

6th International Forum of Design as a Process



SYSTEMS & DESIGN

BEYOND PROCESSES AND THINKING

2016

Electronic book

PROCEEDINGS

June 22nd – 24th, 2016

EDITORIAL UNIVERSITAT POLITÈCNICA DE VALÈNCIA

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Products as communication platforms. Investigating and designing the evolution of retail services in the digital era.

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Abstract

In the lifecycle of material products, information and communication have always played a prominent part that, in the digital era, is growing and is expected to grow further, also enabling the blooming of grass root and bottom-up changes in the galaxy of design-production-retail systems. Retail services are not just a way to obtain goods: they provide opportunities for social relationship and cultural growth, and can be considered as a field for social innovation. Our research aims to investigate the systemic changes that are occurring in the realm of information and communication services for the retail of material products, and their consequences on design, production and distribution processes. Our goal is to outline strategic approaches to the design of innovative service/systems and, presently, we mainly focus on two key issues:

- - *understanding and modelling the tangle of factors that determine the user experience in traditional and digital shopping processes;*
- - *develop design methodologies for the creation of new meaningful services, so to support the customers in the understanding of value and in the search of quality in shopping processes.*

The paper investigates new social behaviors related to shopping, such as show-rooming and web-rooming, and we demonstrate that the pervasive use of mobile devices produces new social phenomena in retail processes and enables new opportunities to create value in retail services. From the investigation of online and off-line markets, it emerges the importance of social dynamics and human interactions belonging to physical world: relational dynamics and knowledge acquisition processes play a very important role in the elicitation of senses and emotions, in cultural upgrading, value understanding, quality awareness, trust building. The analysis of these phenomena and the presentations of some design experiences bring us to the definition of some strategic directions guiding the generation of new paradigms of services in the retail field.

Keywords: *Intangible Value, Customer Experience, Behavior Design, Technology Based Service Design, Ethics.*

1. Investigating and modeling the changes induced by ICTs in retail systems

In this paper we present some results obtained within a wide-range research project aimed to investigate the realm of new social and professional phenomena in retail, and to experiment innovative ICT-based services to support commerce and shopping. . The research is carried on through the collaboration between the Interaction&Experience Design Research Lab at the Dipartimento del Design of Politecnico di Milano, and the Joint Open Lab S-Cub created by TIM at Politecnico.

Commerce and retail have been playing a very important role in societies since the dawn of history: search and sale of goods promoted, in the course of time, the exploration of new lands out of the known territories, motivated the construction of road networks and of new cities; commerce represented a strategic asset for entire populations in different eras and location of the world, and the social exchanges that always accompany sales have been also diffused opportunities for information exchange and cultural growth. Nowadays, commerce is one of the main axis of human consortiums and of industrial systems: not only it is the main way for the distribution of goods and one main leverage of economies. Beyond that, the availability of retail services influences several aspects of life quality and can significantly affect the appearance and the social dynamics of local environments.

In the last decades, the pervasive diffusion of ICT-Information and Communication Technologies, of Internet and of online services produced substantial changes in the sale systems through the creation of e-commerce opportunities, and, in some cases, deeply affected the entire product/service system, as in the case of musical and publishing products for which the de-materialization of goods has been accompanied by a revolution of the whole distribution system.

Still, the present situation seems to be a transitory one, far from achieving a steady order, and we are witnessing a tangle of different trends and contradictory phenomena.

Online service providers are getting ubiquitous and all-comprehensive; they increase their effectiveness offering real-time delivery of goods of any kind: from fresh foods to furniture, medicals, books and so on; they host industrial products but also offer e-commerce facilities to little-scale producers, artisans and manufacturers. Amazon and other companies refined the usability of their digital services so to make “natural” the online shopping processes, reducing the complexity of procedures for selection, data filling and payment, and making them almost automatic. New websites and mobile services appear everyday to support online sales, to allow product personalization, and promoting information and social activities related to the shopping experiences.

Most of the existing ecommerce services produce very poor information about products and little or none opportunities of social interaction between customers and producers or sellers. On the other hand, due to the diffusion of smart phones, consumers enact personal strategies to ensure to themselves the desired conditions of good purchasing, to obtain information about the products of interest, and engage themselves in forms of entertainment related to shopping. In the whole, the introduction of ICTs in the realm of retail is enacting some disruptive changes, involves new stakeholders, and produces new service paradigms based on different systems of mediation and disintermediation. It is quite evident that, on a long term perspective, these changes will also influence industrial processes and organizations, and will have effects on the quality of material goods, on the perception of quality and on the evaluation criteria that guide customer choices and preferences. While the fast growing of online sale services is impressive and can actually endanger the future of little and local shops and sale-business, in countries such as Italy, the opportunities to create new services and new forms of value in retail are still underexploited and several stakeholders of the shopping system still seem unable to face the change.

In this context, there are a number of different topics that it is worth to investigate in a design research. The research reported in this paper focuses on hybrid processes, involving customers both online and in stores; our final aim is the design of innovative services for retail, capable to provide new forms of value to customers in the fruition of retail services. Physical stores represent important economical and social resources for local environment, and we believe that ICTs can be employed to empower the quality of their business; furthermore, as customers are already vastly employing digital devices with respect to their shopping activities, little shops with local business should embrace the opportunities offered by technology so to better respond to users needs.

In the design tradition, designers act on material attributes of products to provide new value in terms of form, sensorial engagement, symbolic significances, and aesthetic qualities. Furthermore, interior designers act on the appearance of retail spaces and on their organization so to create meaningful contexts where material products can be better offered to customers and where the shopping experience can become more interesting and appealing. The characteristics of physical stores influence the customer experience, and their perception of quality of products, so affecting the final satisfaction; the design of interiors can provide a suitable frame for presenting and interpreting forms and functions of products, they can envision scenarios, values and inspiring storytelling, and produce experiences that are worth on themselves. In our approach, the role of experience and service designers is quite similar to role played by interior designers in the project of a new store: our goal is the experimentation of services capable to create value in terms of meaningful engagement of customers during the shopping process, both online and in store. We refer more to the dialogic and dynamic dimensions of the experience rather than to the physical appearance of stores and digital services, and our references are in the field of the aesthetics of interaction (Pillan 2015).

“Designing such products and systems requires an aesthetic that goes beyond traditional static form aspects. It requires a new language of form that incorporates the dynamics of behavior. We argue that once we start designing the aesthetics of interactive behavior, a social and ethical dimension is introduced as well.” (Ross and Wensveen 2010)

In the existing services of e-commerce, ICTs support the accessibility of products making them available from everywhere, for everyone, at any time; furthermore, they offer limitless opportunities of information and social exchange about goods. For these reasons, the discussion about digital services for retail is often focused on factors related to process effectiveness and on market opportunities, such as on the use of data and big data to orient production, on new forms of advertising, on production systems allowing product personalization and more.

In our research, the focus is mainly on the quality of the customers experience related to the shopping process. In order to design new digital services for retail, we are now investigating the conceptual meaning of value in retail; furthermore, we study new social behaviors related to shopping, such as those indicated as showrooming and web-rooming, demonstrating that the pervasive use of mobile devices produce new social phenomena in retail processes and actually creates hybrid physical/digital experiences. The study of these new trends provides some interesting insights with respect to the new needs and expectations of customers. In our research, the shopping experience is framed not just in terms of efficiency of purchase, but we also investigate the opportunities in terms of knowledge, awareness, social exchange, and value proposition that can be generated by the use of digital technologies to support information and decision processes in stores and online. To investigate the point of view of retailers, we are also conducting some design experiments and in this paper we report some outcomes of a workshop performed in Milan in via Canonica, an area rich of little stores that still have a very limited use of ICTs in their business.

In order to produce new value for physical shops and stores, design should focus on two different aspects that make the off-line experience unique, valuable and difficult to be replaced by online services, at least in their present organization. From our research, two directions seems to offer promising design directions. The first one is the hedonistic and practical exploration of the qualities of goods; the second one is the social engagement between sellers and customers. As a result of our research, the presence of qualified persons in store change the perception of the quality of products and also the shopping experience that, in turn, influences the perception of the product quality.

2. A discussion about value in retail services

In the very beginning of their book, P. Newbery and K. Farnham state that “Value is a predicated on asymmetry” since, if we define value as “a fair return or equivalent in goods, services, money for something exchanged”, the value produced in business depends on the fact that “one side has a something that the other desired”. In the design of product/service systems, the “value comes in different flavors” and the intangible value related to services or, in a wider sense, to the quality of experience, is still hard to evaluate as a number of different needs and factors influence it, such as security, novelty, excitement, habit, knowledge, practical and hedonic motivation and more (Newbery and Farnham 2013).

The design of innovative retail services should provide new forms of intangible value to customers; on the other hand, the quality of retail services is often tightly intertwined to the quality of goods or, at least of the perceived quality of sold products. So, in order to investigate the factors that mostly influence the customer experience in a shopping process, we need to identify the different ways in which the quality of goods influence the quality of retail services. Apparently, the quality of material products can be easily defined in terms of objective attributes such as materials, production processes, durability, economical and environmental sustainability, and so on. Actually, this definition is not trivial at all, since the different aspects that we can consider are not simply inter-related and, in some cases, they conflict. Every act of shopping begins long time before the moment when the actual purchase is accomplished: even when we buy a simple product such as a box of spaghetti in a supermarket, our mind performs complex decision activities, most of which are very quick and not conscious; all of them, anyway, refer to past experience, memories, evaluation criteria that are the construct of our emotional and cognitive attitudes. Furthermore, different cultures assign different importance to some factors such as authenticity (with respect to the brand, place of origin, materials, etc.) in the evaluation of quality. (Carroll 2015) For each customer, the quality of a purchased product is almost never absolute: each human being is subjected to anchoring and priming effects, and is therefore influenced by context factors; as a rational evaluation of the quality of a product is a very complex task, customers employ approximation strategies during shopping to satisfy their need of making some sense in the decisions (Kahneman 2011). Actually, the perceived quality strongly depends on the personal motivation of customers, on the desire of obtaining an item, on the availability to pay for prestige, appearance, aesthetics; on judicial, religious or moral issues, or any combination of these reasons. (Neap and Celik 1999).

To better understand activities, needs, and expectation of customers with respect to shopping activities, we are observing behaviors of customers online and in store, and there is a number of interesting and innovative phenomena that is worth to investigate.

It is important to point out that, very often, the criteria adopted to evaluate a product employed by the producer can differ from those adopted by customers; sellers and sale services play an important role to understand and fill the gap between the different perspective driving the evaluation of quality. To this purpose, we can refer to the important distinction between “value creation” and “value capture” (Bowman

and Ambrosini 2000) value is created by organizational members, value capture is determined by the perceived power relationships between various stakeholders. In other words, customers assess the overall value of a product on the perceptions of what is given and what is received (Zeithaml 1991).

3. Evolution of shopping behaviors and services

The arrival of internet increased the number of channels through which people can buy a product, actually offering an alternative to market places and giving to consumers the access to an almost unlimited variety of products, so enabling the diversification of the purchase processes (Arnold and Reynolds 2003) (Morales et al. 2005). Nowadays the shopping process is a complex and sophisticated experience involving customers in a number of different processes such as getting information, understanding values, comparing solutions, framing needs, managing social activities related to goods, influencing trends and so on. Due to the diffusion of mobile technologies, these processes involve both physical locations (retail stores), the virtual market in the web and social networks.

In the past, internet-based shopping experience used to take place in private environments, such as domestic or office spaces. People purchasing products through their laptop or desktop had wider choice of products and sellers but, at the same time, all social were substantially absent (Schaefer and VanTine 2010). This isolationism can be identified as one of the main causes of the ROPO, Research Online Purchase Offline, phenomenon; indeed, people found a way to use the potentialities of the online shopping - by using the web as a giant catalogue of products – but they decided to purchase offline, in traditional stores, the products selected online. This phenomenon, named *web-rooming*, can be related to the will of people access both the advantages of the web, together with those of the physical world such as social dynamics and material interaction with products.

With the spreading of smart mobile devices, the shopping experience changed again, because we are no longer tight to desktop computers, and we can access to information everywhere at anytime. The mobile technologies modify the boundaries between the physical world and the web, and actually create overlapping and hybrid experiences. As a consequence, the online shopping processes moves from indoor to possibly any locations, and this opportunity gave birth to *showrooming*, i.e. Try Offline, Purchase Online (IBM 2014). The physical stores become a showroom where products can be watched, touched, tested, selected; they are a physical catalogue while the shopping experience is then completed online (Burke 2002). Smart devices are tools to access digital media inside the shop in order to memorize and to catalogue goods in order to facilitate the subsequent purchase online. Furthermore, they allow social interaction within the shopping activity. Between others, we report here an interesting case study documenting the emerging of new spontaneous retail phenomena supported by mobile devices. It refers to the activity of some Chinese buyers in Milan, Italy. The commercial offer of fashion product in Italy and in China is quite different and some Italian brands, selling their products in both countries, offer pieces of clothes that differ from the point of view of tissue (materials, pattern, colors), shape and style. Some Chinese buyers developed a service of “buying at a distance” based on the following actions: they enter a luxury store, choose some suits and wear them in the dressing room; as they do so, they use mobile devices to share on the web their fitting test in the dressing room, snapping selfies, or making videos. They also photograph labels and tags with prices and details, and send these data via WeChat (Weixin) to customers in China. When the remote customer is satisfied, the local buyer receives a real time payment trough WeChat or via Alipay, concludes the purchase and payment in the shop and ships the products via couriers. These phenomena and others document the ferment of new activities related to commerce and supported by mobile digital services. These phenomena can be convenient for customers but also for

producers since they represent a way to broad the market potentialities; they are much convenient for brands that have their own shops and evaluate the growth of markets in a global vision, while could produce problems to local shops, if not adequately managed. On the other hand, these new forms of intermediation will have some consequences on styling visions and fashion design strategies, since it appears as evident that buyers at a distance consider as a value the opportunity to buy products that are available only in a market different from their domestic one. The above reported system is an opportunity of income for young Chinese students in Italy. In China, these buyers are named *wēi shāng* – people that have a mini business - a type of business that make us to reflect on how social needs, global markets and major platforms can be used by people to create grass-roots entrepreneurship (Serra 2016).



Fig. 1 Screenshot from the site TaoBao

4. Digital services for retail and opportunities of social innovation in local environments

The creation of services for selling online products that the user needs to feel, touch, try (such as clothing but not only), poses research questions related to the understanding of how we can support people so they can explore and perceive the quality and establish a physical relationship with the product itself (Burke 2002). In the interaction with goods, a number of different cognitive and emotional processes take place simultaneously, some of which are conscious while most are performed through rapid and automatic exploration and non conscious strategies of evaluation. Each physical interaction – with a product or with the surrounding environment - is a source of sensorial stimuli, an opportunity of experiential knowledge and of valuable active engagement for customers. On the other hand, when customers physically interact with material goods, sellers have the opportunity to show and bring to evidence some quality characteristics of products that cannot be easily described in terms of words or images. This is true for any kind of product, from books to clothes, from cars to photo-cameras.

In this paper, we focus our attention on little local shops, and on those selling artisanal products. Artisanal products have characteristics that depend on materials and on fabrication processes; the visual appearances and performances of these products are often variable in time and from a specimen to the other. In our investigation in Milan, we observed that in artisanal shops, i.e. in those shops that sells unique specimen often handcrafted and sometimes produced in place, the perceived quality of the products (crafts) strongly depends on their “artisanal” nature and the perception of its value significantly depends on the social dynamics within the store itself. We investigated this through observations in stores

and interviews with sellers. In artisanal stores, direct social relationships between customers and sellers influence the sense of authenticity with respect to people and products. This is related to a diffused value:

“The demand for authenticity—the honest or the real—is one of the most powerful movements in contemporary life, influencing our moral outlook, political views, and consumer behavior.”

(Potter A 2010)

The artisanal products are produced by artisans, either completely by hand or with the help of hand-tools and even mechanical means, as long as the direct manual contribution of the artisan remains the most substantial component of the finished product; even when artisans make quantities of the same design, no two pieces are ever exactly alike. An artisanal product is something made by a person who makes artsy things that are ‘beyond a craft’ that they create an ‘economic moment’ where that thing can be rare/unique/limited. Their special nature derives from their distinctive features, which can be utilitarian, aesthetic, artistic, creative, culturally attached, decorative, functional, traditional, and religiously and socially symbolic and significant. So the artisanal product it’s very full of value that came from: the craftsman that create the product, the material that he used to realize the product and also from the context in which the craftsman operates. Through the direct interaction with the producer or seller, a customer can build a system of trust and shared values based on the quality of human empathy, that is translated into trust and appreciation with respect to material qualities of the product itself.

“In advanced consumer economies, consumers are buying on the basis of their interpretation of the product and its story” (Glenn R. Carroll, Balázs Kovács 2013)

So artisanal products have a story to tell that represent the value itself and quality, intended as in the above, becomes the prevailing purchasing criterion.

5. Preparing the ground for co-design of new service paradigms

Every retail process is the outcome of a complex system involving a number of different stakeholders: from producers of raw to manufactures, from distributors to traders, from city planners to local inhabitants. In some cases, little shops are also the production space of the artisan/vendors and in Milan a growing number of these activities are appearing in several areas of the town, revealing a renewed vibrancy of the social and economic small scale entrepreneurship that should be sustained and promoted. In our ethnographic research, we learned that in traditional retail system, vendors play a very important role enabling the information flow from the final consumers to the producers and therefore they can have a very valuable role inspiring innovation. The design of new retail services should consider all the variable and stakeholders of the system in order to investigate the opportunities to generate value in the amplest sense.

In the following of this paper, we will describe some results obtained in a design workshop aimed to the design of digital services for little shops in Milan. The workshop was organized at the School of Design at Politecnico di Milano with the students of the first level master degree in Communication Design and it involved around 40 students.

The design context was via Canonica in Milan. Via Canonica is a street in a central area of the town hosting several little stores and boutiques, some of which owned by artisans working in place. From the architectural point of view, the area is quite a hybrid district, with a number of new buildings and some popular old condos still maintaining the pre-war appearance. On the other hand, Via Canonica can also be considered as a “place in between” since it is located between other more famous and glamorous areas,

and is not a touristic place. In the past, some initiatives aimed to build some sort of local brand identity or a common communication strategy failed and did not rally the participation of retailers and other stakeholders. For these reasons, the Canonica district seems to be an interesting lab where we can investigate social local phenomena that are related to traditional retail services, and where we can experiment innovative services. During the workshop, all design activities were accompanied by ethnographic analysis to investigate needs, motivation factors, wishes and values of buyers in different retail fields, collecting interviews with manufactures and traders.

The involvement of Design university students in the generation of innovative concepts of products and services has a long tradition: educational labs taken as a base of speculation in design theories have been the object of controversial discussions. In our case, the involvement of students born in the digital world (Reisenwitz and Iyer 2009) is indeed more relevant as we need a new generation of designers capable to include the technical solutions in their proposals. In the studio lab, the brief demanded a visual project for the district identity, a mobile application or a web-based service aimed to support the exchange of value between the local stakeholders and to create a different kind of cultural relationship between customers and the retailers. We also required video-scenarios to sustain effective communication of the service concepts and enable co-design in multicultural environments (Pillan, Spadafora, and Vitali 2014). The design strategy aims to create services based on the integration of physical and virtual spaces, acting on the borders of the online and the off-line experiences. This approach focuses on both digital and analogue factors of experience as a continuous, so to create a multichannel communication path between the stakeholders and merge different flows of value exchange; from the traditional paradigms business-to-business and business-to-consumer, we move toward a full range of possibilities involving manufacturers, vendors and final customers also considered as a source of value. The outcomes of the workshop provided the tools to enable some further design activities aimed to discuss scenarios with some representative stakeholders of the environment and social system revolving around via Canonica. It is important to point out that in our approach, technology based services should be produced in a co-design process involving stakeholders and the new paradigm of services generated in the workshop are considered just a preliminary step aimed to prepare the ground for co-design activities, and to provide concrete examples to discuss, also building a common language shared by stakeholders and designers.

Through the analysis of the outcomes of the workshop, we could extract a number of insights useful in our research, part of which are summarized here in the following. Via Canonica is really a “place in between”, i.e. a place where various typologies of stores and very different people (in cultural, economical, ethnic senses) coexist, and it can be considered as representative of a number of urban environments that are experiencing changes without a development plan. It is an interstice between more visible realities, and a “border line” between old and new, (old retail and new branded stores), a place where novel phenomena coexist and have the room to grow. It emerged that variety is perceived as a value and an opportunity to live and work adopting a favorite personal lifestyle.

The existence of a variety of shops, each one with a specific identity, some referring to tradition and some new, play an important role in defining the collective identity of the area, offering a character of authenticity and uniqueness to the whole environment, so contributing to generate a sense of belonging and a pride of being and working there.

On the other hand, the real value of the district is in the sum of individual local identities that mainly manifest themselves also through the presence of the variety of shops and other professional initiatives. In most cases, the external appearance of shops is not noticeable or glamorous, and most buildings appear just as “normal” urban residences. This “normality” is perceived as a value by inhabitants and vendors. For most of the interviewed people, the main goal is the maintenance of the existing state, and the

opportunity to continue a business mostly based on a reputation based on quality of products and processes.

Probably, a proposal of collective communication and local brand doesn't meet the consensus of the local stakeholders since local stakeholders seems to be more interested in maintaining their individual identity rather than in being part of an organized system.

With respect to digital services to communicate the existence of shops (and of local products, business activities and artisanal production locations) and improve the service offered to customers, our workshop demonstrated that it is possible to design a wide variety of services capable to give new value to the local offer through the organization of events, and through the use of multimedia solutions to document and explain the local and diffuses cultural heritage. As we had previously deducted from research based on case study analysis, in Via Canonica the quality of social interaction is a basic and important factor influencing the customer experience. Digital communication can enable new and richer dialog between local stakeholders and between them and the other players of the production/distribution system, but new services should be developed with a "soft hand", without perturbing the individual needs in terms of independence and identity.

The most promising direction toward which address future efforts in the design of digital services to support local retail seems to hinge on the dialogue between inhabitants around quality of products/quality of life issues. This result will drive our future efforts.

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