Design practices of local users and the community The case of Ugandan street vendors

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Abstract: The design practices and design agency of non-designers have received increasing attention from designers and design researchers. How the practices are formed, supported and fostered has been briefly, though not closely, studied from various aspects such as user community, competence in the material and tools, and platform or medium for design knowledge sharing and exchange. In this paper, we present a case study involving local street vendors in a northern Uganda town, Gulu, who design and make their own display stands for their goods. Firstly, we provide thick description of the materials, skills and knowledge of one street vendor that are required for this work, as well as the practical reasoning behind. Secondly, we examine the various ways the physical and social texture of the local community provides support and affordance for such practices over time. We show how the design agency of individuals is formed in and through that local, material environment and community. Furthermore, we reassert the significance of bodily engagement and intensive social interactions among a community for supporting design and innovation. By presenting one type of design practices in an agrarian society and the way practices are deeply embedded in – that are, essentially inseparable from - the local context, we hope readers with a similar interest in design agency will be able to reflect on their own society and situated practices - whether DIY or user technology innovation - and how they are supported (or not) by the material infrastructure and social texture of the community.

Key words: design practice, design agency, local user, user community, non-designer

1. Introduction

The popularity of the new production technology of 3D printing and the online platform *Etsy* for people selling their craftwork and vintage items have stimulated considerable interest in the design practices and design abilities of non-designers. These currents have resonated with the previous studies of user innovation and DIY practices that realize the growing role of people in the shape of innovation, solution and value. However, the design discipline seems to have been founded on disrespect for what we might term 'natural' design ability[3]. Although some design theorists call for attention to the universal design ability possessed by everyone, design researchers do not actually pay much serious attention to the design practices and abilities of non-professionals[4]. Yet in several other fields – including marketing, consumption and use of technology – a number of studies have attempted to investigate the design-related practices of non-designers, ranging from DIY and hacker practices, to product appropriation and end-user innovation.

In order to contribute to the understanding of design practices and design abilities of non-designers, we present a case study of street vendors from Gulu town in northern Uganda, an agrarian society. We report the practices of Gulu street vendors who design and make their own display artefacts. Although the design practices in an agrarian society seem distant from the ones in our current industrial context, with different infrastructures and production techniques, we argue it can provide fruitful insights by understanding how design practices are locally constructed. We examine two fundamental aspects of design practices. One is related to the materiality of the practices, including the knowledge and skills of choosing, using and reconstructing the materials. The other is the way the local community supports and affects individual design practices, as we believe design and the associated embodied abilities develop and change communally rather than individually.

2. The setting, the people and the practices

Gulu town is the commercial and administrative centre of Gulu District in northern Uganda. Twenty-one year civil war between Ugandan government and a series of rebel movement has turned northern Uganda into a humanitarian disaster. Over the course of the war, the local economy was based on almost entirely on foreign aid. As the main place to receive aids, Gulu town has been a relative oasis of calm and security in the midst of the violence and upheaval. After the war ended in 2007, local and national government, as well as foreign NGOs, have been working on the reconstruction of the area in terms of peace-building, socioeconomic development and primary education[1].

The research was conducted in Gulu town in 2012, five years after the war ended. The street that was studied is Market Street, the main street where the Gulu town monument is located, which leads to the town's outdoor market. Along the street from the monument to the market, there are several street vendors selling various kinds of everyday living supplies, including food and accessories. Except food, most of the commodities are imported from abroad and are not traditional daily objects in Gulu, such as radios, sun glasses, watches and plastic mobile phone covers. And all the street vendors participate in designing and making their own display artefacts.

With respect to this activity, we can note that in industrial societies, the distinction between professional and amateur is quite remarkable. Such distinctions are common amongst both researchers doing social and economic analysis and members of the society remarking on everyday scenes and activities. However, in non-industrial societies and their communities, like Gulu town, where a larger amount of people make things, the distinction is not especially relevant. People make things by themselves that professionals produce for people in industrial societies. And unlike most discussions on makers and making amongst philosophers, and students of the humanities more generally, the case in Gulu town that we are presenting is not at all romantic or poetic. The practices of designing and making display artefacts have little to with the pleasure of making things, the superior quality of the product, a profound sense of self-expression or self-fulfilment, or the spirit of self-sufficiency. DIY practices in societies like Gulu are more like the most ordinary, daily practices.

Most importantly, there is a strong element of economic rationality in the Ugandan street vendors who scratch out a living. Thus, when considering designing and making, street vendors have a very serious, quite rational reasoning involving having the smallest financial input possible and making the most value out of the cost. Partly as a result, makers in Gulu town are more closely engaged with their immediate natural environment and natural materials. Given the limited availability of tools, they have developed very much sensitiveness with the property of natural materials and practical knowledge of how to use the materials. For instance, due to practical financial considerations, the cheapest timber is chosen for the stand, so it appears rather fragile and light. On windy days, such a stand will often fail. In order to make it stronger, one heavy stone is hung behind the stand. And this simple stone only has value when combined with necessary forms of skills and expertise amongst the local street vendors who know how precisely to use it for making the stand stronger.

In this paper, we focus primarily on one street vendor, named Michael, but also provide a brief account of other vendors. Michael is a local young man in his early twenties. During the war, Michael was living with his family in a displacement camp on the playground that has since become Gulu town's outdoor market. He and most of the people in Gulu were surviving on goods donated by international NGOs. After the war ended, he and his family moved to the mud shelter in a nearby village that was constructed by local government. During the war, he was studying in a local school built by international NGOs. Three years after the war ended, he graduated from secondary school. He was more interested in earning money immediately than attending university or technical school. He does not possess the professional skills that would give him the opportunity to be employed as a mechanic with a stable salary. The first idea that he had for supporting himself was to sell some small fancy items imported from abroad. This small business required only a small amount of investment. To start the business, an important artefact – a stand – was of course required to display these products and give them proper visibility to customers and people passing by.

Michael designed and made his display stand partly by himself, paying a local carpenter to help. In describing Michael's work on his stand and as a self-employed vendor, we will examine the situated skills and knowledge that were required as well as the reasoning behind his practices. This street vendor's knowledge largely concerns property and accessibility of the materials, as well as the local existing services and social resources. And the skills refer to very practical 'know-how'. Our analysis in this regard will explore the ways in which the physical and social texture of the street, which is viewed as 'community', supports and affects the development of this skill and knowledge. In doing so, we describe how the design agency of the individual is formed by their local material and social environment.

Our description thus aims to provide a serious account of what may appear a somewhat trivial subject matter, the ordinary practices of designing and building a humble display stand. Just as Geertz[9] argues that cultural forms can find articulation through the behaviour details of local members, we believe the trivial details described in this paper will enable readers to appreciate the full significance of the street vendor's embodied skilful practices and communally-grounded reasoning, as well as the contextual elements that support the forming and normalization of the practices. For instance, the choosing and use of rubber as part of the display stand indicates the street vendor's knowledge and know-how on rubber, the property and competence of rubber, as well as the access and circulation of rubber supported by local natural and social environment. It is important to realize the practices of designing and making street vendor's display stand are shaped by and constitutive of the complex relations of natural resources, knowledge, the public life on the street, the physical and social texture of the vendors community.

In all, this paper reasserts the significance of bodily engagement and intensive social interactions among a community for design practices and innovation. And presenting one type of design practices in an agrarian society and the way practices are deeply embedded in – that is, essentially inseparable from – the local context, we hope readers with a similar interest in design agency will be able to reflect on their own society and situated practices, whether DIY or user technology innovation, and how they are supported (or not) by the material infrastructure and social texture of their community.

3. Previous research relating to our concerns

Nigel Cross argues that design ability, as one of several forms or fundamental aspects of human intelligence, is possessed in some degree by everyone[3]. Moreover, Herbert Simon[17] regards design as a core human activity that "everyone designs who devises courses of action aimed at changing existing situations into preferred ones". In everyday life, people set themselves a specific objective and find satisfactory tools to produce solutions. Such "a rational set of procedures in response to a defined problem" is in fact regarded by Simon[17] as the essence of design. In this sense, design activity as a core human activity is ubiquitous: A Father is making his own wooden table; the family are renovating their kitchen by rearranging the materials and layout; a skier is adapting the professional designed skis for his own purpose; a community of users are contributing to open-source software development. When people face problems in their everyday life, they have the desire to make their existing situations into more favourable ones by achieving the perceived goal. With the will to change, they take a rational set of actions responding to the defined problems and choose to make use of existing material resources and intelligence of others. In recognising all this, Moholy-Nagy properly describes design as "a complex and intricate task... and the integration of technological, social and economic requirements, biological necessities, and the psychophysical effects of materials, shape, colour, volume, and space" [7].

Along these lines, we also need to note that researchers in fields such as marketing, consumption and the use of technology have produced many studies that cover a wide range of practices like DIY and hacking, product appropriation, and end-user innovation, each focusing on these matters with their own disciplinary interests. For instance, researchers in the fields of marketing and retailing have shown much interest in studying DIY practices in order to probe customers' hidden needs. Studies on hackers who actively build, modify and create software or electronic hardware of their own computer systems have provided rich insights for technology studies. And of course designers have observed mundane daily activities that appear intimately related to design. For example, some designers have studied how home dwellers appropriate or domesticate products and surroundings for domestic use and home-dwelling routines in a creative way[14,22]. Wakkary[21,22] calls those people as a type of 'everyday designers', as creative agents, engaged in an on-going adaption of system through design-in-use. For companies who provide products and service to customers, the creativity and design activities of user and user community have been increasingly valued for product innovation and development, such as in the field of extreme sports equipment[19], and software development[25]. Also, a number of studies have observed that many products and services are further developed or adjusted by users when they use or implement the products [18], showing that many of the innovations that both improved functionality over previous best practice and increased commercial value were actually developed by end-users rather than manufacturers (see, for example, Shah[15], who found that the most commercially important equipment innovations in four sporting-goods product areas were developed by innovative users).

We find that for our case of street vendors in a Ugandan town who construct their own display artefacts, the literature on DIY is especially relevant, as it is deeply concerned with building, modifying, or repairing something without any help from professionals. Here we note that the popular culture phrase 'do it yourself' had come into common usage by the 1950s in reference to the emergence of people undertaking construction projects and various other small craft work. One main concern in this respect is accounting for why many European households undertake home improvement projects by themselves. Market analysts conventionally assume that it is a rational response from the people who cannot afford to pay for other or professional labour [26]. Later, apart from that makers are viewed as

rational actors to save money, they are also considered as figures engaged in forms of self-expression and reconstruction of identity[13,26]. Also, social scientists have sought to investigate the social effects of DIY in mediating and strengthening relationships between friends and family [12].

Until now, researchers have mainly focused on describing and analysing DIY practices in developed societies, and consequently been concerned mostly with the problem of human 'agency' rather than with economic motivations and constraints. However, an exception is the work of sociologist Elizabeth Shove[16] [23], who applies theories of social practice to the issue of DIY. Shove's main contribution is the argument that competence is not only an attribute of human beings but also of their materials and tools – is embedded in and distributed amongst individual makers and these non-human entities (borrowing Latour's[11] concepts regarding human and non-human hybrids). Shove gives the example of painting a door. Before the availability of the fast-drying non-drip water-based paints, painting a panel door was a complicated business that required one to do everything in the right sequence without any paint drags or drips. Today, with these more recent technologies, even first-time painters can produce an acceptable finish. We can see that the competences needed to paint the door have been redistributed between the practitioner and paints that have 'absorbed capacities previously embodied in the individual wielding the brush'. Accordingly, 'competence is embedded in and distributed between tools and materials and many other sources including people, DIY manuals and the internet'[16].

Finally, with respect to the role of community in affecting the design practices through the gaining, sharing and exchanging of knowledge and skills, research on open innovation has increasingly emphasised the role of communities in creating, shaping and disseminating innovations. Here researchers have focused on the favoured structures of the community or network for supporting and sustaining the designing and making practices of users[8,10]. For example, Campbell[2] observes that for craft consumers practical know-how and related forms of folk knowledge frequently filter through informal networks of family and friends. He identifies three key factors: distribution of necessary competencies, absence of formal structures, and need for motivation and support [6,19]. Some of this folk knowledge also circulates amongst specialized groups that he calls 'user communities'. And continuing this line of analysis by emphasising a point we noted earlier, Wellman et al point out that '... networks of interpersonal ties that provide sociability, support, information, a sense of belonging, and social identity' is important for user innovation[24: 4]. Another key observation on this same point is that user innovators may be generally willing to freely reveal their information so that collectively offer are increasing[20,25]. This is one of the important functions of innovation communities.

We can now turn to the case of Ugandan street vendors, concentrating – as we explained above – on the design work of one vendor, Michael. But as we have been arguing, whilst we will address Michael's 'design agency' and thus practical competencies of the maker, in analysing this case we will need to closely attend to the problem of how the ordinary work of making a display stand is shaped by yet also constitutive of a set of complex relations of both natural and industrial materials, the communal knowledge and skills of other street vendors, the local professionals, and texture of their rural community.

4. Situated design practices of a street vendor in Gulu town



Figure 1: Michael and his stand



Figure 2: Making of Michael's display stand

Along Gulu town's Market Street, there are many street vendors. They use different ways to display their products. Some use a big piece of discarded canvas on the floor; some choose a portable wood stand; some build wood shelter. All the street vendors on that street participated in designing and making their own display artefacts. Michael's stand of displaying watches and glasses is shown in Figure 1; the materials involved in its assembly are shown in Figure 2. The main body of the display stand is a wood frame composed of eleven sticks of timbers and one piece of flat wood board. The material is largely available in the village and is easily accessible to local individuals. Strong healthy male adults are capable of directly cutting trees with a simple tool. On the road in the village, there have been some fixed shelters of food street vendors built by women's husbands who directly cut the tree branches without further polishing or surfacing. However, in Michael's case, in order to display small imported industrialized accessories like watches and glasses, he considers the even surface of the wood as more appropriate than natural wood texture. This particular piece of wood is produced by a professional carpenter in a workshop located on the same street. Michael decided to pay 30,000 shillings UGX (8.8 euro) for this carpenter, who was professionally trained in college for three years and has been working for five years in the wood workshop. This construction performance requires tools that Michael does not possess and that are indeed quite expensive to possess. And professional work can ensure the quality and stability of the stand. Four sticks of wood timbers are for displaying glasses, while one flat board is for watches. Given the limited financial budget, Michael selected the thinnest timbers with the lowest price, with the consequence of reduced performance in terms of stability. However, the wood board is rather expensive, accounting for most of the material cost. Michael perceived it as having a quality of displaying watches in a nice and attractive way. It also has to be durable enough so that it can remain visually flat for a long enough period of time.

When the wood frame was ready, the stand needed to be functional to hang products. With 2500 UGX (0.74 euros) in total, Michael bought ten pieces of rubber belts from a bicycle workshop just in the opposite of the street, cut each into three thin pieces, and tied tightly each to the timber to make a knot. Rubber has been a very common material in this village and has been used for various purposes due to its resilience quality. And in this village, he has seen many street vendors who are using the rubber in the same way to hang their products. Free discarded rubber belts are commonly accessible as the bicycle workshop often throw away their used ones. Michael did not choose the discarded ones, which were less satisfactory in terms of visual aesthetics. In contrast, another street vendor built her wood shelter by tightly tying the discarded rubber strips on each pair of two intersecting wood members.

Michael bought a piece of stretchy black fabric and nailed it to the flat wooden board as the background for displaying the watches. He found discarded cardboards from the bicycle workshop and folded them into cubes so that watches could be nicely displayed. Pins were used to fix the paper cubes into the fabrics. The first version of display stand was done. After several days Michael used it, he found it was very fragile on windy days. Thus, just like other street vendors did, he then tied a stone behind the stand so that it became more stable.

Here in Michael's case, the materials of timber, rubber, cardboard and fabric have been carefully and skilfully chosen with regard to the price, accessibility, skills required and perceived goal. There are also many other ways to construct the display stand by combining the particular materials to achieve the particular goal with regard to its functionality and practical aesthetics. The functionality refers to the stability, mobility and durability, including how to hang and attach products, what is the appropriate height and weight, how to make it stable when there is heavy wind. The practical aesthetics is mainly related to the way to display and arrange products to give visibility and make them look commercially appealing. In other words, the whole process is about a set of complex reasoning on the

material choice, balance of his and local available skills and knowledge required for the performing, and financial issue: what materials to use, how to access and process them, and what skills are required for such performance is all contextually formed. Each natural material has its own property with regard to functionality and production requirements including technics, tools, and people's skills.

Let us take the stand's hanging structure as an example. As shown in Figure 3, various forms of hanging structures can be observed amongst Gulu street vendors. Multiple considerations shape Michael choosing rubber instead of nails, and surfaced timber rather than natural branch. Michael's display stand is mobile – he needs to carry it every day between the street and home, or along the street sometimes. Such mobility requires that the structure enables a vendor to fix their products safely while carrying it along the way. For instance, due to financial considerations that we explained above, the cheapest timber was chosen for the stand, so it appears rather fragile and light. On windy days, a fragile structure will fail in its performance. In order to make it stronger, one heavy stone is hung behind the stand. Stone is only of value when combined with necessary forms of skills and expertise for the local street vendors who know how to practically make use of it for making the stand stronger.

From this account, we can see that Michael and all other street vendors in Gulu town are engaged, sometimes paying currency and sometimes not, with raw materials and component parts to produce, transform, or reconstruct material possessions. The materials include natural material, selling and discarded industrial processed materials. The individuals choose among available materials, tools, and local service done by professionals to complete the project, and then act as evaluators when deciding whether the product has achieved the desired value. The situated skills and knowledge that required for the performance, as well as the rational reasoning behind the practices, have been examined. Because economic considerations play an important role here, vendors in Gulu town have naturally developed very rich knowledge on property and accessibility of each material. The details that we have described – although they may seem trivial – confirm the practical reasoning behind the practices, giving these details a very serious place indeed.



Figure 3: illustrations of hanging structures used by street vendors in Gulu town

5. Supportive community: physical and social texture of the street



Figure 4: Map of wood and rubber on Market Street; stands with red dots are made in the wood workshop, the rubber, either new or discarded, of stands with green dots is from the bicycle workshop

In this section of the paper, we discuss how the physical and social texture of the community affords and encourages the practices of designing and making. The 'community' refers to the Market Street where Michael sells products with other street vendors. Also, on the same street are located the wood workshop where the carpenter was hired to make the wood frame, bicycle shop who sells rubber belts and blade and disposes cardboard. Thus, this street is a place of making and using the artefact. About this street, we find the physical texture refers to physically close distant of each individual, transparency of bodily being and materials, and the social texture features intensive social interaction among each individual and manner code of preparing themselves for reciprocity and exchange among the community. Long-term bodily engagement and transparency of the materials and performing are advantageous for exchange and sharing of tacit knowledge. Through bodily being on the street over time has developed a social circle, which is equivalent to the notion of neighbourhood. Each individual behaves in the way that it will benefit for each and all on the street. Thus, each individual will intend to help each other. .

Market Street is a busy street where the Gulu town monument is located and that leads to the outdoor market. Along the street, there are several street vendors selling various products including candies, drinks, food, watches, sunglass and other daily suppliers. Michael is one of them. Together with him, there are two street vendors. One is selling radios and solar lamps on a big piece of canvas on the ground, while the other has the similar display stand to sell accessories like plastic combs and mobile phone covers. They display the artefacts side by side in a visible place and are seated themselves on some rocks under a big tree. Just across the street, there are metal workshop and bicycle workshop next to each other in the side of the street. The two workshops have very small fully enclosed tool storage kiosks.



Figure 5: mechanics in bicycle shop are sitting in the open yard in idle time

The first aspect of the texture is about the physical linkage and transparency of bodily performing and materials. On this part of the street, there are four street vendors, and several mechanics and blacksmiths. They co-occupy the same public space with their own territory. For the first layer, these occoccupants are linked geographically and physically. Three street vendors, forming into a close social group, are occupying under a big tree. And bicycle mechanics and blacksmiths are doing their work on the open yard in front of their kiosks. During idle time, workers are sitting in the side of street in twos and threes as shown in Figure 5. Their physicality of working, resting and chatting is completely open to the public. The workshop is only a few steps away from Michael's stand. The artefacts of the street vendors that are stand or canvas instead of brick or glass wall or fence provide the openness to its largest extent in terms of materiality. And for the two workshops, the materials, tools and performing of the practitioners are displayed in a completely open space without any boundary. Such material configuration of the public space allows the bodies, performing and materials to be seen at its greatest extent.

Based on the physical transparency, the other texture of the space is its social surface. Similar with the rules of social relations in neighbourhood, everyone shares the same interaction codes so that each one has expected benefits from the neighbours, and the collective public becomes possible and easy for everyone[5: 19]. Similarly, street vendors interact in the way in which they can prepare themselves for reciprocity that each knows they ask of or give to the other in hopes of exchange one day. However, the public space on this street for street vendors has its particular form, which is the long-term repetitive bodily engagement both with the material place and with other occupants. Also, the solidarity of the relation has been established over time. The street vendors usually come to the space to sell their products from early morning eight o'clock and leave around five o'clock. Their bodily beings last for almost nine hours per day. And during the majority of that time they are idle in that they do not have any activities relating to business.

The three street vendors are sitting under the trees, sometimes chatting or watching other people on the street. Due to the intensive social interactions among individuals, intolerable manners will not be allowed. Each individual is managing the public facet of self, both when one is in working and idle time, to make sure the collective social space is benefit for all. They will ensure the avoidance of all the dissonance and disruption of behaviours. The particular characters of space and time in this space make sure the fundamental manner of the relation is to provide reciprocity for all the individuals here and further more for the community as a whole. We include the four street vendors and the workers in the two workshops in a community or network. And they are geographically, physically, socially and temporally linked together. If a street vendor has a fight with another one, it will be awkward for both and as well as every single member in the community. The deviant ones may face the possibility of dropping out of the community physically and socially. Chatting and curiosity are internal impulses for the daily practices of street vendors and workshop craftsmen. The occupants on this street are long-term intensively bodily engaged in the physical and social surroundings. Street vendors gain knowledge of the material surroundings, including the natural materials like trees, stone, and industrialized materials that shops sell and dispose. Also, they are familiar with social resources, like the skills of local carpenters and every single craftsman. Through the intensive and long-term being with other occupants, they know the skills and knowledge of each individual like local craftsmen and other street vendors, and they will get their help if they need. Due to the code of social interaction required in this community we analysed above, each individual tends to behave to bring reciprocity and benefits to others, which facilitates the knowledge exchange and sharing.

6. Discussion

We have closely examined the particular practices of street vendors in a small Ugandan town. We have seen how the design practices and design abilities of street vendors are locally constructed. Such analysis has allowed us to identify the way the skills and knowledge of makers are formed by local material and social environment. Drawing on this analysis, we have sought to reassert the significance of bodily engagement and intensive social interactions among a community for supporting design practices and innovation. The interaction code of a 'neighbourhood' type ensures each individual in the community to act in the way that reciprocity is expected and the collective social space benefits all. The street vendor in the remote town is particularly sensitive to their immediate natural materials. The street, as a collective public space, indicates the relation between the formation and evolution of design practices and people's public presence and membership in the community. We hope readers with a similar interest in design can use this analysis to reflect on design practices in their own societies, and how they will continue to be supported by the distinct infrastructure and social texture of the surrounding community. By presenting the case of Gulu town, then, we aim to motivate deeper thinking about the crucial role of locality, rather than merely advanced technology, in terms of what offers the most promise for facilitating design practices and innovation.

7. Citations

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