Can "Artistic Innovation" be Measured? Exploring Value and Impacts of Artistic Innovation on Sustainable Development

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Abstract

The 2030 Agenda for Sustainable Development of the UN reflects a broad view of culture that encompasses the contribution of culture to sustainable development including through innovation. However, the methodologies that allow measurement of the contribution of culture in innovation processes, but also assessment of the cultural and creative ecosystems as sources of artistic innovation still need to be developed further. Despite the increasing importance of artistic innovation for states, territorial powers, and industrial systems both in the Global North and the Global South, its social, economic, and cultural impacts remain "hidden" from traditional measures of innovation. Based on existing literature and empirical research led in France and in the United Arab Emirates, this paper identifies social processes that accompany I) production, 2) social assimilation and 3) territorial anchors of artistic innovation, as well as research questions that these social processes raise. We suggest that a systemic perspective that adopts a bottom-up and empirical sociological approach can reveal the social indicators of artistic innovation that are still unexplored or underestimated. Our reflection complements the current conceptualisations of artistic innovation offered by other analyses and disciplines and may be of use to researchers working in related fields.

Keywords

Innovation metrics, artistic innovation, public policies, art, design, sustainable development

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Introduction

The 2030 Agenda for Sustainable Development of the UN adopted in 2015 reflects a broad view of culture that encompasses the contribution of culture to sustainable development including through cultural heritage, the creative industries, local culture and products, creativity, and innovation. The collective capacities to repeatedly innovate sources of value (products, patents, concepts, economic models, environmental and social values, etc.) and new skills (knowledge, know-how, processes, trades, etc.) (Le Masson 2006) are progressively becoming the drivers for the local capacity building, territorial competitiveness, and sustainable urban growth. However, the methodologies that allow measurement of the contribution of culture in innovation processes, but also assessment of the cultural and creative ecosystems as sources of artistic innovation still need to be developed.

The artistic innovation is inevitably anchored in its spatial context, as the logics of innovation processes depend on the myriad of local variables. The non-metropolitan ecosystems tend to seek innovation in sectors demanded by the public sector for institutional activities and those linked to the management of heritage (Escalona 2018). For example, the Abu Dhabi Saadiyat Cultural District is creating a global public sphere through the combination of aesthetic, technological and conceptual innovations that support the landmark institutions such as the Louvre Abu Dhabi, the Abrahamic Family House, Zayed National Museum, and the Guggenheim Abu Dhabi, amongst others. The large metropolitan complexes "have access to agglomeration benefits of larger neighbouring cities" (Meijers 2017) and favour the specialization of metropolitan ecosystems in sectors that benefit from economies of agglomeration. For instance, the "Knowledge Capital" platform based in Osaka promotes the innovative projects that intersect art, tradition, and technology, while being embedded in the Kansai region agglomeration that interconnects cities like Kyoto, Nara, and Kobe. The Luma Foundation based in Arles (France) supports the innovative cultural and eco-responsible initiatives through enhancing the potential of the regional cultural and natural resources historically presented in the South of France.

The hubs of artistic innovation create and support horizontal, frequent transnational networks that increasingly outmatch traditional vertical relations with the city's hinterland. The cultural consumption that a place makes possible, as well as social connections based on aesthetic sensibility become key factors in defining what makes a city an attractive place to live or to visit and attracts foreign direct investment (Silver, Clark, and Graziul 2011). On the production side, fostering artistic innovation supports the self-sustaining endogenous growth of cultural and creative ecosystems (Pratt 2015). In this sense, the "production system" of artistic innovation embedded in a territory, as well as the "buzz" (Silver and Clark 2016) that the pursuit of artistic innovation creates globally would "craft a new value proposition for culture as a foundation for a more resilient and sustainable social, economic and environmental future" (DCT and UNESCO 2022). Consequently, the economically and socially important changes of an aesthetic nature–or with a strong aesthetic component–are becoming prevalent in contemporary urban policy development.

The artistic innovation plays an increasingly significant role in the culture-led strategies of resistance and re-imagining as well. The Covid-19 pandemic raised issues around greater equity in the global political economy. On the one hand, the lockdowns and mobility limitations forced a global slowing down: "slow creation," and "slow tourism" embedded in micro-localities and traditional knowledge became more actual than ever worldwide. On the other hand, the omnipresence of digital platforms provided a virtual world that speeds up and strongly benefits from the technological development. These contradictory dynamics raise inequalities in societies and economy and raise new challenges for cultural policy and practice. In this sense, the artistic innovation would become an important tool to value diversity, as it ties extra-local and global, but also it interrelates the traditional artistic expressions and the new technologies. In this sense, the artistic innovation is seen as a generator of images and narratives potentially able to counter regressive populist agendas both in the Global North and South.

Literature Review

Despite the increasing importance of artistic innovation in contemporary societies, the OECD Oslo Manual, which is the main guide for the design of the European Community Innovation Survey (CIS) questionnaire, is still based on standard economic model. This model promotes innovation of functional, scientific, or technological nature reflected in indicators such as investment or patents awarded. This document contains clear definitions of scientific and technological innovation and enables its measurement and evaluation. Even though the latest edition of the OECD Oslo Manual (2018) extends the measurements of innovation from businesses to other organizations or businesses that address challenges of a social nature, it still does not include the concept of artistic innovation in its viewfinder.

Several publications have addressed this gap by analysing the innovative behaviours in the creative industries (Handke, 2008; Miles and Green 2008; Potts et al. 2008), innovation types and processes related to publicly supported arts and cultural institutions (Bakhshi and Thorsby 2012), innovations which respond to social needs by third sector organisations and public sector bodies that are not motivated by profit (Mulgan et al. 2007).

However, the conceptual and empirical framework that allows a systemic approach to artistic innovation still does not exist. The existing conceptualisations range from "soft innovation" (Stoneman 2009) to "hidden innovation" (Miles and Green 2008) and "artistic innovation" (Castaner and Campos 2002). While each of these definitions highlights a different dimension of the concept, we choose to use in this paper the preliminary term of "artistic innovation." This term is chosen in accordance with the focus on the role of art in the processes of innovation.

Amongst existing works, macro approaches address artistic innovation through exogenous variables such as cultural policy and economic conditions of the territory (Heilbrun 1998). Some meso-sociological studies examine artistic innovation through the complex relationship between the environment and the organization, with an emphasis on the role of external sponsors (Martorella 1977). Micro-analyses focus on the impact of organizational variables of artistic innovation, such as size (Heilbrun 1998) or internal structure (DiMaggio and Stenberg 1985).

The book by Luc Boltanski and Arnaud Esquerre, Enrichment (2017) addresses issues related to artistic innovation from the point of view of the "economics of enrichment". The "economics of enrichment" does not produce wealth but generates it from things that already exist. The value of today's most innovative objects would consist of ground– breaking ideas, technologies, and know-how, "enriched" by pre-existing local traditions, craftsmanship, materials, and narratives.

The topic of artistic innovation is essential not only for the industries that seek to create new sources of value, but also for the public cultural institutions (operas, museums, theatres, etc.) that are expected to renew their perimeter and to redefine the relationship they have with their audiences. The research project led by Nesta (National Endowment for Science, Technology, and the Arts based in the UK) identified four categories of innovation common to cultural institutions. These are innovations in: audience reach, art form development, value creation, and business management and governance (Bakhshi and Throsby 2012).

The existing research also assumes that the pursuit of artistic innovation fosters crossfertilisation between established institutions and large and dispersed networks of not only small, but also micro-enterprises, and the self-employed, because the same actors are often involved in both systems (Van Andel, Herman, and Schramme 2021). Moreover, these institutions, enterprises and individuals are constantly reorganized based on serial project– contracting arrangements. The reason that these organizational forms and business models have developed is the radical market uncertainty and pressure for innovation.

Measuring Artistic Innovation: An "Unexpected Task" of Evidence-Based Research

The present paper addresses the methodological challenge of measuring the artistic innovation processes by adopting a pragmatic approach. The increasing impact of the artistic innovation on the local capacity building and sustainability of cultural and creative ecosystems emerged in the three empirical studies led in Europe and in the United Arab Emirates during the period between 2013 and 2023. While these studies were not focused on the artistic innovation *per se*, they revealed the increasing importance of further conceptualisation of artistic innovation as an object of ethnographic assessment. They also revealed the need for further operationalisation of the artistic innovation that might be defined through the internationally compatible metrics in future. In this sense, the emphasis on the artistic innovation became what is called in Raymond Boudon's terms "unintended effect" (Boudon 2013) as our previous empirical research focused on culture and development.

The Table I below summarizes the value and impact of the artistic innovation on sustainable development observed during our previous studies that were not focused on the artistic innovation as the main subject of the exploration and suggests the axes for the further exploration that derive as "unintended effects" of these analyses.

Fieldwork	Core focus of the publication	Revealed value and impact of the artistic innovation on sustainable development	Axes for the further conceptualisation and measuring of the artistic innovation
UAE (Abu Dhabi) 2021	Evidence-based approach to the Abu Dhabi performing arts ecosystem resilience and sustainability. Through a transversal contextual analysis of the stakeholder interviews, the research identified groups of Abu Dhabi performing arts ecosystem intermediaries that bring the ecosystem elements together while being directed by different logic.	-Artistic innovation as a source of value for creative industries. -The role of "innovation practices", i.e., new combinations of pre- existing technologies and processes that result in a social or economic value-added novelty without a major scientific, technological, or aesthetic basis (as, for example, innovation in organizational forms of artistic production).	Production of artistic innovation -The processual dimensions of artistic innovation -Organizations, practices, and technologies of artistic innovation -The creators of artistic innovation
EU cities elected "European Capitals of Culture": Marseille, Umeå, Genova, Wroclaw 2013-2017	Attendance of theatres in Marseille (France) during the year of Marseille - "European Capital of Culture" program that brought a strong renewal in programs, governance, and public image of the local cultural institutions.	 Artistic innovation as a driver for social inclusion and sustainable urban planning. Importance of understanding how different types of populations (populations living in the city centre and peripheral districts, immigrant populations, elderly and younger people, etc.) perceive, evaluate, and use artistic innovations. Artistic innovation as a factor of institutional renewal; pursuit of innovation as a source of cross- fertilisation between the institution and the micro-level of the cultural and creative ecosystem. 	Assimilation and social reception of artistic innovation -Articulations between production and reception of artistic innovations -Artistic innovations and metropolitan scenes -Artistic innovations and urban identities
France (Arles) 2018	Understand how the French city of Arles is preparing for the arrival of Frank O. Gehry's Luma Foundation landmark building, and how a big-scale construction site, still devoid of its future aesthetics and cultural function, impacts the urban core. Inspect the macro- processes that accompany the arrival of the Luma Foundation, as well as the adversary processes related to the forthcoming urban transformation.	-The role of artistic innovation in place-making, as well as post- modern perspectives that highlight the importance of symbols and aesthetics detached from concrete reality. The Luma Foundation project created new perspectives and challenges for city inhabitants, even when a landmark building's forthcoming cultural and aesthetic impacts were still anticipated (and not yet fully experienced) by the city.	Territories of artistic innovation: political issues and regional logics -Territorial competitiveness and artistic innovation -Creative cities: diverse realities -The effects of spatial proximity on artistic innovation

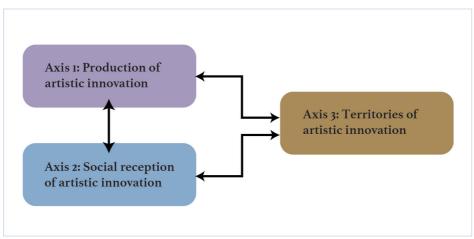
Table 1. The value and impact of the artistic innovation on sustainable development observed during the research that was not focused on the innovation as the primary subject of exploration. Source: Designed by the author.

The following research questions connecting artistic innovation with its social, cultural, and territorial contexts stem from the observations summarized above:

- How do the actors, networks and organisations that integrate industrial, institutional, and artistic fields define artistic innovation? What are the current debates on this subject?
- What are the interactional processes and the mechanisms of artistic innovation? What are the main issues in the field?
- What is the relation among artistic innovation, technological progress, and industries? How this relation can be explored and analysed?
- What are the impacts of artistic innovation on regional clusters and cities engaged in territorial competitiveness?
- How do artistic innovations circulate locally, nationally, and internationally?
- What are the factors that promote (or create barriers) to social reception and assimilation of artistic innovations?
- What are the factors (historical, economic, socio-cultural, etc.) that add value to artistic innovation in different cultural, social, and economic contexts?

On a more aggregated level, the questions could be structured around three interrelated axes: Production, Reception and Territories of artistic innovations. Figure I below illustrates the articulation among these three axes. The processes of production of artistic innovations, as well as their social implementations, are anchored in territories, and differ according to various socio-cultural, political, and economic contexts. Accordingly, Axis 3 (Territories) is transversal to Axis I (Production) and Axis 2 (Reception).

Figure 1. *The Three Axes of Research on Artistic Innovation. Source*: Designed by the author.



The following parts of the paper will address each of these axes in more detail. The main aim of this exploratory paper is to address the lack of systemic reflection on social indicators of artistic innovation, and to highlight the importance of its further exploration and conceptualization for the sustainable territorial development. Consequently, we assume the mainly theoretical character of the analysis; the qualitative and quantitative data collection needs to be collected in the future to concretize and adjust the preliminary conceptualizations.

1. Production of Artistic Innovation

I.I. The Processual Dimensions of Artistic Innovation

What distinguishes artistic innovation of the invention (e.g., helicopter propellers invented and drawn by Leonardo da Vinci) or the hazardous discovery that has an aesthetic impact (e.g., discovery, by Eugen Sapper, of the catalytic phthalic acid process that is used to produce numerous dyes and perfumes more simply and more economically)? In the current context of economic competition based on creativity, artistic innovation, unlike invention and discovery, integrates the market and meets an economic purpose and/or a social need. The process of artistic innovation may start with invention or discovery, but it should inevitably end with a deliverable and valuable result.

To realize an idea means to succeed in expressing and materializing it. Shaping of an artistic idea is a lasting and non-linear process, which includes a division of labour among the actors, and which alternates the phases of "opening" (inspiration, research of the collaborators) and "framing" (rationalization of the deadlines, intermediate validations, etc.) (Grossetti 2015). From this perspective, it is particularly important to understand the interrelationships between 1) networks of artistic, industrial, and institutional interdependence that include heterogeneous actors and transcend organizational boundaries and 2) collectives (organizations, firms, institutions, etc.) with a collective identity, common rules, administrative boundaries, etc.

In consequence, an empirical survey on artistic innovations should focus on processes that are both contradictory and complementary, such as I) "empowerment" of a collective identity in relation to the network that gave rise to it, and 2) "embedding" (Grossetti 2015; White 2002) interpersonal relations on relations between organizations. This dynamic is especially evident in the context of intensively developing cultural and creative ecosystems, such as the performing arts in Abu Dhabi. Whereas Abu Dhabi has a rich heritage in traditional music and performance, the situation of performing arts as a cultural and creative ecosystem is relatively recent and is shaped by the contemporary social, economic, and political realities of the UAE. The entities such as Berklee Abu Dhabi Center are empowered as artistic innovation enhancers. However, to create the artistic production rooted in Abu Dhabi context, the "embedding" in the local music networks is primordial (Raevskikh 2022).

Based on the concrete case studies, the survey needs to analyse further "from below", using ethnographic, micro-historical methods and first-hand statistics, the interactional processes that allow admission and realization of new ideas, products, services, and processes that integrate an innovative artistic component.

1.2. Organizations, Practices, and Yechnologies of Artistic Innovation

Artistic innovation is sought in the case of products, processes, marketing, and organizations

related to cultural spheres, and with a strong aesthetic component (e.g., live performance, books, music, etc.) In these contexts, innovation concerns the new cultural products, but also the methods and techniques of their elaboration and presentation to targeted audiences. Artistic innovation is also pursued in the industries whose production is functional, and not aesthetic as such (new models of transports, furniture, buildings, windsurfers, etc.). In this case, the artistic component of functional objects–but also of their marketing and other "satellite" services–plays an important role in their social reception and market competitiveness.

Much of the work of the creators (e.g., designers, artists, musicians, sculptors, etc.) that are implicated in the innovation processes can be described as an attempt to stabilize, through technological and organizational choices, the course of interactions between the final products (objects, experiences, services, etc.) and their users in the broadest sense, between the products and their environment, but also among organizations, practices and technologies that co-produce innovation. For example, museums and galleries take advantage of opportunities offered by the Internet and digital technology (Bakhshi and Throsby 2009), and theatrical companies use cinematographic tools for interactive and immersive representations. Van Andel, Herman, Schramme (2021) describe a model that enables cross-fertilisation between established institutions and the innovative field, because the same actors are involved in both systems.

Exploration of this double work of creation of innovative objects, experiences, services, etc., and the relations which they allow-and which allow them to exist-contributes to the comprehension of endogenous definitions of artistic innovations in each case. Understanding the link between artistic innovation and organizational, technological, and scientific structures requires identifying of economic, industrial, and technical constraints that stimulate, limit, shape or misadjust the artistic activity as a part of rationalized production process. Analysing the development of cultural economy, Cunningham, Banks and Potts (2007) concluded that, in the innovative model of cultural economy, the value of the creative industries does not stem from their relative contribution to economic value, but from their contribution to the coordination of the new ideas or technologies and to the process of cultural change. In other words, creative industries' value lies not in the scientific knowledge of business management and administration per se, but in the development and adoption of new knowledge that stemmed from culture (Liu 2019). In this context, it is important to analyse 'innovation practices', i.e., new combinations of preexisting technologies and processes that result in a social or economic value-added novelty without a major scientific, technological, or aesthetic basis (as, for example, innovation in organizational forms of artistic production).

1.3. The Creators of Artistic Innovation

If we suppose that artistic innovation is based mainly on organizations and processes, what is the role of individual contribution in relation to collective and organizational dimensions of innovation activity? Both an extremely collective dimension and a primacy of the creator mark artistic innovation. The creator is the guarantor of coherence of a project, but also the leader who takes risks in the activity of innovation. Also, the creator has an intimate form of expertise that cannot be formalized, and thus cannot be reproduced.

The careers of creators and the footprints that their activities leave on collectives and organizations could be analysed afresh with the epistemological tools offered by the sociology of charisma. The authority of the charisma, as it is presented in *Economy and Society* by Max Weber, is something extraordinary, which can burst into everyday life and break its regularity (Weber 1995). In *Sociology of Religions*, Max Weber speaks of a "charisma of function," which takes hold when the religious cult is institutionalized and managed by a body of religious priests whose status is regulated by salaries, career goals and professional duties. In these circumstances, priestly "activity" becomes rationally organized and manages the goods of divine salvation as an institution (Weber 1995).

The creator, like Max Weber's religious priest, is both the bearer of the weakly formalizable (and thus "mystical," extraordinary) artistic capacities, and the manager who seeks the balance between the "mystical" and "rational" component, the artistic uniqueness, and the economic profit. How does the loss of the major originator (e.g., Karl Lagerfeld for Chanel) impact the company or the public institution that seeks to innovate? Can we talk about the specific charisma of the creator that enhances economic or symbolic value of the innovation? Or, on the contrary, the contemporary industrial worlds tend to "erase" the personal charisma, and anonymize innovation processes?

2. Assimilation and Social Reception of Artistic Innovation

2.1. Articulations between Production and Reception of Artistic Innovations

Today, cultural institutions and companies are called upon to constantly renew their organizational perimeters, as well as to preserve and multiply the relationships with their audiences or customers. However, interplays between 1) the definitions of artistic innovation expressed by the people and the organizations that produce it, and 2) the appreciation of regular or irregular audiences, art professionals, collectors, newcomers, or regular customers are rarely explored. How the "life cycles" of different types of artistic innovation could be analysed? Why, and according to which contextual variables, some artistic innovations gain in social and/or economic value over time, while others are devalued and leave the market?

Using research methods and techniques such as statistical, cartographic, ethnographic, and micro-historical explorations, it is possible to articulate definitions, social criticisms and receptions of artistic innovations developed at various scales (creators, consumers, collectors, etc.). It is also possible to address the existing gap in understanding the impacts of artistic innovations (cultural offerings, products, processes, marketing strategies, etc.) on the functioning of pre-existing cultural institutions (operas, theatres, museums, etc.), placed in a competitive context with new forms of culture–and thus conditioned to renew their institutional perimeter and their offers.

2.2. Artistic Innovations and Metropolitan Scenes

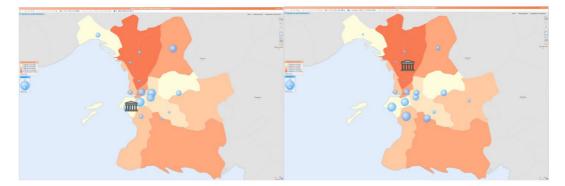
Several existing surveys associate "placemaking strategies" with social, economic, and

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cultural transformation of urban landscapes (Silver and Clark 2016; Martin-Brelot 2012; Vicario and Monje 2003, etc.). These analyses show that on the bottom-up level, the urban landscape is structured by different social and professional categories. People of comparable professions, incomes, and educational levels tend to live and to work in similar urban areas. They also tend to have comparable commuting, cultural and housing choices. Thus, different people could characterize each neighbourhood and living practices. Meanwhile, these various urban scenes (Silver and Clark 2016) are rather dynamic and can reconfigure themselves under the influence of aesthetic, cultural and lifestyle factors.

However, there is still a gap in understanding of how urban spaces react to artistic innovations, and how various groups of people build, "from below"–from their mobility, everyday choices, and consumption–the cultural palette of a city. We were already able to create a description of urban spaces built from the cultural practices of individuals (e.g., attendance of theatres in Marseille (France) during the year of Marseille–"European Capital of Culture" program that brought a strong renewal in programs, governance, and public image of the local cultural institutions) (Jaffre, Raevskikh, and Pedler 2017). The cartographic approach was combined with quantitative and qualitative methods of survey, to cross and visualize I) geographical indicators from our ethnographic surveys concerning the places of residence of the public of two theatres (the Théâtre de la Criée, and the Théâtre du Merlan), with 2) social indicators from the INSEE (the French National Institute of Statistics and Economic Studies) census. For example, the map below shows the geographical distribution of the audience of the Théâtre de la Criée and the Théâtre du Merlan (blue bubbles) crossed to the proportion of immigrant populations (intensity of colours) by the district in Marseille (see Map I below).

 Map I. Distribution of La Criée Theater's Audiences (on the left) and the Théâtre du Merlan's Audiences (on the right) (blue bubbles) vs. Immigrant population by zip code (intensity of colours).
 Source: Jaffre, Maxime, Raevskikh, Elena, and Pedler, Emmanuel. 2017. "Immigration, Identity and Mobility in Europe: Inclusive Cultural Policies and Exclusion Effects." The IAFOR Journal of Cultural Studies, 2 (2). https://doi.org/I0.22492/ijcs.2.2.03



After testing these different variables and comparing maps, we found evidence that neither of the two theatres' audiences is related to the immigrant population, despite the innovative artform development focused on more inclusive programming, audience reach and governance (Bakhshi and Throsby 2009). Furthermore, we found that whatever the location of the theatre or cultural institutions (whether they were central or peripheral), there was no significant impact or influence of these institutions on the immigrant population. We found, for instance, no significant impact when the cultural institution was in a central location of the city such the Theater of La Criée. The immigrant population remains poorly integrated into local cultural life and does not travel downtown to engage in cultural practices. On the left part of the Map I, we can observe that most audiences of the Theater of La Criée come from central, southern, and eastern neighbourhoods of the city. However, very few are from the north side of the city, where we find the highest proportion of immigrants.

This analysis, being of an explorative nature, raises more questions than answers. We consider that a comparative approach used to examine the cases of artistic innovations anchored in the urban space could be fruitful for understanding how different types of populations (populations living in the city centre and peripheral districts, immigrant populations, elderly and younger people, etc.) perceive, evaluate, and use artistic innovations. Such an approach can also help to understand how artistic innovations are positioned in the urban space, and how they structure the city.

2.3. Artistic Innovations and Urban Identities

Some innovative artistic and architectural works (e.g., Ugo Rondinone's Liverpool Mountain sculpture commissioned in 2018 to celebrate the 10th anniversary of the Liverpool European Capital of Culture, The Abrahamic Family House–a collection of three spaces: a mosque, a synagogue, and a church-designed by Adjaye associates and officially opened in Abu Dhabi in 2023) are commonly considered as the new porters of urban identities. As cities and regions are becoming more and more engaged in global and "horizontal" relations of territorial competition that outstrip the national boundaries, the public authorities use various landmark artistic innovations (buildings, sculptures, works of art, etc.) as an instrument of creation of a new urban identity, or a tool of transformation of the old one.

As stated by conventional wisdom, the urban policies that favour artistic innovations attract the "most talented and educated" people and generate economic changes. However, that it may just be a proposal of a new innovation policy or an initiative such as the "European Capital of Culture" on its own that generates these changes. The programs and proposals associated with the artistic innovation create new perspectives and challenges for local inhabitants, public decision makers and private actors. These perspectives and challenges are becoming increasingly topical even when the tangible and symbolic effects of the innovation processes are still anticipated, and not yet fully experienced by the city (Raevskikh 2018).

This observation ties up with a larger reflection on the role of speculation in placemaking, as well as postmodern perspectives that highlight the importance of symbols, both tangible and detached from concrete reality. From this perspective, the artistic innovation can be analysed as a source of new symbols that shape economic and political reality of the future. In the current context of growing threats of illiberal movements and policies, artistic innovation participates in cultural diplomacy and works as a political statement. The international competition for artistic innovation is also the competition for stronger symbols that incarnate political and societal values.

3. Territories of Artistic Innovation: Political Issues and Regional Logics

3.1. Territorial Competitiveness and Artistic Innovation

The notion of cluster describes the geographic concentrations of interconnected companies and institutions in a particular sector (Porter 1998). According to the cluster paradigm, the geographical rapprochement of economic actors would favour innovation, creative activities and the transfer of "tacit" knowledge linked to specific non-formalized know-how (Polanyi 1962; Nonaka and Hirotaka 1995). Many clusters of artistic innovation have been already described and surveyed: music in Liverpool (Power 2008), advertising and publishing in New York (Porter 1998), fashion in Milan (Wenting 2008), etc.

The policymakers often approach the clusters as a factor of competitiveness in the knowledge economy. For instance, in France, the reform of the regions questions the administrative and political organization of the territory and imposes multipolarity of cities networks on the metropolitan territories. The capitals of 13 French regions are expected to exploit their growth potential, and at the same time to identify the "themes" on which all territories (metropolises, medium-sized and small towns) can collaborate. Innovation and the circulation of talent are perceived as important "themes" that allow the connectivity and singularity of the territories and facilitate mutual knowledge between the French regions and comparable territorial communities in other European countries (Landry 2000).

At the same time, the "top-down" policies that stimulate the geographic concentration of interconnected companies and institutions in a particular sector are not able to guarantee the economic efficacy and the territorial attractiveness of the clusters. Moreover, geographic concentration of artistic activities can depend on the other factors than the public policy per se. For example, the Montmartre of the 1900s, the SoHo of the 1970s, the Rive Gauche of the 1960s, and Akihabara, the video game district in Tokyo, have consolidated in a spontaneous manner; more targeted interventions of the public authorities followed this spontaneous consolidation.

The conjunction of these two ideas ("clusters like the competitiveness factor" on the one hand and "spontaneous tendencies for territorial grouping of certain activities" on the other hand) suggests a certain number of questions. Does the reinforced political support for metropolisation and clusters favour artistic innovation? Are the pre-existing sociotechnical networks of artistic innovation mainly concentrated in metropolises? Or, on the contrary, do they function independently of the political logic of territorial attractiveness? To what extent concentration in the creative industries can be a factor of territorial competitiveness? And to what extent can governments influence the competitiveness that this concentration can result from?

3.2. Creative Cities: Diverse Realities

The notion of the "creative metropolis" refers to very different mechanisms depending on

various economic, cultural, political, and socio-geographical configurations. A detailed study of heterogeneous European contexts (southern vs. northern countries, centralized vs. decentralized countries, etc.), which we were able to carry out within the framework of our survey on the renewal of the European cultural offers, captures very strong differences that contextualize the potential for innovation. The analysis of quantitative and geospatial data collected in Arles before the opening of the Luma Foundation showed the strong support of the Mobility hypothesis ("A landmark building induces the arrival of the 'most talented and educated' people") (Raevskikh 2018). The other surveys also approve that innovation activities are not homogeneous and cluster spatially in regions that provide concentrations of the knowledge needed for the commercialization process (Feldman 2010). However, the causal links between the variables related to the socio-economic, historical, or political profile of a territory and the local potential for artistic innovation remain weakly explored.

A comparative study of contexts that facilitate, or on the contrary, create obstacles to the production and successful implementation of artistic innovations could be useful for understanding of stakes and drivers of these processes. Development of the common measurements (qualitative, but also quantitative) can allow an international comparison that reveals a complex reality without postulating, a priori, the existence of a "creative" territory, or declaring a territory "creative" a posteriori. The findings resulting from this approach will have important policy implications for both private firms and state governments.

3.3. The Effects of Spatial Proximity on Artistic Innovation

Contemporary changes in artistic work (such as, for example, new methods of production, new tools and strategies for public presentation, globalized markets, etc.) are transforming networks involved in artistic innovation. Territorial concentrations of companies, research organizations, art schools, artists, associations, etc. emerge, and pool technical, scientific, aesthetic, and economic knowledge. For instance, in the United Arab Emirates, the activities such as design, art, technological development, healthcare, etc. are gathered in the newly developed neighbourhoods of the cities like Dubai or Abu Dhabi. In consequence, the UAE cities become increasingly composed of the neighbourhoods that are recognized nationally and internationally by a particular function that includes directly or implicitly artistic innovation (e.g., Saadiyat Cultural District, Yas Creative Hub, etc.).

In these close exchange networks, the activity related to artistic innovation can be multiple, fragmentary, or intermediate. The processes, methods and knowledge that contribute to a particular innovative deliverable can also become autonomous sources of innovation. Moreover, their development can lead to the other productions than the results that were initially intended. This is the case, for example, of the Japanese manga cartoons, which enter the museum expositions, but also inspire video games, optical technologies, and computer interfaces (Ito 2009).

Explanations of the effects of spatial proximity tend most often to be locked in the economic or technological dimension: the need for face-to-face exchanges, the construction by interaction of common tacit knowledge, etc. (Grossetti 2015). However, from a

sociological perspective, the analysis of production and assimilation of artistic innovations that take as a starting point the observable dynamics of territorial collaboration could reveal the new variables related to the spatial organization of innovation activities. An inductive and qualitative approach that compares several case studies can apprise of how the territory and the proximity can play a role in artistic innovation and capture the logics that produce or disapprove the exchanges among the neighbouring organizations.

What is the role of the territory in bringing together organizations that collaborate around artistic innovation? Are the territorial dynamics of artistic innovation associated with international exchanges between major cities? Do they transcend national borders in favour of specialized global networks (Wagner 2008)? Or, on the contrary, are these relational dynamics anchored on the smaller-scale sites, and contextualized by more local or interregional exchanges? An analysis of collaborations among the actors based in different cities, regions, and countries, and measuring the intensity of their exchanges in relation to a variety of macro- and meso- sociological variables, would make it possible to capture and map "from below" the dynamics of circulation of artistic innovations at the local, national, and international levels.

Conclusions

The present paper addresses the methodological challenge of measuring the artistic innovation. The artistic innovation is still predominantly treated as a "blind spot" in more conventional analyses focused on the cultural and creative ecosystems, the urban development, or on the cultural policies' societal impacts. However, the impact of the artistic innovation on the local capacity building and sustainability of cultural and creative ecosystems is becoming increasingly evident for the culture practitioners, academics, and policymakers, both in the Global North and the Global South.

The suggested approach is mainly theoretical, as it is derived from the empirical studies that were not primarily focused on the artistic innovation, but that revealed the evident need for its further conceptualisation, measuring and inclusion in research and policymaking frameworks. Based on the literature review and our empirical observations, we can broadly describe artistic innovation as I) a mode of production or adoption, assimilation, and exploitation of products, processes, marketing strategies and organizations with 2) an artistic component that is innovative (has a social or economic value-added novelty) *per se*, or 3) an artistic component innovative by its way of integrating the socio-technical processes of production and social reception.

Accordingly, the first major contribution of the present paper is that it provides a transversal framework for defining, measuring and evaluating of artistic innovation "from below". According to conventional wisdom, research problems related to artistic innovation should be resolved by the same disciplinary approaches than for the other types of innovation. However, our paper suggests that a transversal perspective that adopts a bottom-up and empirical approach can reveal the dimensions of artistic innovation that are still unexplored or underestimated. In this sense, we refer to the differential approach, derived from the comprehensive sociology developed by Max Weber (Pedler 2014): the

analysis adopts as a point of reference definitions and perimeters familiar to the observer, and describes by different structures, organizations, territories, and actors that adopt heteronomous logics.

A second important implication of our approach derives from our empirical observations of European and extra-European contexts. We insist on the multi-processual character of artistic innovation that exceeds artistic and cultural fields, and increasingly integrates the products, processes, marketing strategies and organizations related to a variety of domains (technical, political, organisational, urban, scientific, etc.). In consequence, we consider that the analysis of artistic innovation should incorporate the survey of artistic components that are innovative not necessarily by their own, but also by their way of integrating the sociotechnical processes of production and social reception.

Finally, we suspect that territorial competition for artistic innovation becomes an anticipated tool of cultural diplomacy. The tendency to use artistic innovations as a political and social counterbalance to reactionary moods is observable in the European countries, as well as in the countries such as the United Arab Emirates. In this sense, the processes of artistic innovation would become important tools to value diversity and reduce inequalities, as they interconnect extra-local and the global, the traditional artistic expressions and the new technologies. The pursuit of artistic innovation harmonises our changing relationship with time as well, as it relates the human creativity that tends to be "slow" and digital and industrial dimensions that tend to be increasingly "fast."

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