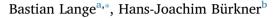
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## Flexible value creation: Conceptual prerequisites and empirical explorations in open workshops



<sup>a</sup> University of Leipzig, Institute for Geography, Johannisallee 19a, 04329 Leipzig, Germany
 <sup>b</sup> Leibniz Institute for Research on Society and Space, Flakenstr. 29-31, 15537 Erkner, Germany

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#### ABSTRACT

New micro-scale forms of working, ranging between craftsmanship, creative invention and digitalized production, do not only promise to contribute to open innovation (Smith et al., 2017). Open Workshops, FabLabs, Reality Labs, and Tech Shops also provide new modes of value creation (Petschow, 2016). As product development, services and field-specific knowledge become ever more contextualized and contingent, there emerge flexible configurations of value creation (Stabell and Fjeldstad, 1998). Following this line of thinking, we conceptualize the role of Open Workshops in value creation processes. Concerning shifts and fluctuations of the agents involved, may they be professionals, knowledgeable amateurs or everyday practitioners, we know little about the role of space and place for value formation in informal peer networks. We are aiming at shedding light on self-established work structures that are typically experimental and in perpetual transition. Our results demonstrate that value creation is generated on rather unforeseen occasions, based on open search for sufficient work-life balances. Especially digital technologies and their flexible combination with work within self-determined networks and organizations contribute to the emergence of such occasions. The empirical case of Open Workshops illustrates in which ways context-dependent routines of trial & error, latency and flexible processes effect changes in field-specific configuration of value creation.

#### 1. Introduction

Micro-spaces of altered work and production have popped up worldwide in the context of urban, economic and societal transformation. Scholars have so far addressed them as Open Workshops, FabLabs, Urban Laboratories and Coworking Spaces (Herrle et al., 2015; Wolfram and Frantzeskaki, 2016). They have also become recognized by a larger public. One indicator is that calls for the purposeful establishment of Open Workshops in schools and other educational institutions have been made (Assaf, 2014).

In 2016, almost 500 Open Workshops were counted in Germany (Lange et al., 2016), ranging from bike kitchens, FabLabs, printing studios, and other open places engaged in prototyping, crafting and fixing artefacts. Due to an enormous increase of Open Workshops of almost 50% over the last 2 years (Lange et al., 2016), the necessity now arises to conceptualize these Workshops in more detail.

In our understanding, Open Workshops are an important part of the new scenery of open innovation. They comprise craft elements as diverse as highly innovative production technologies, such as prototyping technologies, 3D printing, screen printing, traditional crafts, bicycle repairing, and others. These phenomena have been considered sites of "collaborative coworking" (Bender, 2013), "alternative economies" (Lange, 2017) or experimental fabbing labs (Fleischmann et al., 2016). They have in common that their internal structures and practices substantially differ from the routines of commercial production.

In the past few years, the academic and policy oriented debate has raised attention on these spaces for various reasons: While some scholars address them as topical niches in the context of sustainability and transformation (Liedtke et al., 2015, 2012; McCormick et al., 2013; Nevens et al., 2013), others have taken a closer look at their role as small breeding places of innovative practices within multi-level governance and urban transition (Gavin et al., 2013; North and Longhurst, 2013; Schirmer, 2010; Seyfang and Haxeltine, 2012). Urban studies scholars have perceived these micro grassroots spaces as a counter movement against the backdrop of financial and austerity effects at the local level (Färber, 2014; Tonkiss, 2013; Vathakou, 2015). Others have started to shed light on collaborative practices within peer production networks (Hemetsberger and Reinhardt, 2009).

An additional strand of conceptualization emerged from studies on shifts in the organization of work, including actual work practices, in

\* Corresponding author.

E-mail address: Bastian.Lange@uni-leipzig.de (B. Lange).

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contemporary processes of economic transformation. A crucial role for the restructuring of how, when and where people work has been played by the technology-driven deregulation of labour markets (i.e. more selfemployment but also new job profiles due to internet and communication technologies; more freelance work) as well as by ICT-induced re-organization of work and workplaces (Kostakis and Bauwens, 2014; Smith et al., 2017).

Although many of these disciplinary approaches comprise very different scopes and topical interests, it is striking that a more comprehensive interdisciplinary conceptualization of the topic is still missing. Labelling prevails over systematic investigation, leaving the issue to metaphoric generalization, such as 'grassroots', 'niche', 'space', 'lab', and others. While these notions appear to indicate new urban nuclei of transformation and idiosyncratic social practices, very little information has been provided when it comes to the social configurations which these phenomena imply.

In spite of this void, it is striking that Open Workshops have been intuitively approached as a key component of anticipated macro-scale transformations, e.g. those leading the way to the so-called "green economy". This has created the paradox that the economic practices and dimensions of Open Workshops are on the one hand extremely underconceptualized and on the other hand overrated and overestimated, especially regarding their potentials for wider economic change. Nevertheless, Open Workshops have been detected as political option creators, mainly by policy makers and intermediaries who strive to take advantage from their implicit and explicit transformative power on neighboring systems. Such endeavors have been represented by recent policy initiatives and model projects funded by national ministries (for Germany, see WBGU, 2016). However, the very basic issue of the economic significance of the phenomena in question has hardly ever been addressed.

Presently there are only few scholars such as Ferdinand et al. (2016), Troxler (2014), Dickel et al. (2014), Fleischmann et al. (2016) and Smith et al. (2016) who point to the transformative power of Open Workshops for the fields of open innovation (Gassmann et al., 2010), or self-organized do-it-yourself practices and amateur craftsmanship (Jabareen, 2014). These scholars have expressed their expectation that the substitution of products and the prolongation of product life-cycles occurring within various types of Open Workshops may have positive effects not only on the valorization of local resources but also on energy sufficiency.

These very selective economic aspects, notwithstanding the interesting bit of the effects of specific socialities on value creation and altered 'modes of production', have grossly been missed. Currently there is little systematic academic knowledge available regarding the potential of economic transformation implied by small socio-economic configurations, e.g. as arising from the idiosyncratic social relations they imply or the experimental work relations which transcend traditional logics of sheer profit maximizing (Lange, 2017). Therefore, Open Workshops must be analytically approached from a refined socio-economic understanding of production, regional economies and the logic of value chain production.

#### 2. Research question

More specifically, our paper sheds light on the so far underrated research question of how these Open Workspaces have generated economically relevant effects for the persons involved as well as for the organizational form and the embedding context of these workshops. This does not mean that we will establish a general economic perspective on the phenomenon which will treat social implications as secondary. We rather propose to assemble a refined, sociologically and geographically informed understanding of an economic perspective which takes these bottom-up initiatives as part of the dialectics of evolving capitalism and its social contestation. This involves two major questions:

- (1) In which ways do Open Workshops make an economic end from social drivers of work and material production?
- (2) How do social motivation and relations, craft-oriented expertise and advanced digital technology combine to create economic value?

While undertaking close-up empirical explorations into the 'becoming' of bottom-up innovation and value creation, we intend to avoid the fallacies of determinist thinking inherent to grand theoretical approaches such as neo-classical input–output models or the behavioral approach on economic decision-making.

Taking into account recent paradigmatic changes brought by digitization, sinking investment costs for 3D printers, fabbing technologies and their growing integration into educational curricula, we see a strong necessity to reformulate core concepts such as value creation and knowledge formation, including category building regarding skills, social competencies, networks, and spaces.

Accordingly, we argue for an explorative conceptualization based on reconsidering small concepts such as value creation, rather than referring to well-established big concepts such as neoclassical input-output models or innovation models. Lacking a direct clue to social practices which drive the economy such approaches appear to be especially unsuitable for the theoretical and empirical reconstruction of intricate social interaction and discourse as we observe them in Open Workshops, not to mention complicated cross-disciplinary contingencies based on intense intragroup negotiation. For example, the integration of analog and digital tools practiced in bicycle repair kitchens affords particular social embeddings which are not ostensible, such as heterogeneous social competencies and various technical knowledge. The latter often surprisingly combine into applied open source technologies which, in turn, support mobility and wider social practices situated within a local neighbourhood (Jabareen, 2014).

Therefore, we develop a processual and practice-oriented perspective which aims at qualifying the socio-economic terminologies of value creation that are relevant for the conceptualization of social practices driving and organizing these Open Workshops.

Proceeding from first generalizations of the formative trends of Open Workshops, we seek to contribute to the debate on the local potentials and the small-scale economic options for valorization provided by innovative forms of work. We are aware that emerging processes of value creation may afford us to operate with tentative categorical definitions and concepts only. Key concepts such as labor, product, work and value often leave the former grounds provided by economic theory; they might as well be informed by concepts revealing the socio-economic aspects of biography, or the co-creation of material artefacts 'just for fun'. Shifting contingency of action and the protagonists' practical venturing out into risk-driven modernities often elapse clear categorization. Nevertheless, their exploration is a necessary step towards reflecting the wider significance of self-organized and experimental types of work, i.e. in terms of their role as emerging components of contemporary economic and societal transformation, and ultimately of the variegations and directions that capitalism enters beyond big-scale formalized production models.

#### 3. Outline of the paper and research interest

Based on these premises, we state that scholars' awe in face of unprecedented developments and lacking theoretical tools to capture them have recently produced an outright theoretical void. While many empirical explorations into the 'labs' scene (Schmidt et al., 2014) have been executed as case- and site-based idiosyncratic studies or have made use of bottom-up ethnography and qualitative methodology (Ouma, 2012), it does not come as a surprise that the degree of generalization of empirical findings is astonishingly low and the few theoretical approaches which might provide a clue to the new phenomena have not even been browsed by interested scholars, not to speak of their

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