

Research Project
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CLIC

**Collaborative Creation and Legitimation of Innovation and Creativity:
Socio-Cognitive Mechanisms of Emergence and Legitimation of Novelty**

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1. OVERVIEW

Entrepreneurs, artists, inventors and scientists are rarely recognized as creative until their audiences in general, and other creative people in their field in particular, evaluate, recognize and endorse their novel contributions. But novelty has a puzzling dual implication. Highly novel ideas are subject to a higher risk of rejection by their evaluating audiences than incremental, “normal science” contributions. Yet the same audiences may deem a contribution to knowledge valuable precisely because it is highly novel. Consider, as an example, the ground-breaking work on mobile genetic elements by Barbara McClintock who was rejected by top biology journals for many years before being recognized and honoured with a Noble prize. Johann Sebastian Bach's extraordinary innovation in harmony and counterpoints was eclipsed for more than one hundred years and rediscovered by Felix Mendelssohn during the nineteenth century.

These short vignettes underscore the importance of jointly accounting for the processes that underpin the generation and appreciation of novelty and also regulate its recognition within audiences that may or may not embrace it. Which audience features affect the likelihood that the creators’ work will be legitimated? What is required for highly novel contributions to earn evaluating audiences’ recognition rather than neglect or skepticism? What is the role of creators’ social networks in eliciting audiences’ appeal for their novel offers? How do social audiences’ mental construal affect novelty perceptions?

CLIC (Collaborative Creation and Legitimation of Innovation and Creativity: Socio-Cognitive Mechanisms of Emergence and Legitimation of Novelty) aspires to stimulate a systematic inquiry into these questions by bringing together organizational work that emphasizes the embeddedness of novelty in networks of collaboration and support with recent social-psychological work on legitimacy as a social process mediated by social audiences who regulate access to critical resources for survival and success, and who evaluate novelty based on distinctive mental representations.

The empirical basis for the project will be research conducted in three distinct fields of creative and cultural production strategically chosen to yield complementary insights into the problem. As settings change and complexity increases so, too, will the methods change as we adjust our research instruments to adopt the method appropriate for the scale and complexity of the problem. The project introduces multiple innovations that make its intellectual merit truly distinctive. First, it advances a novel and comprehensive conceptualization of social structures as enablers of creative achievements by modelling the emergence and legitimation of novelty as embedded in networks of interactions that influence both the creators and the social audiences that evaluate them. Second, the project relies on unique sources that combine experimentally generated data, big data and field data. Third, it brings together state-of-the-art multivariate techniques for analysing socio-metric datasets for longitudinal data with lab experiments, network analysis and qualitative approaches.

We are confident about the successful completion of the project. The Supervisor has been working and publishing extensively on the social sources of creativity and has been recently awarded a major grant from the Italian Ministry of Research for a project that focuses on how the social structure of recognition affects processes of evaluation and innovation. The Research Fellow will be developing expertise in areas closely related to the project’s key objectives.

2. THEORETICAL BACKGROUND

The following review illustrates the theoretical foundations of the project’s three conceptual pillars, while also identifying research gaps the project will seek to address.

Collaboration and Novelty. Team-members that collaborate in fields that reward creativity face two key challenges. First, in striving for novelty, they risk producing a product that cannot be assimilated to the tastes of critics and consumers (DiMaggio, 1997; Hutter, 2011; Cattani, Ferriani, and Allison 2014). Whether wide or razor thin, the difference between "exciting" and "weird" can be the difference between a hit or a flop (Adarves-Yorno, Postmes & Haslam, 2007). Creative success requires novelty that is recognized as excellence (Uzzi & Spiro, 2005; Cattani and Ferriani 2008). Second producing a creatively successful cultural product requires a diverse array of stylistic elements that can be available for recombination (Uzzi & Spiro, 2005; de Vaan, Stark & Vedres, 2015). Teams whose members have been exposed to more diverse stylistic elements have more cognitive distance than those in which the members

have very similar cognitive portfolios. But while cognitive diversity contributes to novelty, high levels of cognitive distance can pose coordination and codification difficulties. It is for this reason that this process of collaborative creation – one we call *recognizant novelty* – presents a poorly understood socio-cognitive puzzle. Here we propose to explore how teams mobilize their cognitive diversity to develop novelty. In particular, we plan to examine how team-members that collaborate for the development of *recognizant novelty*, combine their cognitive diversity for creative success.

Social Audiences and Novelty. As pointed out earlier, regardless of how gifted or structurally well positioned individuals are, creativity cannot be manifested in the absence of an audience that recognizes and hence legitimizes their novel contributions (Zuckerman, 1999; Zelditch, 2001). Yet the legitimation dimension has remained largely unattended. For instance, we know little that addresses how audiences' assessments refer to norms and evaluation standards which may prevent novelty seekers, who are typically peripheral to the field and therefore not strongly (if not at all) assimilated into those norms and standards, from receiving endorsement and recognition for their creative effort (Sgourev, 2013; Cattani and Ferriani, 2013). Also, extant organizational research typically treats audiences as homogeneous entities (mostly as an analytical convenience but see for exceptions Goldberg, Hannan & Kovacs, 2016; Cattani, Ferriani & Allison, 2014; Cattani et al., 2008) who share cultural codes and are homogeneously aversive to novelty and thus overlooks the common situation where multiple audiences coexist to evaluate individuals' creativity and may vary in their receptiveness to novelty.

Psychology of novelty perception. Construal-Level Theory suggests that individuals represent distant object using high construal levels (Liberman & Trope, 1998). In this vein, novel stimuli are represented using high construal-levels since novelty implies lack of experience; yet, the novelty effect on mental construal depends on the extent to which such novel stimuli are perceived as threatening or not. As a result, social audiences should be generally resistant to novel ideas and might use different mental processes to evaluate creative work depending on the novelty degree of the work under evaluation (Huang & Pearce, 2015). While these observations point to the strong relation that exists between psychological distance and novelty, the two constructs are different since psychological distance is a situational factor related to the evaluative task, whilst novelty depends on the content rather than on the context of the work under evaluation. Nonetheless, extant literature has not disentangled these two different facets of novelty perception, so that it is hard to determine (and consequently, to identify corrective actions) whether audiences' general aversion to novelty (Mueller et al. 2012) could be ascribed to situational factors related to psychological distance, to the specific content of the work under evaluation or to their interaction.

3. OBJECTIVES

These streams of work provide a starting point for our ambitious research agenda to develop a comprehensive understanding of the emergence and legitimation of novelty. In particular, we have identified three interdependent objectives that guide my efforts to provide solutions to the research questions outlined in the previous sections. Each of these objectives is directly tied to the three streams of literature outlined above:

1) *Collaboration and Novelty (O1)*: our objective here is to explore how *recognizant novelty* arises from the collaboration of team-members with cognitive diversity. We observe that creative teams are composed not simply of individuals but of groups – members who had worked together in the past – and that these groups can be isolated, brokered, or overlapping. The Supervisor's prior research on the film industry leads us to expect that game changing success will occur where there is an *enabling tension* with cognitive diversity pulling the groups apart and structural conditions holding them together. Based on a qualitative study on the process of collaborative creation, we want to explore how team-members mobilize their creative diversity and how their cognitive distance might affect the collaboration.

2) *Social Audiences and Novelty (O2)*: our second objective is to examine the social-structural mechanisms that curb or facilitate the legitimation of novel contributions by relevant audiences across different creative settings. We are particularly interested in peer-based evaluative settings where audience members are often directly or indirectly connected to the candidates they are expected to evaluate. We intend to map and measure such connections and investigate their impact on evaluative process and outcomes.

3) *Psychology of novelty (O3)*: the third objective is to design a series of original experiments to delve into the mental representations the guide audiences in their evaluative efforts when faced with novel objects entailing different degrees of novelty. This will allow us to better understand evaluative responses to novelty and to explore audience-level characteristics that may alter these responses (i.e. affect the degree of openness to novelty). In the end we plan to contribute to creativity and innovation research by expanding the scope of the existing explanations of the audiences' alternately favorable and dismissive appraisals of novelty.

4. RESEARCH DESIGN

To bring empirical substance to the project we have identified the following empirical settings: 1) Design; 2) Advertising; 3) Fashion. These settings have some unique features that make them suitable candidates for empirically exploring CLIC central ideas. First, novelty is highly coveted in these fields; second, these fields allow us to study simultaneously the audience members who relinquish key resources and the creators who compete with one another for audiences' recognition; third these settings are typically organized around projects and personal career networks, thus providing the analyst with an ideal context for employing network analytic techniques well suited to unveil the underlying social fabric of the labor markets. Additionally, the choice of these settings reflect the expertise the Supervisor has developed over the years as well as the opportunity to tap extensive networks and resources embedded in UNIBO's milieu. Mixed qualitative, quantitative and experimental approaches will be used.

Study 1: Design. This study will explore the pattern of actions that drive the development of *recognizant novelty*, that is the routines used by team-members to mobilize their cognitive diversity during collaborative creation. To analyse how teams mobilize cognitive diversity in a way conducive to creative success, we intend to conduct an interpretive case study on the dynamics of collaboration in product design teams. In particular, we will explore the patterns of interdependent actions that team-members perform to collaboratively develop design products. We will focus on teams that include actors that are simultaneously members of multiple cohesive groups. These actors' distinctive position in network topology allows them to have familiar access to diverse cognitive frameworks available for recombination. We suspect that this distinctive position can help to address problems posed by high levels of cognitive distance in a creative team. One of these problems is that initial misunderstanding will be met with refusal to collaborate. But the opposite possibility – too quick convergence to the lowest common denominator – is no less an impediment to real creativity. We suggest that the multiple and even conflicting memberships can mitigate these problems – not as a means for eliminating tension but for holding it in place until new kinds of creative stylistic combinations can emerge.

Data, approach and progress: We will adopt an interpretive qualitative approach to explore how teams develop *recognizant novelty* at a furniture design firm (Orlikowski & Baroudi, 1991). The Fellow and the Supervisor will collect longitudinal data on the patterns of actions that lead to collaborative creation. Data will come primarily from the fieldwork, based on Fellow's non-participant observation of teams' work and meetings (such as brainstorming, follow-up meetings); however, we will also collect archival data and organizational artefacts (Pettigrew, 1990). To capture cognitive diversity and stylistic novelty, we will interview each team member focusing our questions on their memberships, their position in the network and their background; we will also interview a panel of selected experts in design to assess the novelty of the design products. Data analysis will follow an iterative approach to theorize from process data (Langley, 1999).

Study 2: Advertising. With this study our specific objective is to examine how audience composition and prior social ties between audience members and candidates influences the recognition of candidates' creative work. The ambition is to increase our understanding of the “underlying causal mechanisms that operate within social evaluations” and, more specifically, to respond to recent calls for more empirical work on “the impact of previous network contacts on evaluative processes and outcomes”¹.

Data, approach and progress: The Supervisor has already put together an extensive and unique database centred on the Norwegian advertising field, one of the largest in the world in terms of investments per

¹ Lamont, M. 2012. Toward a comparative sociology of valuation and evaluation. *Annual Review of Sociology*, 38: 201–221

capita. Thanks to the strong ties between the Supervisor and members from the Norwegian Interest Organization for Interactive Marketing (INMA) - in charge of the main award contest of the industry - we will also be able to collect new interview data and quotes from secondary sources, which will be used to gain a deeper appreciative understanding of the field's evaluative logics and dynamics. Once data collection will be terminated we plan to examine the drivers of recognition across these audiences, focusing in particular on whether specific (structural) features of the social network in which candidates (advertisers) are embedded are conducive to different forms of recognition for their creative output. Indeed, one key characteristic of this data is that it allows us track the existence of social ties linking audience (jury) members and candidates based on prior joint experience. Thus, after accounting for various demographic characteristics at the audience and the candidate levels, for each candidate we will be able to establish whether the presence of prior ties may affect the odds of being rewarded. Notably, the supervisor has already published one study (Aadland et al., 2019) that leverages this data opening the way to a variety of avenues for future research on the socio relational bases of evaluation.

Study 3: Fashion. With this study, we want to investigate how individual-level mental constructs shape the evaluation of novel ideas using an experimental design in the context of the fashion industry. Original data to carry out this study will be collected at fashion schools in UK and Italy involving both teachers and students in the experiment, wherein the teachers represent the social audience assessing the fashion collections generated by the students.

Data, approach and progress: The Supervisor has already approached two schools of fashion - Polimoda in Florence and the London College of Fashion – both of which have expressed strong interest in being part of the experiment. The main idea of the experiment is to manipulate the framing of novelty using concrete how and abstract why descriptions of the fashion ideas. We will then focus on a series of variables of theoretical interest: the degree of novelty of the fashion collections as well as other variables the could help expose interesting boundary conditions, such as the social distance between students and evaluators or their cognitive distance. The design of the experiment will follow these steps: 1) One group of students will be recruited from a fashion school and each student will be asked to generate an original fashion collection; 2) One group of evaluators recruited from the faculty of the same school will assess the degree of novelty of each fashion collection 3) A pre-test will be run to determine appropriate stimuli for manipulating the framing of the collection. 4) Finally the experiment will be run by recruiting the evaluators (representing the relevant social audience) from the same fashion school. Each evaluator will be randomly assigned to one of the two conditions (different novelty framing) and asked to select or reject the fashion collections they will be presented with. Net of other well established predictors (evaluators' socio-demographic variables, Big Five personality and a measure of the tolerance for ambiguity) this approach will allow us to investigate if and to what extent the framing of a novel idea (as well as other audience-level features such as social and cognitive distance) affect the outcome of the evaluation.

5. INNOVATIVE ASPECTS OF THE RESEARCH PROJECT

CLIC has the potential to make a novel impact at multiple levels. Theory: CLIC contributes to the social science of creativity and innovation by advancing a comprehensive original framework for understanding the emergence and social evaluation of novelty as a joint result of socio-structural conditions and audience-level features. Research Design: The project makes use of a unique blending of original data and analytic techniques that combine fieldwork, lab experiments and large sample longitudinal analyses. It will introduce original measures and employ state of the art multivariate techniques for analysing network datasets over time. Multidisciplinary: The overall approach is also innovative in that it seeks to establish a conversation across three theoretical domains – socio-psychological theory, theory on innovation management and network theory - which, taken together, have the potential to expand the scope of the existing explanations of the audiences' alternately favourable and dismissive appraisals of novelty. Collaboration: Finally, the project will foster and promote cross-national collaboration among international researchers. Such collaboration will be facilitated by the Supervisor's experience in organizing scholarly workshops and seminars with a strong international outreach.

6. TRAINING OF THE RESEARCH FELLOW

The Supervisor has significant experience in mentoring junior colleagues and is especially dedicated to leveraging and expanding the role of interdisciplinary methods through new lines of inquiry that cut across disciplinary boundaries, both intellectually and institutionally. He currently works with a team of collaborators that comprises scholars with expertise in a mix of disciplines, including social science, computer science, big data, and humanities. The Supervisor's input will be vital throughout the stages of the project while the other scholars that are part of the Supervisor's extended research network team will offer unique inputs and perspectives to the development of CLIC. Not only are these ideal conditions to advance a highly interdisciplinary project such is CLIC, but being part of this stimulating intellectual environment would be greatly beneficial for the Fellow's research career. Upon arrival at DiSA, the Fellow and the Supervisor will establish a personal career development plan to enrich the Fellow competencies through a robust programme. The career objectives (CO) for the Fellow are:

CO1: To develop a **pipeline of high-impact world-class publications** making her/his work in the area a reference point for the international community.

CO2: To acquire expertise in **interdisciplinary approaches** to innovation studies, through research activities and seminars run by the DiSA and the Institute for Advanced Studies (ISA) at UNIBO.

CO3: To extend her/his **methodological toolkit** (DiSA offers a variety of classes in Advance Data Analysis).

CO4: To access **leading-edge expertise in lab-based experiments**. The Supervisor works closely with the Behavioural Science Group at Warwick an internationally recognized hub for lab experiment research with a dedicated state-of-the-art research laboratory. The Fellow will benefit from this link by periodically visiting the Group at Warwick.

CO5: To improve his/her skills and competence towards the identification of potential sources of **large scale funding** for research and the drafting of new ambitious grant applications. The Supervisor can provide guidance in this respect having been awarded national and international research grants over the years.

CO6: To generate **new external collaborations** with both academic and non-academic partners, thereby creating, in the long run, a stronger network of connections on a Global scale (England, Italy, France, US).

In summary, CLIC represents a unique opportunity to strengthen the Fellow's research career by turning the ideas outlined in this project proposal into full-fledge academic papers. The Supervisor's network of collaborations will help strengthening the Fellow's research profile within the international community (CO1&CO2). The training opportunities offered at DiSA will enable him/her to integrate leading multidisciplinary approaches and methods into his/her academic practice (CO3&CO4). The widening and deepening of her/his research network will allow him/her to raise her/his visibility and foster new collaborations and undertakings (CO6). Finally, by working within the context of the Supervisor's recently awarded grants the Research Fellow will consolidate her/his expertise in designing and conducting large scale pan-European projects (CO5). The overall ambition is for the Fellow in collaboration with the Supervisor to kick-start a new stream of ground-breaking work on the social evaluation of innovation that would position DiSA at the forefront of research in this domain.

7. IMPLEMENTATION

CLIC is designed to be completed in a 24-months' time period, from data collection to dissemination of results. The meticulous planning of future process phases guarantees research completion within the official project time. CLIC is organized into three studies – one study per empirical setting – that are divided into sub-activities. Table 1 Gantt shows the activity distribution along the 24-months timeline, along with the corresponding temporal distribution of research-design tasks involved. Each of these studies is aimed at producing one paper. By the end of CLIC we expect to be able to submit at least 2 of these papers to as many top journals and have the third one in an advanced working paper format. The Gantt chart displays the tasks entailed by each WP along with timing of deliverables.

Table 3. GANTT Chart – timing of project activities

Activity	Year 1												Year 2											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
EMPIRICAL WORK																								
Study 1 - Design																								
◦ Data collection (Archival+Interviews)	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Complementary data collection (Secondary interview material)				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Cleaning data						█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Data analysis							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Writing phase								█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Study 2 - Adverstising																								
◦ Data collection (Archival)			█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Complementary data collection (Secondary interview material)				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Cleaning data						█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Data analysis								█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Writing phase									█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Study 3 - Fashion																								
◦ Preliminary fieldwork (Interviews)					█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Lab experiment design and testing								█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Data collection												█	█	█	█	█	█	█	█	█	█	█	█	█
◦ Data analysis																								
◦ Writing phase																								

The GANTT chart above shows how project time has been allocated to reach the desired goals and to meet the deadlines. While these goals might appear too ambitious for a 24-months project effort it should be stressed that two of the three studies we are planning to undertake are already in progress. In other words, we will not have to start CLIC from scratch, neither from a theoretical perspective nor from a data-collection point of view. Regarding research risks, given the structure of the project with three independent albeit interrelated studies, we do not anticipate major risk with the potential to jeopardize the project. If one WP fails to produce the desired insights within the suggested timeframe there are still the others and the possibility that none of the WPs will generate the expected results is unlikely, given the familiarity the Supervisor has developed over the years with CLIC key ideas.

8. ETHICAL ISSUES

The three projects involve the participation of human subjects. Specifically, extensive interaction with the participants will occur during Study 1 and 3. Whereas gender differences among participants are predictable, Study 1 is not concerned, nor directly or indirectly, with gender differences. For this study, we do not forecast any risks for participants, other than a minimal discomfort that could be caused by the researchers’ presence at the organization site. Participation will be voluntary and participants will be able to withdraw at any time without consequences of any kind or loss of benefits. In Study 3, we will collect socio-demographic information. To guarantee transparency and high scientific quality, students’ participation to the experiment will be voluntary and data will be anonymized before analysis. We do not expect any risks to be caused by gender differences; however, if this were the case, participants have the right to withdraw their consent or discontinue participation at any time without consequences of any kind or loss of benefits.

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