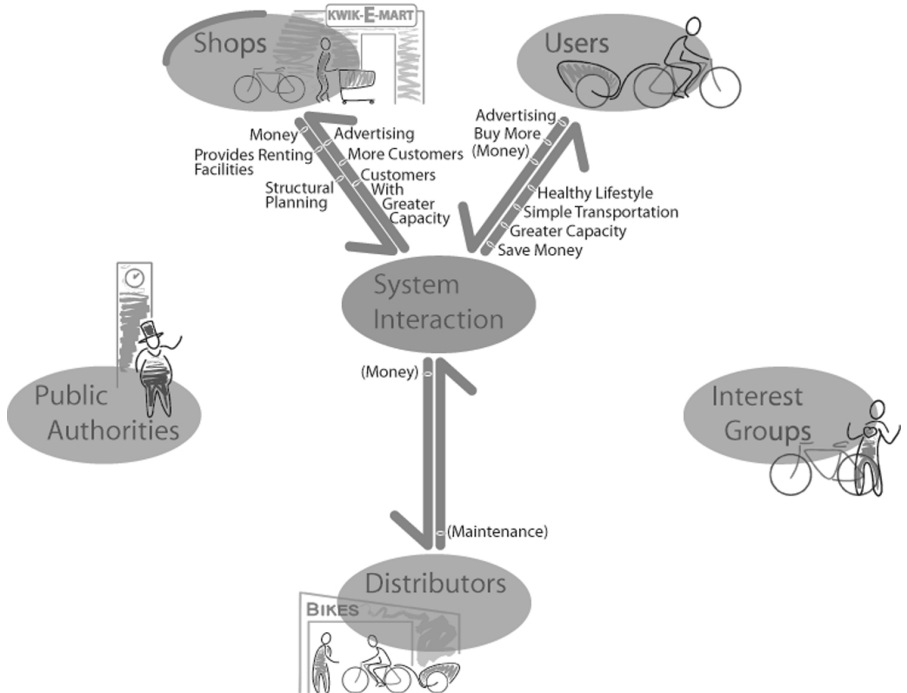
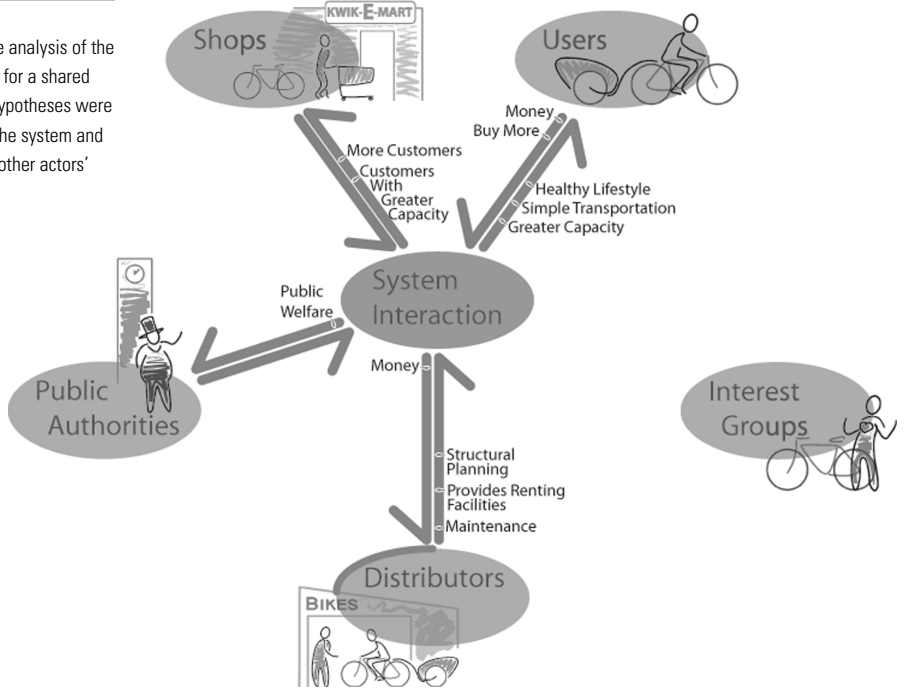


Figure 2a, 2b, and 2c

Modeling 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.²⁹



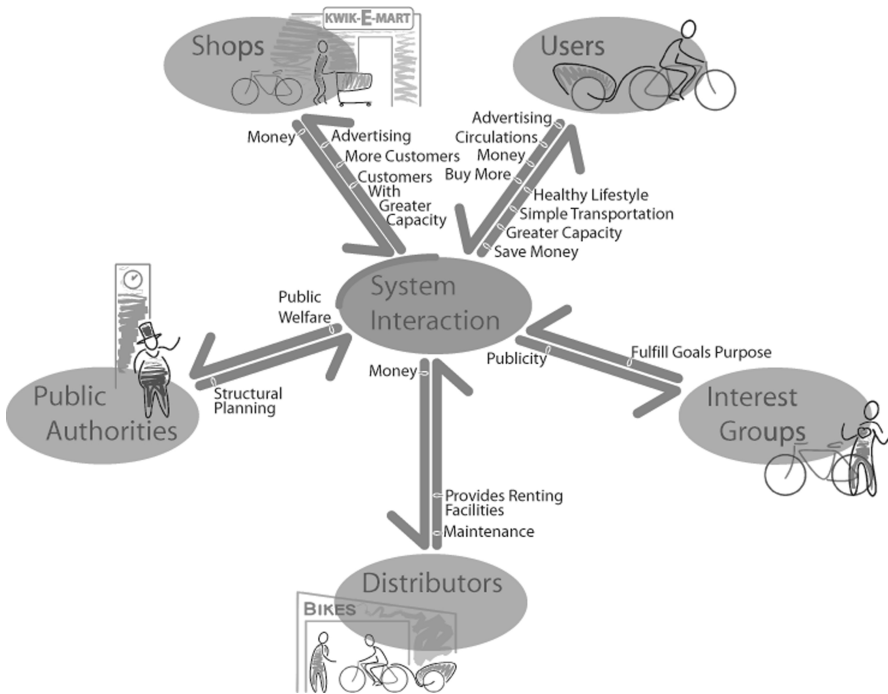


Figure 3

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).³⁰

	gives to...	organic food manager	meal producer	appliances producer
organic food manager	<ul style="list-style-type: none"> . find and move to new perspectives to develop activities and services in the field of organic food 	<ul style="list-style-type: none"> . organic brand identity differentiation . organic food expertise . selling channel 	<ul style="list-style-type: none"> . organic brand identity . organic food market expertise 	
meal producer	<ul style="list-style-type: none"> . food processing expertise . catering management expertise 	<ul style="list-style-type: none"> . find new areas of business as: <ul style="list-style-type: none"> - new contexts of use - better fit of special customer's needs 	<ul style="list-style-type: none"> . food preparation expertise . dedicated recipes and processing 	
appliances producer	<ul style="list-style-type: none"> . competences in food processing 	<ul style="list-style-type: none"> . new competences in food processing . set up criteria for designing new convenience food 	<ul style="list-style-type: none"> . find new application fields for advanced cooking and preserving solutions 	

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 Jegou³¹ 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, on the other hand, tends 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.

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 supports communication between stakeholders with different cultural and technical backgrounds. A structured process based on brainstorming sessions with all of 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 platforms or use cases).

Industrializing Innovation: Platform and Solutions Architecture

While the previous methods aim at catalyzing actors’ knowledge and participation around systemic innovation at the local level (they can be used in Margolin’s *engagement phase* of the design process), the following methods support the planning phase and are fundamental tools for the *industrialization* of innovative initiatives in the new context. When talking about industrialization 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 industrialization in the last decades has largely abandoned the focus on mass production; shifting the attention to other characteristics of the phenomenon of industrialization. Recent studies of industrial districts, for example, emphasize the strong link between the production of goods and the reproduction of the material and human assumptions from which the productive process itself springs. Beccattini, for instance, suggests that, in industrial districts, the 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.”³² 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 of whether similar cases of social innovations can be generated as a result of a planning activity.

Several research works³³ suggest that a planning activity to support social innovation could use industrial logics to generate organizational structures, to capture codified and (to a certain extent) tacit knowledge, and to generate economy of scope. This planning activity is far from being 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 finished articles, but rather semi-finished platforms meant to organize 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 therefore is the basis for the design process.

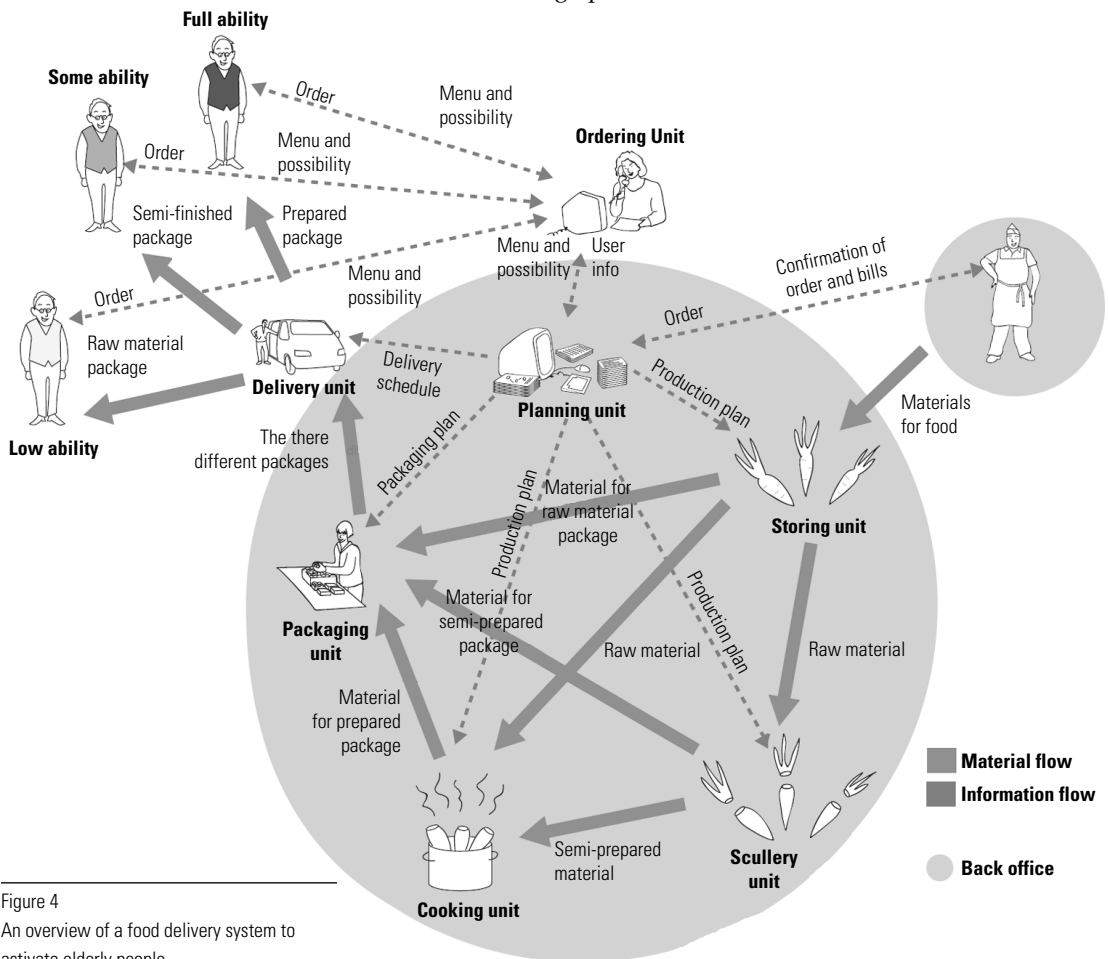


Figure 4
An overview of a food delivery system to activate elderly people.

Contemporary designers are very familiar with the concept of product platforms in product design. Industrial production often is structured by platforms which organize production systems around subsystems generating flexible configurations from which different products and families of products can be generated.³⁴

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, may provide indications of the 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).

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

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

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 user-behaviors. Short stories about possible use modes can be generated, which can be described step by step, as in a storyboard. Information technology introduced a similar procedure to define the requirements for new software. Information system architects generate *use cases*³⁶; i.e., a description of a user's behavior. Information architects use plain language and basic illustrations, while designers who have borrowed the same procedure to work out indications about movement in space and time, context, and interaction used more figurative techniques³⁷ to generate a more understandable representation language.

The behavior of the system can be described for each photograph of the use case. This allows for a detailed structure of the system components and the actor's role.

Concluding Remarks

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

1. Why should designers look at different perspectives focusing on social problems;
2. What are designers supposed to do in the new system; and
3. 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 Victor and Sylvia Margolin³⁸ for the revision of such an agenda. More

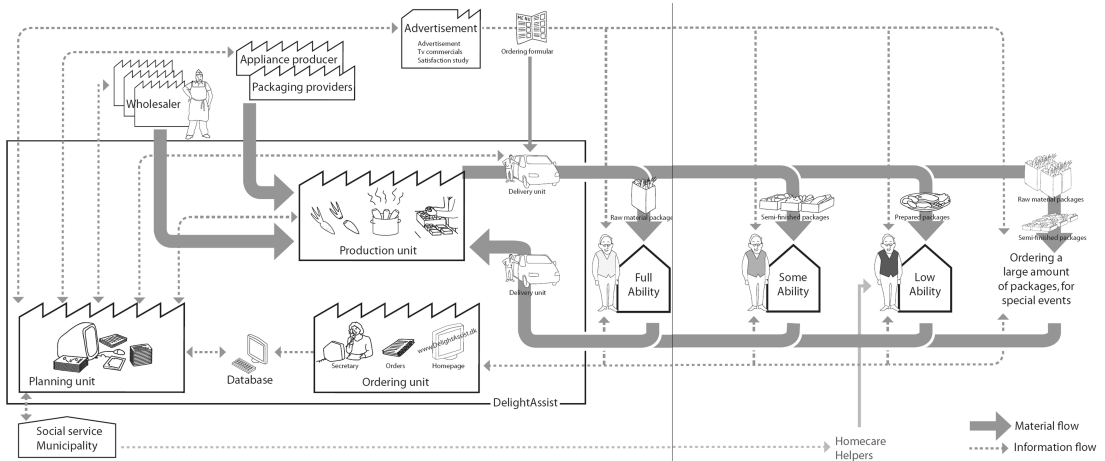


Figure 5 (above)

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

Figure 6 (right)

Solution platform: analysis by subsystems.

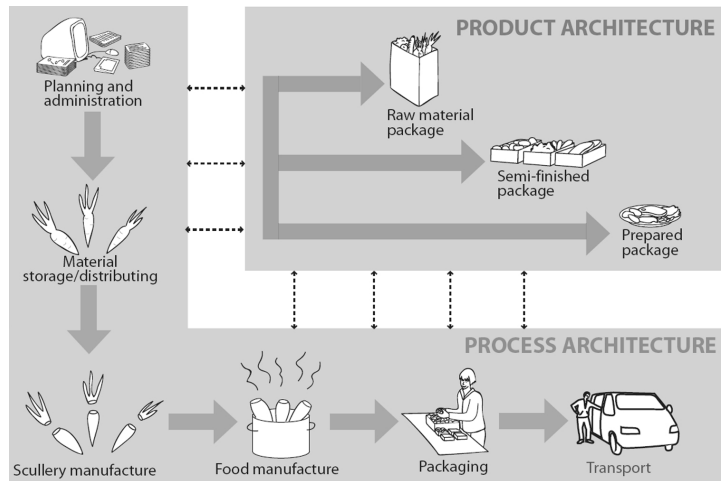
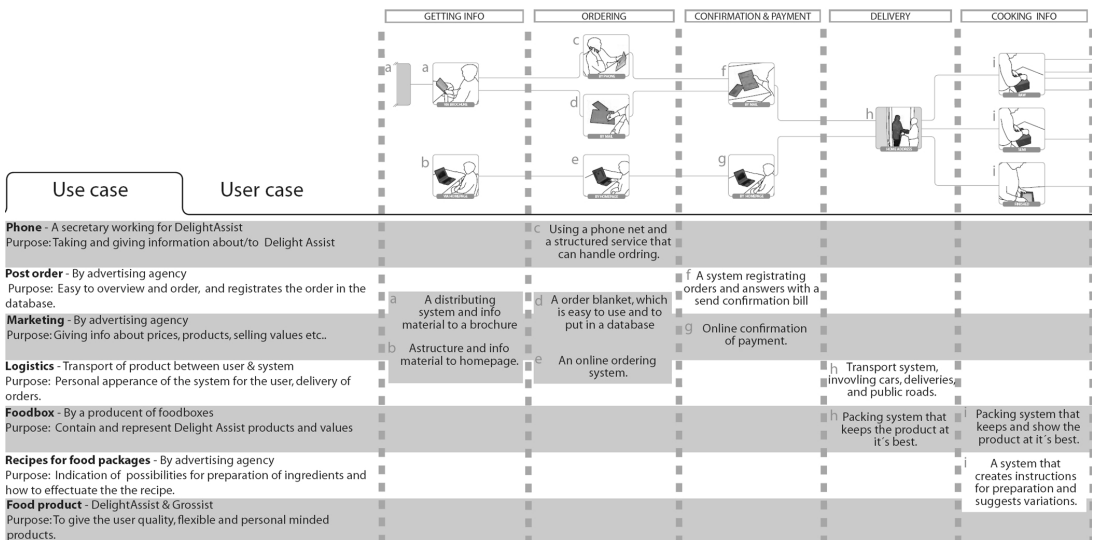


Figure 7 (below)

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



specifically, Margolin proposes that such revision addresses the following criteria:

- A. Public and agency perceptions of designers
- B. The economics of social interventions
- C. The value of design in improving the lives of underserved populations
- D. A taxonomy of new product typologies
- E. The economics of manufacturing socially responsible products, and
- F. 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 to the radical shift in the social role of industrial companies. The new condition implies a genetic change in the role of the 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. Therefore, they will lose the central role they had in the previous contextual condition, and become catalyses 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 social participation. Social actors who were passive receivers of services in the past will become active co-producers and co-designers. Even if the economics of this new situation can only be evaluated case by case, the intrinsic characteristics of enabling solutions imply that actors are mobilizing 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 also is clear from the crisis of welfare systems in the most industrialized countries that the traditional approach to social intervention is economically unsustainable, and that new solutions must be found to address this structural crisis. This approach could open a window to a territory ripe for exploration 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-centered) approach offers very few opportunities to improve the living conditions of underserved populations. In the traditional industrial context, designers were working on gaps or deficiencies 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, designers rather should work on the customers' (residual or full) capabilities, and consider customers as a resource rather than a problem. In this sense, design also becomes a facilitating tool for suggesting to people ways of satisfying their own 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 heart of the disabling approach that characterized 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 shifts the focus from product manufacturing to co-production of solutions. Therefore, it cannot shed 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 the producer and the user of a product or service. Rather, it 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-producers. Customers are no longer actors external to the value chain, but instead part of a value-creation constellation.

The time has come to review Papanek's recommendations from a new perspective, which reduces the distance between market-based and socially oriented initiative. The challenges proposed by global issues, such as sustainability and the relocation of jobs, bring about radical changes in industrial production, as well as in public institutions and welfare systems. Hopefully, this paper has demonstrated that, if the question of social sustainability is framed in this context, new opportunities emerge that could propel us towards new territories to explore with a design-oriented approach.

- 1 This paper is a revised version of the paper presented for the Design Research Society International Conference, Wonderground, Lisbon, Nov. 2006.
- 2 Victor J. Papanek, *Design for the Real World: Human Ecology and Social Change*, 2nd, completely rev. ed. (London: Thames and Hudson, 1985).
- 3 In a recent contribution, Victor Margolin, "Design for Development: Towards a History" (paper presented at the WonderGround—2006 Design Research Society International Conference, Lisbon, Nov. 1–4, 2006) notes that this logic explains the lack of interest of development organizations in design. Margolin, instead, emphasizes a different and less known path in the history of design for development; from the Ahmedabad Declaration in 1977 to Gui Bonsiepe's call for a more complex involvement of designers in different stages of industrial development.
- 4 An overview of such contributions is proposed by Victor Margolin (Margolin, "Design for a Sustainable World" in *The Politics of the Artificial: Essays on Design and Design Studies*, Victor Margolin, ed. (Chicago and London: The University of Chicago Press, 2002). Another relevant contribution in this sense came from Ezio Manzini (Ezio Manzini, *Artefatti: Verso Una Nuova Ecologia Dell'ambiente Artificiale* (Milano: Edizioni DA, 1990) and Ezio Manzini, "Prometheus of the Everyday: The Ecology of the Artificial and the Designer's Responsibility" in *Discovering Design, Exploration in Design Studies*, Richard Buchanan and Victor Margolin, eds. (Chicago: University of Chicago Press, 1995). Manzini considered environmental problems as a question concerning the ecology of the artificial word. With this proposal, Manzini was in fact overcoming Papanek's approach by proposing an approach that, instead of contrasting industrial production, proposed a change of its intrinsic logic.
- 5 R. A. P. M. Weterings and J. B. Opschoor, "The Ecocapacity as a Challenge to Technological Development" (Advisory Council for Research on Nature and Environment, Rijswijk, The Netherlands, 1992).
- 6 Leo Jansen, "Towards a Sustainable Future, En Route with Technology" in *The Environment: Towards a Sustainable Future*, edited by the Dutch Committee for Long-term Environmental Policy (Dordrecht, Boston, London: Kluwer Academic Publisher, 1994); Ezio Manzini, "Designing Sustainability Leapfrog: Anticipations of a Possible Future," *Domus* 789 (1997); and Ernst Von Weizsäcker, Amory B. Lovins, L. Hunter Lovins, and Club of Rome,—"Factor Four: Doubling Wealth—Halving Resource Use: A New Report to the Club of Rome (St. Leonards, N.S.W., Australia: Allen & Unwin, 1997).
- 7 So far, designers in Western countries have rarely been affected 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, which will cause a massive relocation of design centers to developing countries.
- 8 The book *No Logo* by Naomi Klein was possibly among the most significant explorations of the landscape of social injustice and human rights violation due to an unscrupulous use of outsourcing agreements when moving production from Western countries to developing countries. Naomi Klein, *No Logo: Taking Aim at the Brand Bullies* (New York: Picador, 1999).
- 9 This perspective is suggested by the works of Richard Norman and Rafael Ramirez. See Richard Normann, *Reframing Business: When the Map Changes the Landscape* (Chichester, UK: Wiley, 2001); Richard Normann and Rafael Ramirez, *Designing Interactive Strategy: From Value Chain to Value Constellation*, 1998 Ed. (New York: John Wiley and Sons, 1994); and Rafael Ramirez, "Value Co-Production: Intellectual Origins and Implications for Practice and Research," *Strategic Management Journal* 20 (1999).
- 10 Ota De Leonardis, *In Un Diverso Welfare. Sogni e Incubi, Elementi* (Milano: Feltrinelli, 1998).
- 11 Ezio Manzini, "Enabling Solutions for Creative Communities," *Designmatters* 10 (2005): 64–68.
- 12 Richard Normann, *Service Management: Strategy and Leadership in Service Business*, 3rd Ed. (Chichester, UK and New York: Wiley, 2000).
- 13 Ezio Manzini, "Enabling Solutions for Creative Communities."
- 14 In his *Development as Freedom* (Amartya Kumar Sen, *Development as Freedom*, 1st. Ed. (New York: Knopf, 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 for revising the approach to social problems also within the most industrialized countries.
- 15 Ota De Leonardis, *In Un Diverso Welfare. Sogni E Incubi*.
- 16 Peter Butenschon, "Worlds Apart: An International Agenda for Design" (paper presented at the Common Ground, London, September 5–7, 2002).
- 17 Victor Margolin and Sylvia Margolin, "A 'Social Model' of Design: Issues of Practice and Research." The paper was published in *Design Issues* 18:4 (Autumn 2002): 24–30.
- 18 Victor Margolin, *The Politics of the Artificial: Essays on Design and Design Studies*—(Chicago and London: The University of Chicago Press, 2002).
- 19 Nicola Morelli, "Design for Social Responsibility and Market Oriented Design: Convergences and Divergences" (paper presented at Techné: The Design Wisdom, Barcelona, April 28–30, 2003).
- 20 Giacomo Becattini, *Industrial Districts* (Cheltenham, UK: Edward Elgar, 2004).

- 21 This condition possibly contradicts Margolin's statement that "While the world's design needs are evident, reinventing the design profession is not." (Victor Margolin and Sylvia Margolin, "A 'Social Model' of Design: Issues of Practice and Research" (paper presented at the Common Ground, London, September 5–7, 2002). When demand patterns come to individual segments, in fact, the world's design needs become less evident, but the designer possibly will have a different role in addressing them.
- 22 Richard Normann, *Reframing Business: When the Map Changes the Landscape*.
- 23 The term "operative paradigm" was introduced by Ingeman Arbnor and Bjørn Bjerke. Ingeman Arbnor and Bjørn Bjerke, *Methodology for Creating Business Knowledge*, 2nd Ed. (Thousand Oaks, CA and London: Sage, 1997). The term is clarified in the next section of this paper.
- 24 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 that, instead of waiting for government support, have solved some social problems (e.g., child care, isolation of elderly people, and problems in socially disadvantaged areas of big cities) by using their own social network and mobilizing their own, individual skills. The collection of cases has been published on www.sustainable-everyday.org.
- 25 Ingeman Arbnor and Bjørn Bjerke, *Methodology for Creating Business Knowledge*.
- 26 Victor and Sylvia Margolin, "A 'Social Model' of Design: Issues of Practice and Research."
- 27 Jacob Buur, Thomas Binder, and Eva Brandt, "Taking Video Beyond 'Hard Data' In User-Centred Design." (paper presented at the Participatory Design Conference [PDC 2000]) and J. Buur and Astrid Soendergaard, "Video Card Game: An Augmented Environment for User-Centred Design Discussions" (paper presented at the Designing Augmented Reality Environments [DARE 2000], Helsingør, 2000).
- 28 Bill Gaver, Tony Dunne, and Elena Pacenti, "Design: Cultural Probes," *Interaction* 6:1 (1999).
- 29 Dennis S. Jepsen, Max V. Nielsen, Claus Rantzau, Andreas H. and Martin S. Thomsen, "My Way: Project and Process Report for the 7. Semester ID" (Aalborg: Aalborg University, 2003).
- 30 *Solution Oriented Partnership: How to Design Industrialised Sustainable Solutions*, Ezio Manzini, Luisa Collina, and Stephen Evans, eds. (Cranfield, UK: Cranfield University European Commission GROWTH Programme, 2004).
- 31 Ezio Manzini and Francois Jegou, "The Construction of Design Orienting Scenarios. Final Report. Sushouse Project" (Delft, The Netherlands: Faculty of Technology, Policy and Management, Delft University of Technology, 2000), 36.
- 32 Becattini, *Industrial Districts*.
- 33 The most relevant research works in this case are EU-funded projects such as HiCS (Manzini, Collina, and Evans, *Solution-Oriented Partnership: How to Design Industrialised Sustainable Solutions*) and EMUDE.
- 34 Olivier L. de Weck, Eun Suk Suh, and David Chang, "Product Family and Platform Portfolio Optimization" (paper presented at the DETC'03 2003 ASME Design Engineering Technical Conferences, Chicago, Sept. 2–6, 2003) and Karl T. Ulrich and Steven D. Eppinger, *Product Design and Development*, 2nd Ed. (New York: McGraw-Hill, 2000).
- 35 Source Sinne Nilsen, Maja Schou Ohana, Sinja C. Svarrer, Nanna Gram Thomassen, and Jens Vestergaard, "Delight Assist. Project and Process Report 7. Semester ID," (Aalborg, DK: School of Architecture and Design, Aalborg University, 2006).
- 36 Daryl Kulak and Eamonn Guiney, *Use Cases: Requirements in Context* (New York, Boston, and London: ACM Press, Addison-Wesley, 2000) and Dean Leffingwell and Don Widrig, *Managing Software Requirements: A Unified Approach, The Addison-Wesley Object Technology Series* (Reading, MA: Addison-Wesley, 2000).
- 37 Nicola Morelli, "Designing Product/Service Systems: A Methodological Exploration," *Design Issues* 18:3 (2002); Nicola Morelli, "Product-Service Systems, a Perspective Shift for Designers: A Case Study: The Design of a Telecentre," *Design Studies* 24 (2003); and Nicola Morelli, "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, Nov. 17–21, 2004).
- 38 Victor and Sylvia Margolin, "A 'Social Model' of Design: Issues of Practice and Research."