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DISASSEMBLY AND REASSEMBLY ON DIGITAL

TECHNOLOGY AND CREATIVE INDUSTRIES

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ABSTRACT

This paper analyses the dynamics of disassembly and reassembly unfolding in selected creative industries through the advent of digital technology. It argues that a full understanding of the much-observed organizational or sectoral lock-in effects on the one hand, and the possibilities for transformation and innovation on the other is only gained by analyzing jointly how institutional logics, business models and creative processes are affected by digital technology and how they interrelate in producing stability or change. These three dimensions provide a framework for reviewing the findings of the papers comprised in the Special Issue and for integrating their insights towards a research agenda. This introduction starts with a reflection on creative industries classification systems and related possibilities for generalization and discusses how digital technology acts as a driver for disassembly and reassembly. It concludes by highlighting three avenues for further research.

INTRODUCTION

Digitization is everywhere in discussions on industrial and, more broadly, societal change. The way we get our news, the choice of work places and the design of work environments, how we connect with customers and stakeholders in developing products and how these products are consumed: our lives, both private and professional, are fundamentally affected by digital technology. No set of industries has felt this impact more than the creative industries: that set of sectors bound together through a reliance on the value of symbols and aesthetics [1]. Previously thought of as frivolous and an expensive luxury, the creative industries are now considered an industrial priority and a 'laboratory' for studying the transformations of modern economies and societies. Accordingly, the changes they are currently undergoing through digital technology are becoming increasingly urgent in broader debates on cultural production, entrepreneurial activity and the nature of creativity [2; 3; 4].

Creative industries research in the past has tried to understand the paradoxes or tensions inherent in creative work [5; 6; 7], the role of places or networks in supporting creative production [8;9] or innovation dynamics [10;11]. These studies stress specific forms of organization, managerial practices and policies and social ties as fundamental for spurring creative dynamics and enabling value creation from creativity. However, the role of digital technology as a mediator of these variables and in particular its disruptive effects on established forms of creative production and consumption is rarely explicitly addressed in these debates.

Although digital technology is commonly considered as a driver of growth and innovation [12], we also know that it has fundamentally shaken industries such as music, film production or publishing [13; 14; 15]. Old business models are often held onto, whereas new opportunities

depend on firms' willingness and ability to apply new tools of production, recognize and address changed consumption patterns and mobilize institutional voids to change broader rules of the game [16; 17; 18]. The same holds for other sectors beyond the confines of the creative industries such as photography or telecommunications, where incumbent firms are often slow in adapting their business models to technological change because they are trapped in old cognitive representations and adhere to existing institutional logics [19;20].

The contribution of the Special Issue is to focus explicitly on both processes of *disassembly* – the shaking of existing business models of transaction and distribution, for instance – and *reassembly* – for example, new tools and architectures to interact with audiences and communities in selected creative industries. It hereby addresses three levels of analysis that are clearly interlinked in producing stability or change but rarely examined jointly: the macro level of institutional logics, the meso level of business models and the micro level of creative processes.

This introductory article provides a synthesis of each papers' arguments and findings. It also derives theoretical implications for research on creativity and creative industries and highlights blind spots in our understanding as well as avenues for further research. First, it reviews briefly the rationales for classifying the creative industries and the boundaries around them, which is a contested and fluid field. These boundaries are important for understanding how the contributions of this Special Issue can be generalized to other settings. Second, it characterizes the process of disassembly and reassembly brought about by digital technology. Third, it summarizes the role of institutions in constraining and enabling creative processes and forms of value capture and appropriation in creative industries. Introducing the first set of papers in the Special Issue, this section highlights the role of discourse, actors and institutional work in maintaining or challenging dominant institutional logics and regulatory regimes. Fourth, it looks at the

opportunities for and challenges in business model transformation arising through the shift from material to digital content. This section introduces the second set of papers seeking to understand how the traditional value chain of creation, production, distribution and sales has collapsed and how it is being reconfigured. Fifth, it turns attention to how technologies more generally and digital technologies in particular affect the thinking and activity of creative workers. By introducing the final set of papers which analyze the 'digital native' sectors of video games development and post-production of computer-generated animated film we find new methods of coordination that nevertheless perform some of the same creative functions as those enshrined in the early Italian Renaissance. The sixth and final section emphasizes the transformation of other sectors that may derive value from creativity regarding ways to create, produce and deliver goods and services and to interact with users and consumers. It also offers thoughts on the ongoing research agenda.

CLASSIFYING CREATIVE INDUSTRIES AND MOVING BEYOND CLASSIFICATION

The classification of what constitutes a 'creative' industry is highly contested. Building on the influential mapping and measurement exercise undertaken by the UK New Labour government of Tony Blair in 1998, researchers, policy makers and practitioners often consider sectors such as advertising, architecture, art and antiques, computer games, crafts, design, designer fashion, film and video, music, performing arts, publishing, software, TV and radio as identified creative industries. These are defined as "those (…) which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through generation and exploitation of intellectual property." [21] (p4). The main policy motivation driving this classification was to account for and encourage economic growth, employment and social cohesion in advanced countries, recognizing unsung sources of value creation where cities,

regions, and nations faced the decline of traditional manufacturing industries. This reasoning considers creativity not only as individual originality, imagination or inspiration, but as an economic factor contributing to entrepreneurship, innovation, growth and social peace.

Critics of these policy-driven developments have pointed out the highly eclectic and arbitrary compilation of traditional arts and cultural fields as well as digital new economy sectors under the creative industries label [22]. Some more fundamentally questioned the neoliberal stance behind applying the norms of industrial production to the production of cultural goods through the coining of the term 'creative industries' [23], a view that is said to be largely detached from artists' self-perceptions [24]. From this latter perspective, Horkheimer and Adorno's [25] original usage of the term 'cultural industry' as an overt critique of popular mass culture has been subtly and perversely converted into a normative agenda for 21st century economic policy.

Several alternative classificatory systems have been developed in the light of these criticisms. Throsby's [26] concentric circles model, for instance, proposed to differentiate between the 'core creative arts' such as literature, music or performing arts, other 'core cultural industries' such as film, museums or photography, 'wider cultural industries' such as publishing, television or video/computer games and, finally, 'related industries' such as advertising, architecture or design. This system gradually distinguishes sectors with high cultural value from sectors with high economic value. Hesmondhalgh [23] (p 12-14), in contrast, suggested that only those industries that create texts or cultural artefacts and which engage in some form of industrial reproduction should be considered as 'core cultural industries', including advertising, broadcasting, film, internet, music, publishing and video/computer games. Yet an alternative approach, which is best represented by the classification system of the World Intellectual Property Organization (WIPO), is to focus on the role of copyright in mediating value creation and appropriation. According to

this logic, sectors such as advertising, collecting societies, film and video, music or publishing constitute the 'core copyright industries', whereas sectors such as design, architecture and fashion are considered as 'partial copyright industries' because copyright plays a more peripheral role to their business models. The broadest perspective was developed by Howkins [27] who writes of a 'creative economy' embracing toys and games production as well as research and development in science and technology.

The role of digital technology has played an important part in these debates over creative industries classifications. The 1998 DCMS classification included the software sector, which formed a large part of the economic value of the creative industries' overall contribution, even though this sector was not considered among cultural industries previously. More recent iterations have dropped IT sectors, but they may be reinstated with the new 'creative intensity' method [28], which depends upon a threshold of creative occupations. Arguments in favor of inclusion point to the increasing convergence of creativity and digital technology in high growth sectors [29; 30].

Our specific focus on digital technology has clearly attracted submissions around a narrow set of sectors more in line with the alternative classification systems. Specifically, the core cultural industries in Throsby's concentric circles model and the core copyright industries seem to be most urgently affected by digital technology. These industries are engaged in content production and have traditionally gained revenue by restricting access to using and copying this content. Digital technology has not only changed the means of content production (from analogue to digital cameras, for instance), but also the means of content distribution and consumption (from CD to MP3, from newspaper to blogs, etc.). Thus, we suggest that the findings compiled in this Special Issue cannot necessarily be generalized to all creative industries (as in the DCMS

classification), but first and foremost they are relevant for all industries engaged in content production. Additionally, there are few industries that are not also users of digital content for marketing and communications and are increasingly aware of the power of digital connectivity to users and customers. The papers in our Special Issue also speak to them. Finally, our findings yield insights on organizational fields whose boundaries and practices are changing as a result of new technologies or other disruptive events.

DIGITAL TECHNOLOGY AS A DRIVER FOR DISASSEMBLY AND REASSEMBLY

The advent of digital technology represents a classic case of the dual effect of creative destruction described by Schumpeter [31], where the adoption of a new set of innovations will profoundly affect industry dynamics. In this reasoning, incumbent firms are undermined through new entrants' abilities to better exploit new technologies that may have technical, organizational or cost advantages over the current technologies or processes. This causes a rapid decline in both the firms and the skills and labor force associated with the old order. Simultaneously, innovations rise as new firms foster the development of new skills and a rearrangement of the rules of engagement. Neo-Schumpeterians have nuanced this theory, pointing out that the new 'common sense' of structural and institutional arrangements does not arise spontaneously and can take decades to become established. Freeman and Perez [32] have shown that there is a considerable socio-institutional lag behind the technical change before a new techno-economic paradigm is established, accepted and understood. This adjustment is painful, as older job roles are outmoded, unemployment rises, and the skills required for the new forms of work are in too scarce supply. Similarly, sociological research on sectoral and societal transformation has pointed to the complex, enduring and gradual shifts triggered by new technologies [33].

In the context of creative industries, these shifts involve, for instance, concerns over the supply and demand for systems engineers and software programmers in the digital era [30]. They clearly also involve new user practices such as streaming or even new cultural techniques such as sampling, sharing or mashing-up contents. These practices, often based on what is termed Internet piracy, have undermined the ability of corporations to extract value from the rights to use and sell creative and cultural material and have largely destroyed their core business model of commercializing creativity by performing marketing, distribution and business functions [34]. At the same time, piracy is recognized by some as a driver for innovation [35; 36]. The shifts exerted by digital technology thus also involve broader regulatory structures and touch widespread beliefs or cultural norms, much like the change of production regimes away from mass production in the 1970s and 1980s [37].

Historically, Walter Benjamin [38] examined the implications of the reproduction of cultural objects in his famous 1936 (reprinted 2007) essay 'The Work of Art in the Age of Mechanical Reproduction'. The mass printing of paintings, photographs and the growing supremacy of film entailed a 'liquidation' of traditional value and ritual in these objects. But even as artworks lost their 'aura' and their authority, Benjamin referred to a 'reactivation' of art objects as they were brought closer to masses of consumers. Today's digital technologies accelerate and intensify the trends observed by Benjamin in the 1930s. The reproduction costs of digital content tend towards zero, and the distribution of works is no longer mediated even by the businesses that replaced the graduated and hierarchical mediation of religion and educational institutions. The Internet surrounds and absorbs the audience, rather like the built environment and, unsurprisingly, shares the same design language of architecture. Importantly, digital artefacts are now designed not only for *reproducibility*, which Benjamin observed, but for *interaction*. Digital video, web

copywriting and, at the extreme, video games are all designed with the expectation of the user engaging and entering the work and commenting on the experience. The digital format enables the extension of this interaction to the collective, without making it a mass broadcast as in the mid-Twentieth century, but allowing more segmented diffusion and search.

In sum, digital technologies affect creative industries through their distinctive properties as outlined by Castells [39; 40]: their self-expanding processing and communicating capacity in terms of volume, complexity and speed; their ability to recombine on the basis of digitization and recurrent communication; and their distributing flexibility through interactive, digitized networking. This results in a fundamental reconfiguration of value chains in multiple directions (see also Bilton [41] and Lange [42]). First, digital technology affects creation mechanisms and the relationship between artists and users by involving users or consumers actively in the process of creation. This involvement can be mediated across geographical distances and reach out to anonymous crowds [42], or it can take place in spatially bounded local areas such as clubs [42]. Second, it also changes transactions and distribution as consumers can be addressed in a different way by offering service rather than product or pay per view rather than subscription. These developments blur the boundaries and roles between different actors and break up the existing partition of value creation and appropriation. These opportunities for disassembly and reassembly trigger as of yet largely unpredictable dynamics of transformation in the creative industries and beyond, touching fundamental institutions as well as business models and creative processes.

DISASSEMBLY AND REASSEMBLY: THE ROLE OF INSTITUTIONS

From an institutional perspective, creative industries can be understood as organizational fields that comprise "(…) key suppliers, resource and product consumers, regulatory agencies, and

other organizations that produce similar services or products." [44]. More broadly, an organizational field is an established set of organizations engaged in a similar purpose or in related activities which together shape activity and meaning in that field [45]. Creative fields, thus, are organizational fields in which actors interact around a creative activity [46]. They include not only suppliers and buyers of creative goods but also actors such as critics, juries, professional bodies and patrons who together constitute a recognized area of creativity [47]. Central questions are how such fields come into being, how their constituting boundaries and practices are maintained and how they change. New technologies provide opportunities for field (re-)structuration in that they facilitate the formation of new actor constellations and can introduce new practices that challenge institutionalized conventions [48].

Early neoinstitutionalist approaches held that the organizations comprising an organizational field become more and more similar through coercive, mimetic, and normative isomorphism. Coercive pressure is exerted by other organizations holding critical resources or by cultural expectations in society; mimetic processes occur as a response to perceived uncertainty when organizations model each other to increase their legitimacy; normative pressures stem from professionalization through formal education and professional networks. This strand of institutional theory can thus be used to explain why creative industries such as music or publishing may find it difficult to change and adapt to new technologies. With cognitive, normative and regulatory institutions converging towards one dominant 'logic' in the broader creative fields guiding organizations on how to interpret the world, behave and succeed [49;50], the necessary diversity and flexibility needed to explore alternative paths may be missing.

More recent approaches suggest that organizational fields do change, however, and are in fact, continuously in flux [51]. Individual actors can act as institutional entrepreneurs who leverage

resources to change institutions according to their interests [52; 53]. Furthermore, organizational fields may not necessarily be dominated by one institutional logic, but rather comprise multiple logics that are at least partly incompatible [54]. Such institutional plurality or multiplicity may be a source of change since actors at the interstices of such conflicting logics can reflexively detach themselves from their normative prescriptions [55]. The institutional work perspective suggests that institutions are always enacted in everyday practice with some actors aiming to create new institutions, others trying to maintain existing institutions, and yet others strategically disrupting them [56]. Institutional multiplicity is thus not a transitory state that is eventually resolved by a reconciliation or suppression of interests, but a state that is actively and dynamically constructed [57; 58].

From such a perspective, the emergence of a new technology can be seen as a trigger for delegitimizing existing institutional arrangements and the development of competing institutional work projects. Some of these may coalesce into new institutions, whereas others are discredited [59]. Such developments have been observed in the music industry, where incumbents and challengers struggle for discursive legitimacy regarding new practices such as file-sharing [17]. These struggles may involve the organization of field-configuring events to experiment with new field boundaries and practices and to gain support from regional scenes [60]. Cycles of boundary work and practice work – attempts to create, shape, and disrupt field boundaries and to create, maintain or disrupt legitimate practices – have been shown to underpin the transformation of organizational fields [61].

Two papers in this Special Issue address these themes. Focusing on the French recorded music industry, *Blanc and Huault* [62] study the attempts of major labels to maintain the institution of intellectual property rights. They pay particular attention to the way artefacts – specifically, CDs

and digital files – are used in discourse and find that powerful actors try to infuse new artefacts with the values inscribed in existing institutional arrangements. They can then serve as a powerful instrument for institutional maintenance.

Dobusch and Schüßler [63] analyze a similar issue – discursive struggles regarding copyright or intellectual property regimes in the popular music industry – but focus on the German case. Studying the regulatory debate unfolding at industry events between 2001 and 2010 they identify two discourse coalitions: major labels, industry representatives, artists and collecting societies defend old business models, whereas startup companies, small online-only music distributors, avant-garde artists or the newly founded pirate political parties challenge the existing regulatory regime. Interestingly, these discourse coalitions are not engaging in a debate, but rather try to mobilize the public and policy makers particularly in times of high regulatory uncertainty.

Together, both papers contribute to the neo-institutional research agenda by articulating how business model reconfiguration is closely intertwined with both cognitive and regulatory institutions. At least in public, incumbent actors hold on to traditional business models and values by actively engaging in discursive maintenance work. Both papers show that here there actually is little interaction and active contestation between opposing groups. Instead, each side mobilizes coalitions, artefacts or other resources to manipulate institutions in line with their respective ideologies. In reality, of course, incumbent actors may already experiment with new practices and reach out to actors at the fringes of organizational fields, but the extent to which they actively embrace these in parallel to institutional maintenance work needs to be assessed by further empirical research.

DISASSEMBLING AND REASSEMBLING BUSINESS MODELS

Business models are at the core of disassembly and reassembly dynamics. The term 'business model' explains how users and customers are chosen [64], how value is created [65] and how value is captured or monetized [66]. Technological innovation does not define the business model, but rather the business model mediates technology and the market. In other words, it connects technology on the one side with consumer satisfaction and the firm's need for revenues and profits on the other. Business models mobilize technology to create new devices or services, to address existing consumers in a different way or to meet with new ones.

Creative industries like music, film and video, publishing, video games and television have been transformed through digitization. Digital technology affected not only the diffusion and circulation of content, it also changed the ways in which content is selected. Musicians and artists are identified based on the number of views in YouTube or other video channels, users are highly involved in the development of video games and texts are tested on websites before being published. Creative industries are thus a favorable environment to explore the formation of new business models and to better define the concept.

Within the standard definition of business model, the identification of new customers, the differentiation between users and customers and ways of customer engagement remain in shadow, as the value chain defines the business model. However, in a recent definition [66], the concept of business model underlines the identification of new customers and customer engagement as key elements. Theorizing business models Baden Fuller and Mangematin [64] consider four elements: *identifying the customers* (the number of separate customer groups), *customer engagement* (or the customer proposition/value creation), *monetization* (value capture) and *value chain and linkages* (governance typically concerning the firm internally). Each of these dimensions relates to the business model definition of either value creation or value capture, or

both. The first two aspects, identifying customers and customer engagement, are currently the main knowledge gaps in the business model approach. Customer identification can involve the creation of new customers (*customer invention*), such has been done in the case of 'Facebook', the social networking platform. Customer identification also specifies if the business model is *one sided or multisided*, that is if the users pay for the services received, or if there is another group of customers who pay for additional services when the core offering is provided for free. The choice of one sided or multisided markets is a key element of digitization of creative activities.

Papers in this Special Issue explore both the reinvention of users and customers and the broader reconfiguration of value chains within creative industries. *Parmentier and Mangematin* [67] emphasize that online games are redefining the boundaries between the firms and user communities, i.e. the developers and the players of the game. User communities are highly involved in game development, bringing new ideas, developing tools to play or designing new game environments. They are also involved in service development and transform the product identity to incorporate the user community identity. Firms may orchestrate the community in order to appropriate the creativity and motivation of users and increase their innovativeness. Parmentier and Mangematin [67] especially analyze how consumers are identified and how, as products are online, the interactions with the community become more important than the product itself, which changes in the process of user interaction.

Øiestad and Bugge [68] study the opposite situation. High prices and limited offer in Norwegian language publishing characterize a situation where the reinvention of users and the modification of customer engagement has not been done. The result is that the whole value chain remains

stable and the opportunities for increasing value are poor. They describe stable business models where gains in efficiency are the only sources of profit.

Similarly, *Rothmann and Koch* [69] analyze the reason why the key players in the quality-newspaper sector in Germany have tried to benefit from digitization and why they have failed so far. They report that organizations tend to use up all their creative potential in order to maintain problematic strategies rather than explore new ones, a classical cognitive lock-in situation.

Hadida and Paris [70] specifically explore the cognitive frameworks of entrepreneurs who are promoting new businesses. At industry level, the cognitive frameworks of digital music entrepreneurs challenge all the industry recipes and dominant logics of the traditional music industry. However, the managerial cognition of digital music entrepreneurs is constrained by the mental model of the value chain. The value chain framework is so embedded in entrepreneurs' representations of the digital music industry that it prevents them from acknowledging the diversity and plurality of its value propositions, its actors' collective involvement in value co-construction and the new, expanded role of its intermediaries as prescribers.

These three papers thus describe stable business models where incumbents in different industries are trapped into mindsets that annihilate the capacity to identify new customers and to engage with customers in different ways. In all cases, cognitive lock-ins appear to be stronger than technological ones. Thus, the articles in this Special Issue reveal the role of managerial mental representations as a key element of the business model. The mindset of managers for a given industry limits business model evolution and therefore reconfiguration usually comes from outside the industry. The four papers open new research avenues on business model innovation or reconfiguration as new ways to overcome business mental representation. Models and

representation come hand in hand, and thinking in terms of models may help to challenge existing representations within the industry.

DISASSEMBLY AND REASSEMBLY OF CREATIVE PROCESSES

Digitization directly affects creative processes and practices. While the previous two sections have pointed to the potentiality of technology to challenge dominant logics in organizational fields and to reconfigure firms' business models, the characteristics of digital technology outlined in section two also affect the core human instincts of conceptualizing and generating novelty. While new tools and technologies have always appeared throughout history, the question here is the extent to which the pervasive nature of this epoch changes how creators think and make their work.

Creative processes in organizations have typically been characterized as stage models. These involve the initial framing or identification of an opportunity or problem, the generation of multiple heuristics or options to pursue, the filtering and selection of the most promising options and finally their communication or implementation (see Schalley and Zhou [71] for a review). Digital technology is a resource that may play a role in each of these stages through the connectivity to people and information that it allows. Digitization can also stretch and accelerate the process of generating novelty on the cognitive level of individuals. Scholars of creativity and artificial intelligence have categorized three forms of creativity to understand how computing technology may simulate or connect with the creativity of human cognition [72]. These are combinative creativity, explorative creativity and transformational creativity. Digital technology scales up possibilities of *combination* because of the shared digital format and expansion of access to new resources [39; 73]. The same may be said of *exploration* of conceptual spaces,

because domains of thought and activity are deepened by the availability of new tools and techniques such as design visualization and prototyping [74]. Conceptual spaces may be *transformed* by processing power, for example with modelling or data analytics.

The third group of papers explore the micro-level evolution of the creative process with digital technologies. All of the papers question the specificities of digital creation, specify the extent to which digital creation differs from non-digital creation and discuss which actors actually engage differently when the creation process involves digitized content.

Rüling and Duymedjian [75] study how creators do their work and coordinate in the digital age. They depict the production of digital visual effects as a process of 'digital bricolage'. All artists are bricoleurs, i.e. they are combining materials in original ways based on the use of a stock of devices. This combination relies on the physical closeness of actors and resources as well as their heterogeneity. In digital bricolage, in contrast, work can be geographically dispersed, which has increased the level of specialization in project teams. Digital resources furthermore allow easy access, assemblage and recombination. These conditions call for new ways of coordinating work. *Rüling and Duymedjian* [75] find that the coordination across teams mainly revolved around two mechanisms: 'narrative alignment', i.e. the ability of a specific scene or effect to contribute to the development of the overall storyline of a movie, and 'verisimilitude', i.e. an effect or scene's perceptual realism. Recorded instances of motion capture and references to material reality are constant resources used by skilled professionals to anchor digital creative processes and to develop a shared language across specialized teams.

Panourgias and Nandhakumar [76] analyze how novel gameplay experiences in computer games are shaped through entanglement between the creative agency of developers and the digital

technologies of game engines, the core software code that enables the mechanics and dynamics of games. Constraints here are also important, since the engines, although they are enabling, also present clear parameters around the creative ideas and imagination of the developers and thus define, as the authors cite Bourdieu [77], 'the space of possibles'. Ideas constantly bump up against limitations of technology, but rather than an ongoing opposition of forces, the development plays out in the sociomaterial reality so that in the longer term these ideas suggest desiderata of future game engine development. This co-development has implications for the perceptions of creatives and technologists as distinctive actors, and more broadly for the creative industries and their relationship with IT sectors, returning to our discussion of sectorial classifications in section two. Technology development, especially in a content sector, cannot be detached from the heuristics of creativity, it is the intersection of the reasoning and skillsets of both that generate innovation.

These articles are of course presenting research on 'digital native' sectors and so digital technology will naturally be integral to the creative process. We might expect to gain insights from the adoption of digital technology in the creative process of older industries in comparison with contemporary emergent sectors. Along these lines, in our final paper, *Sapsed and Tschang* [78] compare the effects of technology on creative effort in two historical periods separated by five hundred years: the early Italian Renaissance and the contemporary Internet age with the production of art for digital products such as video games and animation. They underline the commonalities of creation in the two epochs: combination and iteration in process, based on imagination, bounded by the contemporaneous set of possible motifs and their social acceptance. While these activities remain constant, new technologies mediate how the organizational practices and activities of creators are configured. The greater availability of sketching and paper

materials in the early Renaissance stimulated design and prototyping in the creative process. Digital technology by contrast affects the *sequencing* of the creative process by compressing the linear stage-based model established in the Renaissance so that design and execution are now simultaneous, even while the core practices of creative work remain the same. *Sapsed and Tschang* [78] paraphrase the Latin motto, *Art is Long, Life is Short*, with *Art is Long, Innovation is Short* to denote the persistence of creative practice and the more temporal influences of techniques and technologies.

The three papers emphasize three specificities on digital creative processes. First of all, digital creation remains highly material, and this materiality is a mechanism of coordination because it provides necessary anchors or pre-constraints for creativity. The creative process is hereby coordinated by fundamental processes of combination and iteration, yet turned towards heuristics like verisimilitude and narrative alignment. A second specificity is the ability to rework the creation instantly, to transform it and to make it more fluid than non-digital creation. This brings associated management challenges. The third difference is the scale impact through the shared digital format and the interconnectedness of the Internet and therefore the ability to engage with a larger envelope of motifs and resources.

CONCLUSIONS AND AVENUES FOR FURTHER RESEARCH

Our Special Issue shows that digital technologies affect the creative industries profoundly at the level of institutions, business models and the creative process itself. The two institutional articles stress the difficulties organizations in established sectors face in apprehending technological trends in and the instinctive adoption of defensive strategies through the manipulation of discourse and existing regulatory arrangements. These tendencies are also critical in the papers

on business models, where preservation and stability of the old order are desired but opportunities for monetization decline. Meanwhile, those firms active in the new digital content and web-oriented sectors embrace new sources of innovation and growth such as online user engagement. The papers on the creative process show that in these digital sectors, technology is already reconfiguring the sequencing and organization of creative work, even if these are co-ordinating changes to fundamental human impulses that remain such as combination, iteration, and bricolage [79]. Digital creative production is clearly advancing at differing rates across sectors. While 'digital native' ones are accelerating in the utilization of digital properties, traditional industries are not only lagging, but locked into existing business models and broader institutional logics.

At the same time, several gaps remain. First, the papers we have compiled actually derive from few sectors – essentially music, games, film and publishing. We have reasoned above that the business models of these content-producing industries are most fundamentally affected by digital technology and that broader questions about the production, consumption and value of culture in the contemporary age are at stake through these transformations. However, this focus forces us to think about the limitations of our argument. One way to go about this is to reflect about which insights could be gained from studying other creative industries such as design, architecture or advertising. Clearly, creative processes in these sectors have also changed through digital technology, mostly the use of computers. However, since industries such as the fashion industry rely much less on revenues derived from the protection of copyright, processes of disassembly and reassembly may be much less pronounced, even if digital technology has largely ripped out and upgraded the supply chain. Analyzing cases from non-copyright industries, for instance, and

contrasting cases from different sectors would shed further light on the way creative practices and institutional logics intersect in producing stability or change.

Second, new sectors such as digital marketing, social media, blogging or e-commerce evolve that demand new capabilities that fuse technical-analytical skills with sensibilities in the Arts and Humanities [78]. Whether journalists or musicians can easily 'upgrade' their skills, whether they will 'buy' these services or whether they will collaborate in social networks, physical and virtual, remains a question for further empirical research across different sectors.

Third, most of our studies stem from a singular national context and this context is typically European. While the latter aspect may result from the fact that that this Special Issue resulted from a subtheme at the European Group for Organization Studies (EGOS) annual meeting, there are less obvious explanations for the former. One reason may be that comparative research in the international business community often focuses on multinational enterprises that are rather strongly grounded in national business systems [80]. The creative industries, in contrast, are typically composed of small and medium enterprises and networks of individual artists or entrepreneurs. These often co-locate spatially in cities or regions, so that the level of national institutions may simply be less relevant than other context factors for creative industries research. However, the papers in our Special Issue point to the relevance of both national regulatory regimes [62;63] as well as overarching management fashions such as the value chain model that transgress national boundaries [70]. Furthermore, the relevance and contested dynamics of emerging layers of transnational regulation regarding, for instance, copyright and the Creative Commons have been highlighted by recent studies [81]. Thus, there is promising potential for comparative research on dynamics of disassembly and reassembly not only across sectors, but also across countries at the intersection of national and transnational institutions.

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