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Ebbers, J.J.; Wijnberg, N.M.

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The co-evolution of social networks and selection system orientations as core constituents of institutional logics of future entrepreneurs at school



Joris J. Ebbers^{a,*}, Nachoem M. Wijnberg^{a,b}

^a University of Amsterdam Business School, Plantage Muidergracht 12, 1018 TV Amsterdam, the Netherlands

^b University of Johannesburg, College of Business and Economics

ABSTRACT

In contexts where a choice between competing institutional logics is possible, the social networks of future entrepreneurs affect their adoption of particular logics. Using a panel data method for studying the co-evolution of social networks and individual actor behavior (SIENA), we study how selection system orientations as core constituents of institutional logics affect, and are affected by, social networks. Our empirical setting is a cohort of film school students, whose social network ties and selection system orientations are measured over a period of three years. We find that students with a strong market selection orientation are less popular among their peers at school, and that the market selection orientation of students is influenced through their social network ties with students from the same cohort.

Executive summary

The relation between entrepreneurship and social networks has been studied widely. Besides studying how social networks affect entrepreneurial performance, extant studies have focused on how particular social network ties – such as family members, co-workers, and friends – affect the entrepreneurial entry decision. The focus of this paper is on the relationship between social networks and the adoption of particular institutional logics by future entrepreneurs throughout their time at school.

Prior studies show that individual actor characteristics affect tie formation, while, at the same time, being embedded in a social network affects individual actor characteristics. Disentangling these dynamics requires a longitudinal research design by simultaneously modeling change in the social network structure, as well as the characteristics of the individual actors that populate them. We use the relatively new tool, SIENA, which combines a panel data with an actor driven approach, to study these complex and dynamic micro level processes.

We study this in the particular context of a cultural industry where most alumni will become entrepreneurs, either in the form of small business owners or self-employed professionals / freelancers. The cultural industries are characterized by the presence of multiple competing logics, the logic of the market and the logic of art, between which there exists a strong tension. In contexts where it is possible to choose between competing institutional logics, this choice becomes very important to entrepreneurs, and this process already starts when these future entrepreneurs are still in school.

An essential part of an institutional logic adopted by an entrepreneur concerns the outcomes they consider to be legitimate signs of successful performance, given the norms and values of a particular logic. The concept of selection system orientation conveys precisely this aspect. It builds on selection system theory by focusing on different types of evaluators. One's market selection orientation is stronger the more one attaches importance to signals from market selectors, such as sales or consumer opinions. One's

* Corresponding author.

E-mail addresses: j.j.ebbers@uva.nl (J.J. Ebbers), n.m.wijnberg@uva.nl (N.M. Wijnberg).

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expert selection orientation is stronger, the more one attaches importance to signals from experts, such as professional critics' reviews.

In our longitudinal study of a cohort of film school students over a period of three years, we find a negative relationship between the strength of a student's market (but not expert) selection orientation and their popularity at school. In addition, we find a social influence effect with respect to market (but not expert) selection orientation. Finally, we find a positive relationship between a student's market selection orientation during their time at school, and their performance in terms of receiving positive evaluations by market selectors of their graduation film project.

Finally, our study has practical implications. As a consequence of declining government subsidies for the arts in many (western) countries, artists need to have or develop an entrepreneurial attitude. Besides trying to fight the stigma associated with artists aspiring to market success, art schools could take into account the market orientation of prospective students in their admissions policy. Besides directly affecting the average market orientation of their student population, this could also increase the average market orientation of students through social influence effects.

1. Introduction

There is a broad stream of literature that focuses on the decision to become an entrepreneur (e.g. Carroll and Mosakowski, 1987; Nanda and Sorensen, 2010; Laspita et al., 2012; Lofstrom et al., 2014), the kind of entrepreneur one wants to become (Amit et al., 2001; Scott Morton and Podolny, 2002; Farmer et al., 2011), and how these choices and objectives are driven by particular institutional logics (Friedland and Alford, 1991; Thornton et al., 2012). A separate strand of research shows that entrepreneurial aspirations can spill over through social network ties, such as family members (Carroll and Mosakowski, 1987; Laspita et al., 2012), neighbors (Giannetti and Simonov, 2009), co-workers (Nanda and Sorensen, 2010; Stuart and Ding, 2006), and peers from school (Falck et al., 2012; Kacperczyk, 2013).

This paper sets out to combine these two strands of research to explain how, in the particular context of an art school preparing students for an entrepreneurial career in a particular cultural industry, social networks at school co-evolve with the kind of entrepreneur these students aspire to become.

Norms and values, rather than being internalized by actors through an impersonal external force, are transmitted through the social relations and network structure in which actors are embedded, where norms and values both shape, and are being shaped by, embedded actors (Granovetter, 1985). Although Granovetter's theory of embeddedness has been studied rather extensively in the field of entrepreneurship (for a review see Slotte-Kock and Coviello, 2010), aside from conceptual work about the co-evolution of social networks and entrepreneurial behavior such as innovation (Simsek et al., 2003), empirical research on the micro level processes of entrepreneurship, as well as the specific (institutional) context in which these unfold (Zahra and Wright, 2011; Autio et al., 2014), is limited. Explicitly taking into account the context is important, not only for defining the boundary conditions of theories, but also for understanding the specific institutional environment that affects, and at the same time is being affected by, individual agency in micro level social interactions (Garud et al., 2014; Zahra and Wright, 2011).

The specific context of our study is students in art schools that are being prepared for a career in cultural industries. Most of these students will become small business owners or self-employed professionals who collaborate in networks of temporary project-based organizations (Jones, 1996; DeFillippi and Arthur, 1998). Another key aspect of cultural industries, which has particular significance for the nature of entrepreneurship in this context, is the tension between art and commerce (Bourdieu, 1996; Caves, 2000). This tension has also been conceptualized as one between two competing institutional logics, that of the art world and that of the market (Eikhof and Haunschild, 2007; Glynn and Lounsbury, 2005; Jones et al., 2016). This paper focuses on one central element of these competing institutional logics, which can be considered to stand pars-pro-toto for the logic as a whole, namely selection system orientations, which denote how strong the evaluations of a particular type of selector weigh in the mind of a particular individual (Bhansing et al., 2012). We distinguish between market and expert selection orientation. While entrepreneurs with a market orientation aspire to success among mass market consumers, those with an expert orientation aspire to success among experts (Wijnberg and Gemser, 2000).

In our longitudinal study covering three years, we study the formation of social network ties among a cohort of 81 students at a prestigious film school, their selection system orientations, and how social network ties at school and selection system orientations co-evolve over time.

To analyze these data, we use a longitudinal quantitative social network approach. Although there are a number of, often qualitative, studies that use a longitudinal approach to studying networks and entrepreneurship (e.g. Elfring and Hulsink, 2007; Jack, 2005), there is a paucity of complementary studies that use quantitative social network analysis tools that treat social networks simultaneously as both dependent and independent variable (Slotte-Kock and Coviello, 2010). In addition, while early quantitative studies treat social networks as static using cross-sectional research methods, there are strong calls for using more dynamic and longitudinal approaches in management (Ahuja et al., 2007; Kilduff et al., 2006; Shipilov, 2005) and entrepreneurship (Hoang and Antoncic, 2003; Slotte-Kock and Coviello, 2010; Jack, 2010). In this paper, we therefore apply the relatively new longitudinal social network analysis tool, SIENA, which combines a panel data with an actor-driven approach enabling scholars to statistically model the co-evolution of social networks and individual actor behavior (e.g. Snijders, 2001).

This paper has three main contributions. First, our paper contributes to studies on entrepreneurship and network embeddedness (Slotte-Kock and Coviello, 2010), particularly those focusing on the co-evolution of social networks and entrepreneurial behavior (Simsek et al., 2003), or constitutive approaches to entrepreneurship arguing that actors and contexts are co-created (Garud et al., 2014). In particular, we respond to calls for more fine-grained research about how attitudes towards entrepreneurship are formed

through (Douglas, 2013) or affected by social networks at school (Kacperczyk, 2013). Second, we contribute to research on the context-dependence of entrepreneurship (Zahra and Wright, 2011; Autio et al., 2014; Garud et al., 2014) by studying these processes in the specific domain of cultural industries that are characterized by a tension between artistic and market logics (Eikhof and Haunschild, 2007; Glynn and Lounsbury, 2005; Jones et al., 2016). Third, by studying selection system orientations of future entrepreneurs, as core constituents of institutional logics (Thornton et al., 2012), we show how the theoretical framework of selection systems (Wijnberg and Gemser, 2000) and the concept of the selection system orientation (Bhansing et al., 2012) can serve to elucidate relations between social network dynamics and entrepreneurship.

2. Theoretical background

2.1. Institutional logics and entrepreneurs in the cultural industries

Institutional logics are defined in Thornton, Ocasio and Lounsbury (2012: p. 2), building on the seminal work of Friedland and Alford (1991) to “represent frames of reference that condition actors’ choices for sensemaking, the vocabulary they use to motivate action, and their sense of self and identity”. This definition focuses on how actors not only decide, but also justify and legitimate their choices to others and to themselves. In fact, central to the concept is the continual translation between how individuals see themselves and their perception of the norms and values of the community to which they belong according to these individuals themselves. As pointed out by Friedland and Alford (1991), an institutional logic offers a pattern to make sense of one’s environment and thereby what is meaningful and legitimate in a given field, which also implies a particular audience and particular stakeholders. Precisely the entrepreneur who starts something new needs to be acutely aware of the particular set of choices and patterns of behavior that fit a particular socio-cultural context (Tracey et al., 2011).

There is a voluminous literature devoted to institutional entrepreneurship in relation to logics. Institutional entrepreneurship refers to organizations and agents acting to change institutional structures or create new ones. Not all institutional entrepreneurs would be considered entrepreneurs in the general entrepreneurship literature and many entrepreneurs from that literature cannot be considered institutional entrepreneurs. However, there is also a growing literature taking an institutional theory perspective on entrepreneurship (for a recent review see: Su et al., 2017) and there are studies (Mars and Lounsbury, 2009) that explicitly deal with entrepreneurs adopting particular logics in their decision making. It seems appropriate to focus on their choice of logic when considering entrepreneurs in institutional contexts where agents have a choice (Garud et al., 2014), precisely because more than one institutional logic is available, and there is the option of what Glaser et al., 2016 call institutional frame switching between logics.

In cultural industries the choice between competing institutional logics is, on the one hand, of the utmost importance, for instance for positioning oneself as a potential beneficiary of public art policy, and on the other hand, not fixed, because individuals and organizations can (and do) switch from one logic to another, even in later phases (Glynn and Lounsbury, 2005). In cultural industries, institutional logic switchers have also been called amphibious artists (Patriotta and Hirsch, 2016) referring to prior research on amphibious scientists that switch between the academic and business worlds (Powell and Sandholtz, 2012).

The literature has identified two main competing logics in cultural industries: the economic logic of the market and the artistic logic of practice (Eikhof and Haunschild, 2007; Jones et al., 2016). This essentially corresponds to Glynn and Lounsbury’s (2005) market logic and aesthetic logic, and Bourdieu’s (1996) poles of autonomy and heteronomy, where autonomy denotes that relational structures are only governed by cultural art-internal power while in conditions of heteronomy the power of the market (and state) compete with those internal to the artistic field. It should be noted that these competing logics also seem similar to other motivational dichotomies for entrepreneurs in general, such as the one Scott Morton and Podolny (2002) make between “being in it for the money” and “being in it for the love”. In the former, entrepreneurs are predominantly motivated by growing their business and maximizing profits, while in the latter entrepreneurs gain non-monetary utility from engaging in the production process itself while accepting lower profits.

As discussed above, institutional logics can be seen as interrelated complexes of elements and having one’s choices and behavior governed by a particular logic means conforming to the norms and values of a particular community or audience (Fisher et al., 2017). In this sense, seeing entrepreneurship through the lens of institutional logics is very explicitly context-dependent (Autio et al., 2014). Starting at the end, a core element of an institutional logic consists of whose evaluations are important to an actor, because this will shape how actors should behave to show these evaluators their conformity with the right kind of norms and values. This last aspect is precisely what is expressed by the concept of selection system orientation.

2.2. Selection system orientations

The concept of selection system orientation builds on the theoretical framework of selection system theory, which explains competitive processes by focusing on different types of audiences whose evaluations of products determine the outcome of the competitive process: market, peer and expert (Priem, 2007; Wijnberg and Gemser, 2000). In market selection, consumers are the selectors; in peer selection, other producers are the selectors; and in expert selection, third parties, that are neither producers nor consumers, determine competitive outcomes. Selection system theory has been used to explain the determinants of competitive success by showing the extent to which particular quality signals are effective in convincing particular types of selectors (Boutinot et al., 2015; Gemser et al., 2008; Schoonmaker et al., 2017).

Besides analyzing competitive processes in terms of which type of selection system governs the competitive process, this framework also serves to describe individual attitudes towards this competitive process. The concept of selection system orientation

denotes the extent to which individuals believe their performance is primarily determined by the judgment of a particular type of selector (Bhansing et al., 2012, 2016). The concept of selection system orientation serves to identify and quantify the essential aspect of an institutional logic, namely the type(s) of evaluators whose judgments one takes into account and in whose eyes one wants to be successful. In other words, the evaluators are seen as the relevant audience whose approval and legitimation (Fisher et al., 2017) one strives to achieve. Focusing on the relation between the entrepreneur and the evaluator highlights the relational facet of considering agents and contexts together (Garud et al., 2014). Each type of evaluator distinguished in selection system theory will come with a particular set of norms and values that structure how they make sense of what they evaluate and how positive they evaluate what they make sense of. Thus, the selection system orientation expresses precisely the relational facet of the focal agent's adoption of a particular institutional logic he or she shares - or at least, hopes to share - with the selectors as representatives of a particular audience.

In general, by determining the mix of selection systems governing competitive success in a field one can operationalize Bourdieu's (1996) heteronomy, as well as measuring the extent to which individuals are assimilated to the field by comparing their orientations with the particular mix of selection systems governing their particular niches. Moreover, as argued above, the selection system orientations express the relational facet of the institutional logic and the selection system framework therefore lends itself to quantitatively study the dynamics of the field at the micro-level of the individuals.

Most importantly for the present study, the institutional logics, and in particular the selection system orientations, adopted by individuals, can change. Even when it is difficult because of the risk to one's legitimacy and trustworthiness, economic agents, whether they are organizations or individual entrepreneurs, still change in this basic respect (Glynn and Lounsbury, 2005). Future entrepreneurs have greater degrees of freedom in changing their selection system orientations, and a possible cause of such changes is the social influence of peers in their social network. At the same time, the formation of specific ties and the resulting evolution of a social network can also depend on the extent to which particular individuals have similar selection system orientations. Consequently, it is necessary to study these two processes simultaneously.

2.3. Future entrepreneurs and social influence effects

There is a voluminous literature on how social networks influence future entrepreneurs. Although some of this work concerns what kind of entrepreneur one becomes, in terms of different attitudes, motivations, and intentions, most of these studies focus on the decision to become an entrepreneur at all. Briefly discussing this literature will set the stage to focus on possible social influence effects on the selection system orientations of students in an art school that prepares them for entrepreneurial roles in a cultural industry.

Prior studies show that entrepreneurial aspirations can be influenced by social network proximity to individuals with entrepreneurial experience: family members can influence entrepreneurial entry decisions by acting as role models and instilling entrepreneurial values or attitudes (Carroll and Mosakowski, 1987; Laspita et al., 2012); individuals are more likely to become entrepreneurs when they live in neighborhoods with strong norms and values with respect to entrepreneurship (Giannetti and Simonov, 2009); co-workers with prior entrepreneurial experience can provide motivation, demystify, or lower the mental barriers towards entrepreneurship, and raise the aspiration levels of their peers by acting as role models (Nanda and Sorensen, 2010; Stuart and Ding, 2006).

In respect to social influence effects among students in educational institutions, which is the context of this paper, Falck et al. (2012) find that adolescents that are exposed to entrepreneurial peers at school are more likely to develop entrepreneurial intentions. Similarly, Kacperczyk (2013) shows that peers from the same educational institution affect entrepreneurial entry decisions by reducing the uncertainty as to what it entails to be an entrepreneur. In contrast, Lerner and Malmendier (2013) argue that exposure to peers with entrepreneurial experience decreases entrepreneurial entry, precisely because the latter help the former to critically evaluate their business idea and make them think twice before becoming an entrepreneur. However, direct evidence of the relationship between social influence and entrepreneurial entry is missing because social influence tends to be measured indirectly through shared educational affiliations instead of directly through actual social network ties at school.

2.4. Social networks and selection system orientations in art schools

Gaining entry into cultural industries is very difficult, and successful careers depend heavily on social networks (Jones, 1996). Next to being a signal of quality and legitimacy, attending a prestigious art school also enables students to build a social network with peers that can become valuable after graduation when they become professionally active (Becker, 1982; Godart, 2012). Indeed, Mehta (2017) found that film school students were heavily involved in so-called hustling, which involves “forming connections, working simultaneously across projects, surviving competition rituals, and ultimately, consolidating reputations” (Mehta, 2017: p. 26). In other words, students were conscious of the fact that building ties with other students was vital to their future career, not just because of building useful connections but also in the sense of creating a reputation among one's peers. Therefore, one could expect that selection system orientations play an important role in these social network dynamics.

Students in art schools are confronted with exogenous pressures in the form of sociocultural norms (Dacin, 1997). However, in their classic study of art school students, Getzels and Csikszentmihalyi (1976) found that “the image of the artist as socially withdrawn, introspective, independent, imaginative, unpredictable, and alienated from community expectations is not far off the mark” (p. 38). The idea of artists that pay much attention, or worse, attempt to manage external quality evaluations is incongruent with the image of the independent and autonomous artist (Bradshaw and Holbrook, 2007; Caves, 2000: p. 4). Similarly, scientists engaging in

commercial activities tend to be regarded as violating academic norms of having to be motivated by curiosity and bringing knowledge into the public domain by their peers (Stuart and Ding, 2006).

Artists, also when they are still in art school, may therefore value an image of being independent and autonomous since those whose work or actions have, or even seem to have, been affected by other people's tastes, criticisms or suggestions, risk being perceived as illegitimate (Godart et al., 2013) or inauthentic (Becker, 1982: p 22). In other words, art school students who attach great importance to the future positive evaluations of their work are more extrinsically, instead of intrinsically, motivated (Ryan and Deci, 2000). Prior research shows that extrinsically motivated students are judged as being less creative by other art school students (Amabile, 1979), and regarded as being less attractive as friends. Since the strength of both types of selection orientations – market as well as expert – denote the students' eagerness, or at least willingness, to satisfy the needs or expectations of external audiences, one would therefore expect art school students with a stronger – either market or expert – selection system orientation to be less popular among their peers at school.

However, even artists who gain great non-monetary utility from the production process itself (Scott Morton and Podolny, 2002), are still not completely insensitive to external appreciation of their work (Amabile, 1993), which can express itself both in a market and expert selection orientation. Yet market and expert selection orientations of similar strength differ in the extent that they are linked to intrinsic and extrinsic motivations, given the background of the two institutional logics.

Of the two available logics, the logic of the market stresses much more the dependence on external selection: “The customer is never wrong”. Therefore, the bias against extrinsic motivation, and especially making concessions to popular taste, can easily translate into a bias against having a market selection orientation. One could argue that wanting to please experts also involves making concessions to taste, and therefore a sign of extrinsic motivation. However, in the art world, the most important expert selectors are professional art critics, who value innovativeness (Bradshaw and Holbrook, 2007; Crane, 1976; Wijnberg and Gemser, 2000) and authenticity (Beverland, 2005). As a consequence, artists who espouse the logic of art and seek positive reviews from critics cannot achieve this by producing work that seems intended to please these very experts. At art schools, striving for recognition by experts will be less directly and immediately linked to external motivation, while, in contrast, espousing the logic of the market is a relatively strong signal of an external orientation. Consequently, it can be expected that art students with a strong market selection orientation will be less popular among their peers at school. We therefore hypothesize:

Hypothesis 1. There is a negative relationship between the strength of an art school student's market selection system orientation and their popularity at school, while the strength of an art school student's expert selection system orientation does not affect their popularity.

Similarity between friends concerning individual characteristics, such as selection system orientations, can be explained through homophily selection or social influence effects. While homophily selection is the tendency of actors who are similar being more likely to form ties (McPherson et al., 2001), social influence is the tendency of actors becoming more similar as a result of these ties. There are numerous classic studies about selection and influence effects with respect to aspirations and friendship at school. Duncan et al. (1968), for example, found that both educational and occupational aspirations of students are influenced by those of friends at school. With respect to educational aspirations, Kandel (1978) found a similar effect size for homophily selection and influence effects, Cohen (1983) showed that influence effects still hold when controlling for similarity of aspirations at the time friendship ties were formed. Although research interests in social influence effects and aspirations at school declined in the 1980s, it resurfaced with a focus on studying differences in particular institutional contexts (Buchmann and Dalton, 2002).

While individual actor characteristics such as their beliefs can affect tie formation, in turn, structural embeddedness, in the form of ties being present or absent, can lead to cognitive embeddedness, where actors become similar in terms of their beliefs (Simsek et al., 2003). In the context of science, for example, engaging in commercial activities is often seen as a violation of the academic norm. Yet scientists in close proximity to colleagues working in commercial science are more likely to develop a positive attitude towards for-profit science (Azoulay et al., 2017; Stuart and Ding, 2006). However, Azoulay et al. (2017) focus on dyadic ties, without considering the evolution of social networks as a whole, as the present paper does. In addition, they do not consider other scientific orientations besides the commercial one. However, it is a core point of their study that “when actors connect on the basis of a small set of attributes X, it is often the case that some additional characteristic Z, which was never considered when a choice was made to develop a relationship, becomes socially transmitted” (p. 1266). In our context, this suggests that even though students may not select each other on the basis of their orientations, their orientations can be transmitted through a process of social influence.

Similarity between art school students with respect to selection system orientation is more likely to be driven by social influence than homophily selection effects. We believe this to be the case for two reasons. First, information about invisible actor characteristics are more likely to become known only after a friendship tie has been established (De Klepper et al., 2010). Since market and expert selection orientations are invisible values, we expect influence effects to be stronger than homophily selection effects in explaining similarity between art school students. Second, structural embeddedness leads to similarity in values, and collective sanctioning of those who violate them (Coleman, 1988; Granovetter, 1973; Jones et al., 1997). Taking into account structural embeddedness, and the cognitive embeddedness that may result from it (Simsek et al., 2003), one would expect that the selection system orientations of individual students are assimilated to those of their friends.

There are reasons to expect that influence effects are more likely with respect to market, than to expert, selection orientation. As discussed above, both in the context of science and art, there is a bias against having a market selection orientation that can be weakened by close proximity to colleagues working in commercial science (Stuart and Ding, 2006; Azoulay et al., 2017). Similarly, studying the evolution of friendship ties and music taste of high school students, Steglich et al. (2006) found a homophily selection effect with respect to listening to classical music, but a social influence effect when it comes to rock and techno music. In contrast to

classical music, rock and (to a lesser extent) techno can be considered more mainstream and lowbrow genres that primarily appeal to mass market consumers. This suggests that influence effects are more likely with respect to commercial than artistic values.

As argued in connection to the previous hypothesis, artists who openly pursue commercial success run the risk of being accused of dumbing down their work, and subsequently being ostracized from their artistic community aiming to protect its artistic integrity (Bradshaw and Holbrook, 2007). Moreover, negative status spill-over effects (Benjamin and Podolny, 1999; Faulkner, 1983) through association with artists with a mass market orientation can be damaging to one's individual reputation for artistic integrity. However, as discussed before, because in the art world the artistic logic is generally considered “higher” and there is a strong bias against having a market orientation, the barrier for students in art schools to develop a market orientation is lower when their friends at school already have a relatively high market orientation. We therefore hypothesize:

Hypothesis 2. An art school student's market selection system orientation changes as a result of social influence effects through social network ties at school, while an art school student's expert selection system orientation is not subject to such social influence effects.

3. Methods and data

3.1. Empirical setting

Our empirical setting is a cohort of film school students, whose social network ties with classmates and selection system orientations we study throughout their years at school. Since market logics and artistic logics, as well as the associated focus on either the lowbrow or highbrow subdomains, express themselves through respectively the market and expert selection system orientation of students, one would expect social network ties between students in film school to strongly affect, and be affected by, their selection system orientations.

The film industry is a suitable context for several reasons. First, like many other cultural industries, it is characterized by extreme risk and uncertainty (Caves, 2000; Gehman and Soublière, 2017) and a high premium on (perceived) innovativeness (Bradshaw and Holbrook, 2007; Crane, 1976; Wijnberg and Gemser, 2000; Wijnberg, 2004). Given these conditions, it is not surprising that entrepreneurship is pervasive. Second, it is characterized by many small business owners and self-employed professionals (Kolvereid, 1992) collaborating in project-based organizations, and embedded in social networks (Jones, 1996; DeFillippi and Arthur, 1998), which sometimes date back to art school (Becker, 1982; Godart, 2012). Third, and similar to other cultural industries, the film industry is characterized by a tension between market and artistic logics (Caves, 2000; Eikhof and Haunschild, 2007; Jones et al., 2016). Fourth, the performance of films is affected by the judgments of different types of audiences whose evaluation criteria can differ strongly, which make it difficult to simultaneously appeal to all these different audiences at the same time (Ebbers and Wijnberg, 2012; Ertug et al., 2016).

3.2. Method

We performed a longitudinal social network analysis using the relatively new tool, Simulation Investigation for Empirical Network Analysis (SIENA). SIENA has recently been used for studying network dynamics at the industry (Ebbers and Wijnberg, 2010), inter-organizational (Ferriani et al., 2013), and intra-organizational (Bingham et al., 2013) level. SIENA is a stochastic actor-based model for statistically estimating the co-evolution of networks and behavior by combining a panel data and actor-driven approach (e.g. Snijders, 2001, 2005; Snijders et al., 2007; Steglich et al., 2006; Snijders et al., 2010). SIENA takes into account both structure and agency (Giddens, 1984) by statistically separating endogenous structural network effects from exogenous actor level effects.¹

One of SIENA's unique features is that it can statistically separate homophily selection from social influence effects to explain similarity between actors in social networks. Separating homophily selection from social influence effects requires three waves of data. The first wave of data is not modeled itself but used as a starting point for the simulations. The second wave of data, while controlling for structural network effects such as proximity and reciprocity, can be used to estimate homophily selection effects, in our context this is the tendency of students to form ties with other students that have a similar selection system orientation. Finally, the third wave of data, while controlling for both structural network effects and homophily selection effects, can be used to estimate social influence effects. In our context, this is the tendency of students to assimilate their selection system orientations to those with whom they have ties.

3.3. Sample and data collection

We collected three waves of social network and individual actor level data of a cohort of students at the Dutch Film Academy (NFA).² The NFA is located in the city of Amsterdam and is widely considered to be the most prestigious film school in the

¹ For a detailed mathematical treatment of SIENA, we refer the reader to Snijders et al. (2007). For a tutorial introduction to SIENA, we refer the reader to Snijders et al. (2010). Finally, for a hands-on explanation about how to use SIENA, including an overview of all its different effects and how to interpret them, we refer the reader to the latest version of the RSIENA user's manual that can be downloaded from the SIENA website.

² Nederlandse Filmacademie.

Netherlands. The data were collected in 2012, 2013 and 2014 with intervals of 1 year. During the first stage of data collection, in February–March 2012, the cohort consisted of 81 students. All these students were in the first year of the program that started in September 2011. The NFA has 10 specializations and students enter the program in a specific specialization: cinematography, creative production, directing for fiction, directing for documentaries, editing, interactive media/visual effects (IMVFX), production, production design, scriptwriting, and sound design.

We developed a questionnaire (see [Appendix 1](#)) that we pre-tested with the previous cohort of students at the NFA. As a result of this pre-test, we changed the scale for collecting social network data. Instead of asking students to provide a list with a maximum of 10 names of fellow students whom they considered either good friends, friends, or acquaintances, we decided to use a more indirect approach for measuring social networks by asking students to provide a list of maximum of 10 names of students from the same cohort with whom they have the most frequent informal contact outside the formal classroom setting. The reason for changing this was that students did not like having to differentiate between good friends, friends, and acquaintances. Using a measure for contact frequency instead of friendship, makes it feel less judgmental ([Lomi et al., 2011](#)).

The 1st questionnaire in 2012 included questions about constant actor attributes, changing actor attributes, and their social network ties with classmates. The 2nd and 3rd questionnaires in 2013 and 2014 were identical to the one in 2012 except that we dropped all the control variables because these (for example date of birth) do not change over time. By the time of the 3rd stage of data collection, 8 students had dropped out of school. We deleted these 8 cases from all three waves of data. The final sample consists of 73 students. The first wave of data collection in 2012 had a response rate of 93%, the second one in 2013 a response rate of 95%, and the third one in 2014 a response rate of 89%. To stimulate students to participate we organized a lottery with a prize of €500 to be spent on a film production of their own choice.

3.4. Social networks

The social networks were constructed by asking students the following question: “With which students in your cohort do you have the most contact outside the formal meetings that are part of the study program (such as lectures and projects)”. This is a combination of two previously used measures for studying social network ties ([Kleinbaum et al., 2015](#); [Lomi et al., 2011](#)). While [Lomi et al. \(2011\)](#) asked respondents to provide the names of classmates with whom they developed social ties outside the context of the program, [Kleinbaum et al. \(2015\)](#) asked respondents who were the classmates they have been with most often when it comes to informal social activities. Students could fill in up to 10 names. Many social network analysis studies tend to use a maximum of 10 names because it can avoid respondent fatigue ([Brace, 2018](#)). Finally, students were asked to indicate how intensive this contact had been over the past 6 months. They could choose between the following answer categories: (1) less than once a month, (2) once a month, (3) several times a month, (4) once a week, (5) several times a week, (6) once a day, (7) several times a day ([Reagans, 2011](#)). We used the cut-off point (3) ‘several times a month’ for constructing binary social networks for each of the three years.

3.5. Selection system orientations

To test hypotheses 1 and 2, we measured two types of selection system orientation for each individual student. First, *expert orientation* was measured using the following item with a 1–7 Likert scale: ‘I find it important that the film productions in which I am (or will be) involved will receive positive reviews from professional critics.’ Second, *market orientation* was measured using the following item with a 1–7 Likert scale: ‘I find it important that the film productions in which I am (or will be) involved will be commercially successful.’ In this study we used single-item scales for two reasons. First, SIENA requires a high response rate and single-item scales are more efficient and help to avoid respondent fatigue ([Wanous et al., 1997](#); [Nagy, 2002](#)). Second, single-item scales are appropriate for measuring simple constructs ([Sarstedt and Wilczynski, 2009](#)) or concrete attributes that can be “easily and uniformly imagined” by respondents ([Bergkvist and Rossiter, 2007](#)), which is the case for both expert and market selection orientation. Students, even in their first year, understand that critics’ reviews represent the judgment of experts, while box office performance represent the judgment of the (mass) market.

3.6. Control variables

3.6.1. Sex

We controlled for sex because it is a well-established driver of homophily selection (e.g. [Ibarra, 1992](#)). This is a dummy variable with male coded as 1. For five respondents these data were missing. Three of them could be coded male or female based on their first names, because they are gender specific. We double-checked the sex of these three students, as well as the two remaining respondents with a less gender specific name, by performing an Internet search using their first and last name. For those cases, we used gender stereotypes to infer their sex from their Facebook profile picture.

3.6.2. Age

Homophily selection based on age is quite common (e.g. [Reagans, 2011](#)) and therefore needs to be controlled for. We used the age of the students when they were in their first year of school. For four students this data was missing. These were coded as the average age in the sample, which is 23.

3.6.3. Education

This is the level of education of the students before they entered the NFA. There are three different levels: intermediate vocational, higher vocational, and pre-university education.³ For four students this data was missing. These were coded as the median in the sample, which is higher vocational education.

3.6.4. Experience

This is a dummy variable for whether or not students had paid work experience before they entered the NFA in the specialization in which they will graduate (see below). For four students this data was missing. These four were coded as having no experience.

3.6.5. Specialization

This is a dyadic dummy variable that controls for the likelihood of students in the same specialization having a stronger tendency to establish social network ties. The NFA has 10 specializations. We narrowed these specializations down to 8 by merging directing fiction and directing documentary films into a category labelled directing, and by merging creative production and production into a category labelled production. The 8 specializations in our study are: cinematography, directing, editing, production, production design, scriptwriting, sound design, and interactive media/visual effects (IMVFX).

4. Results

In this study we used the software package RSIENA version 1.1-232 and the RSIENA manual (Ripley et al., 2018). SIENA requires a minimum amount of change in the network ties between waves. The amount of change in network ties between waves was measured with the Jaccard Index. As a rule of thumb, a minimum of 0.3 is used because values below 0.2 may raise doubt with respect to the assumption that the change process in the network is gradual (Snijders et al., 2010). In our data, the Jaccard Index between each subsequent network wave was respectively 0.342 and 0.407. This means that it meets the minimum threshold of 0.3.

Table 1 summarizes key descriptive statistics of the network data. First, the *density* of the social network decreases over time. Density is measured by dividing the number of actual ties by the total number of ordered pairs or potential ties at the level of the network. In addition, the *total number of ties* decreases over time from 506 (wave 1), to 438 (wave 2), to 355 (wave 3). This can be interpreted as students becoming more exclusive in their social network ties. Second, the mean values linked to the changing actor attributes show that in each wave *expert orientation* is higher than *market orientation*. However, at the same time *market orientation* tends to increase over time, while *expert orientation* decreases over time. This suggests that film school students become relatively more market oriented, the closer they get to their graduation and professional entry into the film industry. Table 2 displays the results of a mean split of selection orientations. It shows that most students in each wave fall in the quadrant *expert orientation high – market orientation high*, while the largest and only positive change between wave 1 and 3 is in the quadrant *expert orientation low – market orientation high* (from 20.59% to 27.69%).

Table 3 summarizes the means, standard deviations and correlations.⁴ There are some interesting correlations worth highlighting. First, there is a positive correlation between *expert orientation* and *market orientation*. This indicates that students have an overall tendency to take into account any type of evaluations by external audiences. Second, there is a positive correlation between *age* and the strength of both types of selection system orientations. This suggests that older students are more focused on future audience evaluations. Third, there is a positive correlation between *sex* and *market orientation*, with males having a stronger market orientation than females. Fourth, there is a positive correlation between students specializing in *directing* and *expert orientation*, while there is a positive correlation between students specializing in *production* and *market orientation*. This could partially be explained by the division of roles in the film industry with producers being predominantly responsible for the business, and directors for the artistic, aspects of a film (Svejenova et al., 2010).

We tested two models with SIENA (see Table 4). Model 1 reports the results of the selection and influence effects for *expert orientation* and model 2 for *market orientation*. We included effects to model the evolution of both the network and the behavior of individual actors, which allows us to isolate homophily selection from influence effects. As SIENA is based on a stochastic simulation approach, little changes can have large effects on the estimations. We therefore ran the same models five times to rule out chance findings. The results of models 1 and 2 can be found in Table 4. Below we provide an interpretation of the results. In Appendix 2 we provide a short overview of the effects and how to interpret them.

4.1. Network as outcome

The results in models 1 and 2 are similar with respect to the network as outcome (see Table 4 upper half). The only exception is where it concerns alter, ego and similarity effects related to the changing attribute selection system orientation (*expert orientation* in model 1 and *market orientation* in model 2). Insofar as the results are similar, only those for model 1 are reported below. It should be noted that there can be small differences between the coefficients of models 1 and 2 because, as mentioned earlier, model estimation is based on simulations.

The *rate parameter* with respect to the network as the dependent variable indicates the frequency with which actors have the

³ In the Netherlands this is: MBO, HBO, and VWO/Gymnasium.

⁴ We use the average means of expert and market selection orientation over the three years at school.

Table 1
Descriptive statistics SIENA.

	Wave 1	Wave 2	Wave 3
Network characteristics:			
Density	0.103	0.088	0.076
Total number of ties	506	438	355
Average number of outgoing ties	7.446	6.348	5.462
Minimum number of outgoing ties	0	0	0
Maximum number of outgoing ties	10	10	10
Selection system orientation averages:			
Expert orientation (1–7)	5.603	5.406	5.323
Market orientation (1–7)	4.588	4.551	4.646

Table 2
Mean split selection system orientations.

Wave 1	Expert orientation:	
Market orientation:	Low	High
Low	26.47%	19.12%
High	20.59%	33.82%
Wave 2	Expert orientation:	
Market orientation:	Low	High
Low	26.09%	14.49%
High	24.64%	34.78%
Wave 3	Expert orientation:	
Market orientation:	Low	High
Low	24.62%	16.92%
High	27.69%	30.77%

opportunity to change their ties to others. The negative *outdegree* parameter shows that actors tend not to form ties with others, which is an indication that network densities are low. Disregarding the other parameters, the outdegree of -2.522 in model 1 can be interpreted as follows: when there is an opportunity for change, the odds of a tie being present versus absent is $\exp(-2.522) \approx 0.08$ (Steglich et al., 2010).

The structural network effects are modeled using reciprocity, transitive triplets, and 3 cycles. First, the *reciprocity* parameter captures the tendency to have reciprocated ties or, in other words, the degree to which ties are symmetric. Reciprocity is very common in most social networks. The reciprocity effect is significant in each of our models (e.g. Model 1: 1.769, $p < 0.001$). Second, the *transitive triplets* effect captures network closure, local network clustering, or the tendency of students to become a friend of a friend's friend. The transitive triplets effect is significant in each of the models (e.g. Model 1: 0.401, $p < 0.001$). The *3-cycle effect* is a reflection of generalized reciprocity, the opposite of hierarchy, or the tendency of a friend's friend to choose the focal student as a friend. This effect is significant and negative in our models, which indicates that network closure is not egalitarian (e.g. Model 1: -0.425 , $p < 0.001$). A positive transitive triplets effect in combination with a negative 3-cycle effect can be interpreted as a tendency towards local hierarchy.

We included two individual actor level control variables in our models: the constant dyadic covariate *same specialization* and the constant actor attribute *same sex*. First, the constant dyadic covariate *same specialization* captures the tendency of students of establishing ties with those in the same specialization at the NFA. This effect is positive and significant (e.g. Model 1: 0.828, $p < 0.001$). This means, for example, that students specializing in scriptwriting are more likely to establish ties with students that are also specializing in scriptwriting. Second, we included sex effects (ego, alter, and same). Only the *same sex* effect was significant. The positive and significant effect (e.g. Model 1: 0.264, $p < 0.001$) indicates that social network ties are more likely between students of the same sex.

With respect to the changing actor attribute of selection system orientation in the network as outcome part of the model we tested ego, alter and similarity effects. We tested these in separate models: *expert orientation* (model 1) and *market orientation* (model 2). First, ego effects assess the degree to which an actor attribute affects the number of outgoing friendship ties. A positive parameter for this effect should be interpreted as the tendency of actors with higher values on that covariate to nominate more friends. The ego effect is positive and significant for both *expert orientation* (Model 1: 0.105, $p < 0.05$) and *market orientation* (Model 2: 0.138

Table 3
Descriptive statistics including means, standard deviations, and correlations.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Expert orientation	5.40	0.84	1																	
2 Market orientation	4.54	1.24	0.43***	1																
3 Education	2.14	0.69	0.08	-0.18	1															
4 Age	22.75	2.80	0.21 ⁺	0.26*	-0.14	1														
5 Sex	0.56	0.50	0.04	0.19 ⁺	-0.19	0.17	1													
6 Experience	0.49	0.50	0.08	0.12	-0.24 ⁺	0.04	0.26 ⁺	1												
7 Cinematography	0.11	0.31	0.00	0.04	-0.07	0.19	0.22 ⁺	0.27 ⁺	1											
8 Directing	0.15	0.36	0.28 ⁺	0.11	-0.03	0.19	-0.17	-0.34**	-0.15	1										
9 Editing	0.08	0.28	-0.24 ⁺	-0.29 ⁺	0.01	-0.08	0.06	0.10	-0.10	-0.13	1									
10 IMVFX	0.15	0.36	0.23 ⁺	0.25 ⁺	-0.19 ⁺	-0.21 ⁺	0.22 ⁺	0.27 ⁺	-0.15	-0.18	-0.13	1								
11 Production	0.20	0.41	-0.02	0.20 ⁺	0.05	0.02	-0.17	0.18	-0.18	-0.21 ⁺	-0.15	-0.21 ⁺	1							
12 Production design	0.08	0.28	-0.31**	-0.21 ⁺	0.01	-0.12	-0.34**	-0.10	-0.10	-0.13	-0.09	-0.13	-0.15	1						
13 Scriptwriting	0.11	0.31	0.06	-0.05	0.25*	0.03	-0.04	-0.35**	-0.12	-0.15	-0.10	-0.15	-0.18	-0.10	1					
14 Sound design	0.11	0.31	-0.13	-0.22 ⁺	-0.01	-0.05	0.22 ⁺	-0.08	-0.12	-0.15	-0.10	-0.15	-0.18	-0.10	-0.12	1				
15 Expert performance	0.11	0.31	-0.03	-0.14	0.12	-0.17	-0.04	0.09	0.02	-0.03	0.05	-0.15	0.04	-0.10	-0.12	0.30 ⁺	1			
16 Market performance	0.48	0.50	0.11	0.25*	-0.15	-0.17	0.30 ⁺	-0.01	0.01	-0.17	-0.09	0.36**	-0.08	-0.09	0.01	0.01	-0.34**	1		
17 Centrality	4.86	2.43	-0.01	-0.08	0.02	-0.27 ⁺	0.00	-0.14	-0.09	-0.04	-0.11	0.15	-0.08	-0.21	0.16	0.18	0.07	0.22	1	
18 Documentary	24.04	33.18	-0.11	-0.10	0.10	0.08	-0.17	-0.08	0.01	0.16	0.17	-0.28*	0.07	-0.22	-0.09	0.18	0.38**	-0.44***	-0.13	1

N = 73.

⁺ p < 0.1.

* p < 0.05.

** p < 0.01.

*** p < 0.001.

Table 4
Results SIENA analysis.

Variable	Model 1 - expert			Model 2 - market		
	Coeff	SE	Sig.	Coeff	SE	Sig.
Network as outcome:						
Rate parameter t1–t2	18.156	1.829	***	17.687	1.762	***
Rate parameter t2–t3	11.378	1.010	***	11.012	0.966	***
Outdegree	–2.522	0.083	***	–2.564	0.087	***
Structural effects:						
Reciprocity	1.769	0.144	***	1.788	0.141	***
Transitive triplets	0.401	0.032	***	0.399	0.032	***
3-cycles	–0.425	0.072	***	–0.415	0.072	***
Dyadic covariates:						
Same specialization	0.828	0.070	***	0.835	0.070	***
Constant attributes:						
Sex (male = 1)						
Alter	0.036	0.074		0.080	0.076	
Ego	0.087	0.073		0.024	0.075	
Same	0.264	0.071	***	0.276	0.072	***
Changing attributes:						
Selection system orientation						
Alter (H1)	–0.083	0.065		–0.097	0.046	*
Ego	0.105	0.052	*	0.138	0.039	***
Similarity	0.084	0.467		0.444	0.391	
Behavior as outcome:						
Rate parameter t1–t2	2.554	0.701	***	4.199	1.065	***
Rate parameter t2–t3	3.684	1.168	**	2.393	0.567	***
Linear shape	0.078	0.083		0.101	0.086	
Quadratic shape	–0.192	0.069	**	–0.214	0.072	**
Average alter (H2)	0.496	0.313		0.675	0.333	*
Sex	0.065	0.159		–0.050	0.168	
Expert orientation				–0.011	0.093	
Market orientation	0.058	0.059				

Note: coefficients, standard errors, and significance levels are reported.

+ $p < 0.1$.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

$p < 0.001$) orientation. This means that, all else being equal, for every unit increase in selection system orientation, the odds of a student nominating a new tie is $\exp(0.105) = 1.11$ for *expert orientation*, and $\exp(0.138) = 1.15$ for *market orientation* (Ripley et al., 2018).

Second, alter effects assess the degree to which an actor attribute affects the number of incoming ties or popularity of an actor. A positive parameter for this effect should be interpreted as actors with higher values on that covariate being mentioned by others as a tie more often. The selection system orientation *alter* effect is significant and negative with respect to *market orientation* (Model 2: -0.097 , $p < 0.05$). This means that students with a higher market-orientation are less often mentioned as social network ties by other students. Since this effect is only significant with respect to market orientation, this supports *hypothesis 1: There is a negative relationship between the strength of an art school student's market selection system orientation and their popularity at school, while the strength of an art school student's expert selection system orientation does not affect their popularity*. This means that, all else being equal, for every unit increase in *market selection* system orientation, the odds of a student being mentioned as a new tie is $\exp(-0.097) = 0.907$ (Ripley et al., 2018).

Third, similarity effects assess the degree to which actors prefer ties to others that have similar values with respect to a particular individual actor attribute. Alternatively, for categorical effects one can estimate same – instead of similarity – effects to assess if ties are formed between actors that have exactly the same value with respect to a particular individual actor attribute. The similarity or same effect in the network as outcome part of the model allows us to test homophily selection effects. A positive parameter can be interpreted as a tendency of students to form social network ties with fellow students that have a similar score for selection system orientations. However, we find no significant effect for homophily selection for either market orientation or expert orientation.

We also tested a number of other control variables. First, we included *experience* effects (ego, alter, and similarity). This indicated whether or not students had paid work experience in their specialization before commencing their studies at the NFA. Second, we included *age* effects (ego, alter, and similarity). Finally, we included *education* effects (ego, alter, and same). This was a categorical

variable indicating the three main levels of high school degrees of NFA students. Since none of these control variables were significant, we dropped them from the models to retain statistical power.

4.2. Behavior as outcome

The bottom half of Table 4 reports the results for the behavior as outcome models. The *rate parameter* indicates whether students increase, decrease or do not change their behavioral scores with respect to selection system orientation. Again, we distinguish between *expert orientation* (model 1) and *market orientation* (model 2). We also included the linear shape, quadratic shape, and average alter effect. The *linear shape* effect is not significant in any of the models. The *quadratic shape* effect, on the other hand, is negative and significant in both models (Model 1: $-0.192, p < 0.01$; Model 2: $-0.214, p < 0.01$). This indicates that students have a preference for mid-range, instead of extreme, values for each of the two selection system orientations.

The *average alter* effect in the behavior as outcome part of the model allows one to test social influence effects. The average alter effect is defined by the product of a focal actor's behavior and the average behavior of its friends. In our model, the average alter effect is positive and significant only for *market orientation* (Model 2: $0.675, p < 0.05$). This means that when we compare two students who are the same in all respects, except for the social network ties of the first student scoring on average 1 point higher on the selection system orientation item, the odds that the first student increases his or her score (compared to not changing it) is $\exp(0.675) = 1.96$ higher (Ripley et al., 2018). This means that we find full support for hypothesis 2: *An art school student's market selection system orientation changes as a result of social influence effects through social network ties at school, while an art school student's expert selection system orientation is not subject to such social influence effects.* We also tested a number of other control variables. First, just as we did in the network as outcome model we controlled for age, experience and education effects. Since none of these were significant we dropped them from the models. Second, we tested the indegree and outdegree effects on changes in selection system orientation in each of the models. These non-significant findings mean that neither popularity nor activity affect changes in selection system orientations.

4.3. Robustness tests

We performed a number of robustness tests. First, we estimated models with two different cut-off points for constructing the social networks: 'once a month' and 'once a week', to compare the results with our reported cut-off point of 'several times a month'. In the model with cut-off point 'once a month', the alter effect of market orientation ($-0.066, p < 0.1$) and the average alter effect of market orientation ($0.539, p < 0.1$) became less significant (see Appendix 3). In the model with cut-off point 'once a week', the alter effect of market orientation ($-0.046, t = 0.958$) and the average alter effect of market orientation ($0.573, t = 1.640$) became insignificant (see Appendix 4). This is likely caused by social networks with higher cut-off points becoming more (or too) sparse in terms of ties, which negatively affects the probability of finding significant effects.

Second, we performed a robustness test where we kept the school dropouts in the sample for the years they were at school instead of completely dropping them from the sample. We identified students as dropouts if they did not fill in the survey for at least 2 waves in a row and when they were not mentioned as ties by any of the other students in that particular wave or year. In the adjacency matrix we coded both the rows and columns of these students as structural zeros, which is the proper procedure in SIENA (Ripley et al., 2018). In our sample, 1 student dropped out in wave 2, while 7 dropped out in wave 3. Although the coefficients and levels of significance for the alter effect of market orientation ($-0.091, p < 0.05$) and the average alter effect of market orientation ($0.582, p < 0.05$) are slightly different (Appendix 5), these findings are in line with those of our main model and support our hypotheses.

4.4. Post hoc analyses

Students who are exposed to entrepreneurial peers at school are more likely to develop entrepreneurial intentions themselves. In turn, these entrepreneurial intentions are a strong predictor of them ultimately becoming an entrepreneur (Falck et al., 2012). In the context of our study, this begs the question whether selection system orientations of students while still at school are correlated with performance once they become professionally active. Since students with a particular selection system orientation – either expert or market – are likely to be involved in film productions that they expect will be appreciated by that particular audience – either expert critics or (mass) market consumers – we expect to find a positive relationship between having an *expert orientation* and receiving favorable critics' reviews, and between having a *market orientation* and mass market performance (Bhansing et al., 2012).

We therefore performed a logistic regression (see Appendix 6) to study the relation between expert and market orientation of students while they were at school, and eventual expert and market performance. *Performance* was measured by looking at how the graduation films in which particular students were involved are evaluated by an expert versus a market audience. To this end, in January and February 2016 we collected performance data of all the graduation film projects in which the students, who graduated in June 2015, were involved.⁵ First, to measure expert performance we used a dummy variable to indicate whether or not a particular student was directly involved in a graduation film that won the Dutch Film Critics⁶ prize for best student film. Second, as a proxy for

⁵ After inspection of the credits we noticed that 5 students were not credited for any film. We assumed that these students dropped out of the program after the third stage of our survey data collection effort, and therefore deleted these cases from the database.

⁶ Kring van Nederlandse Filmjournalisten.

market performance we used a dummy variable that indicates whether or not a particular student is credited in a graduation film that received more than the average number of Facebook 'likes' on the Facebook page for that specific film.

To construct the independent variables for *expert orientation* and *market orientation*, we took the average score over the three years at school on the 1–7 Likert scale using the same data we used for the social network analysis. In addition, we used the following control variables: sex, age, education, experience, specialization at the NFA, network degree centrality (Freeman, 1979) in the final year, and involvement in documentary films. We included a control for involvement in documentary films because they tend to be less popular than fiction films. Finally, because of the small data set ($n = 68$) we used a stepwise approach dropping control variables – centrality, education, and experience – that were not significant in both the expert and market performance model.

In Model 1 we see that *expert orientation* and *market orientation* are not significant with respect to expert performance. As expected, in Model 2 we see that *market orientation* is indeed positive and significant ($\beta = 0.616$, $p < 0.05$) in relation to market performance. It is interesting to note that, even though they are not significant, the coefficients of *market orientation* in model 1, and *expert orientation* in model 2, are both negative. This might indicate that selection system orientations are negatively correlated with performance evaluations when they are not aligned with their respective audiences (Ertug et al., 2016).

5. Discussion and conclusion

In this paper, we studied the co-evolution of social networks and selection system orientations of students at school. We distinguished between two selection system orientations: market orientation, or aspiring to success among (mass) market consumers; and expert orientation, or aspiring to success among knowledgeable experts (Bhansing et al., 2012, 2016; Wijnberg and Gemser, 2000). We empirically tested the extent to which these two selection system orientations of a cohort of students at a prestigious film school co-evolved with their social network ties at school. First, we found a negative relationship between the strength of a student's market (but not expert) orientation and their popularity among peers at school. Second, we found a social influence effect with respect to market (but not expert) orientation. Finally, in a posthoc test, we found a positive relationship between market orientation of students at school and their performance in terms of positive evaluations by market selectors.

We developed our hypotheses in the context of art schools. This is a highly appropriate context because artists are confronted with the competing institutional logics of art versus market (Eikhoff and Haunschild, 2007; Glynn and Lounsbury, 2005; Jones et al., 2016), and their choices between these logics show up in their selection system orientations. We expected students with relatively strong market (not expert) selection system orientations to be less popular among their peers at school. In addition, we expected students to adjust their market (not expert) selection system orientations to those with whom they have social network ties. Finally, it is noteworthy that the descriptive statistics show that the students' average market orientation increases, while their average expert orientation decreases, over the years at school. A potential explanation for this finding is that an expert orientation might play a relatively strong role in the self-selection of students to go to art school in the first place. Yet over time, there will be a growing awareness by students of having to balance making art with making a living.

Our paper has three main contributions. First, our paper responds to calls for more fine-grained micro-level studies about the co-evolution of social networks and entrepreneurship (Hoang and Antoncic, 2003; Jack, 2010; Slotte-Kock and Coviello, 2010) using a constitutive approach where actors and their environment are co-created in a dynamic process (Garud et al., 2014). We specifically build on Simsek et al. (2003), who suggest that entrepreneurial beliefs of actors drive tie formation and structural embeddedness and, in turn, structural embeddedness can lead to cognitive embeddedness where actors become similar. But while Simsek et al. (2003) is a conceptual paper, we found empirical evidence for similar dynamics of embeddedness in relation to inter-personal networks and future entrepreneurs being influenced with respect to developing particular selection system orientations. While Kacperczyk (2013) argues that entrepreneurial aspirations are influenced by the entrepreneurial experience of students that attended the same school, she used an indirect research design by studying shared affiliations with educational institutions instead of actual social network ties. We build on this work by using a longitudinal social network research design and studying actual social influence by observing direct social network ties instead of shared affiliations, which enabled us to effectively deal with potentially spurious relations from which studies on peer influence effects on entrepreneurial aspirations often suffer (Nanda and Sorensen, 2010).

Second, we contribute to research on the context-dependence of entrepreneurship (Zahra and Wright, 2011; Autio et al., 2014; Garud et al., 2014) by studying these processes in the specific domain of cultural industries. Our study touches upon each of the four interrelated dimensions of context, namely spatial (the art school), social (the network ties among students), temporal (during their education at school), as well as institutional (the cultural industries), which is empirically challenging (Zahra and Wright, 2011). Moreover, while Garud et al. (2014) distinguish three levels of context: national, regional, and industry, in our study we focus on (vocational) schools that can be considered as antechambers of a particular industry in which students will become entrepreneurially active. As shown in earlier studies on the cultural industries, the competing logics of market and art are not just different but also to an important extent antagonistic to each other, and this antagonism has a large performative component (Gehman and Soubière, 2017), in the sense that actors position themselves by showing or even explicitly expressing their negative attitude towards the other side, which can further exacerbate the tension between those who adopt the one and those who adopt the other. This antagonism starts to be acted out in school. Moreover, our study shows that this is far from a purely endogenous process at the micro institutional level of the school. Instead, students' entrepreneurial aspirations, as well as their social networks at school, are affected by exogenous pressures originating from the meso institutional level (Jennings et al., 2013; Su et al., 2017), in the form of competing logics of art and the market (Eikhoff and Haunschild, 2007; Glynn and Lounsbury, 2005; Jones et al., 2016), and corresponding expert and market selectors that govern industry level competitive outcomes (Wijnberg and Gemser, 2000).

Third, instead of studying entrepreneurial entry decisions as such (Carroll and Mosakowski, 1987; Nanda and Sorensen, 2010;

Laspita et al., 2012), we focus on the adoption of particular institutional logics (Thornton et al., 2012) by future entrepreneurs, as evidenced by their corresponding selection system orientations (Bhansing et al., 2012). Using selection system theory to study the effects of network embeddedness on the choices of future entrepreneurs, allows for finding more complete relations between entrepreneurial attitudes, network relations and competitive behavior. For example, while Azoulay et al. (2017) found influence effects with respect to having a commercial science orientation, they did not contrast this with other types of orientations. Studying selection system orientations in combination with network analysis offers a quantitative perspective on the dynamics of institutional logics at the micro-level of individuals (Powell and Colyvas, 2008) but also at the macro-level of the network or field. The tensions between the Bourdieuan poles of autonomy and heteronomy can not only be conceptualized and operationalized in a coherent and more detailed manner; the bidirectional relations between the structure of relations and the individual attitudes can be studied directly and dynamically, as has been done in this paper with regard to the particular issue of the entrepreneurial attitudes of art students involved in changing network relations.

Our study also has practical implications. First, government support for the arts in (western) countries has been declining. As a consequence, artists need to have, or develop, a stronger entrepreneurial attitude. However, students with a market orientation appear to be less popular at school. Art schools could therefore try to fight the stigma associated with students aspiring to market success. Especially considering that social networks formed at school can affect later career success by acting as informal communication channels that provide information about potential new job opportunities (Jones, 1996). Second, currently many art schools want to improve the employability and commercial success of their students, and to do so they can take into account the market orientation of prospective students as a criterion in their admission and selection process. Besides directly affecting the average market orientation of their student population, this could potentially also further increase the market orientation of students through social influence effects. The results also have wider implications for policies facilitating entrepreneurship in fields outside the arts. In setting up accelerators and incubators the network relations between the entrepreneurs could be taken more into account, not just as conduits for knowledge and referrals, but also because of their impact on modifying the institutional logics of the involved actors. For instance, by having entrepreneurs coming from an academic/scientific environment that are likely to have developed stronger expert or peer orientations linked with entrepreneurs with a stronger market selection orientation one can expect influence effects that will benefit the market performance of the academic entrepreneurs. Finally, within firms our findings could have implications for R&D management because adding members to R&D teams with a higher market orientation could be a counterweight for researchers that tend to overemphasize (technological) novelty over consumer preferences (Situmeang et al., 2017).

This study has a number of limitations and suggestions for future research. First, our study was performed in a specific context; an art school, and more specifically, a film school. Although a very suitable setting for the purpose of our study, it would be valuable to confirm these findings in other cultural industries that are either strongly highbrow or lowbrow and therefore make frame switching a more difficult proposition. While the products of the film industry range from relatively lowbrow to highbrow, other cultural industries, such as painting, tend to be more exclusively attuned to highbrow audiences. Highbrow painters who do applied work are in danger of losing their highbrow legitimacy, this is much less the case with film makers. In addition, it might be that selection system orientations are associated with specific roles in the film industry. For example, directors might have a relatively stronger expert orientation, while producers have a relatively stronger market orientation. Finally, it would also be interesting to study selection system orientations in schools outside the cultural industries context, where there is not a negative bias with respect to having a market orientation. One could, for example, think of entrepreneurship programs at business schools.

The second limitation is related to how we measured selection system orientation. Besides the fact that we used a single-item scale, we looked only at two of the three selection system orientations as distinguished in Bhansing et al. (2012, 2016). We did not include peer selection orientation because in the context of our study, market and expert selection, as core constituents of respectively market and artistic logics (Eikhof and Haunschild, 2007; Glynn and Lounsbury, 2005; Jones et al., 2016), can be most clearly identified. Although in the film industry as a whole, peer selection does play a role (Cattani et al., 2014), and certainly on the artistic side of the art versus market logic tension, prior studies (Gemser et al., 2008; Ebbers and Wijnberg, 2012) show that the performance effects connected to measures of peer selection are consistently weaker or non-significant. Moreover, a peer selection orientation would be problematic to interpret in the specific setting we studied. In selection system theory, peers are other actors who fulfill the same economic role as the focal actors in the same competitive arena. Indicators of peer evaluation in the film industry would include awards, such as the Oscar, that are based on the votes of other filmmakers (Gemser et al., 2008). Since students are not yet peers of active filmmakers, if they were asked about the importance they attach to evaluations by their peers, they could include other students at the same school among their relevant 'peers'. This would not only make the notion of peer selection orientation ambiguous, but also create endogeneities in the analysis of the relation between the strength of peer selection orientation and the formation of ties with peers at school. To transcend this limitation, other settings and contexts should be studied in which the distinction between peers who are active economic actors in the relevant domain and the members of the network of future entrepreneurs is less equivocal.

Third, and finally, it would be interesting to study how social network ties with classmates and selection system orientations (co-) evolve after art school students graduate from school. Since professional ties between artists can sometimes be traced back to school (Becker, 1982; p. 161), it is interesting to study the degree to which social network ties dating back to school develop into professional ties when students shared similar selection system orientations, or adhered to the same institutional logic, during their time at school. Prior research in the broader context of entrepreneurship shows that even after having been dormant for quite a long time, strong ties, including those dating back to school, can be reactivated when a professional need arises (Jack, 2005). In the specific context of cultural industries, this is reflected in the concept of latent organizations where ties between freelance professionals are reactivated for new projects after having been dormant (Ebbers and Wijnberg, 2009; Starkey et al., 2000). Future research could

investigate whether social network ties among students with similar selection system orientations are either more stable after becoming entrepreneurially active, or more likely to resurface in the form of multiplex ties where friends from school team up for a professional project.

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Appendix 1. Questionnaire

What is your first name?

What is your last name?

What is your sex?

- Male
 Female

In what year were you born?

Year:

Which specialization of the NFTA are you in?

- Cinematography
 IMVFX
 Editing
 Production
 Production design
 Directing
 Scriptwriting
 Sound design

With which students of your own class do you have the most contact outside of the formal meetings of the program (such as lectures and projects)?

Enter up to 10 names of fellow students with whom you have the most contact.

Also indicate how intensive this contact is (on average over the past 6 months).

Note: It concerns contact outside the formal meetings of the NFTA.

First name:

Last name:

- Less than once a month
 Once a month
 Several times per month
 Once a week
 Several times a week
 Once a day
 Several times a day

Orientations:

To what extent do the following statements apply to you (on a scale of 1 to 7), ranging from (1) ‘completely disagree’ to (7) ‘completely agree’.

I find it important that the film productions in which I am (or will be) involved will receive positive reviews from professional critics.

Completely disagree			Completely agree			
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I find it important that the film productions in which I am (or will be) involved will be commercially successful.

Completely disagree			Completely agree			
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Education and experience:

Which type of high school did you attend?

- MAVO/VMBO
- HAVO
- VWO/Atheneum/Gymnasium
- Other, namely:

In which of the following departments did you have paid work experience before you were hired by the NFTA?

- Cinematography
- IMVFX
- Editing
- Production
- Production design
- Directing
- Scriptwriting
- Sound design

Thank you for your cooperation!

Appendix 2. Overview of most important effects in the model, including network statistics and interpretation

Parameter	Network statistic	Interpretation
Outdegree	$\sum_j x_{ij}$	$x_{ij} = 1$ indicates presence of a tie from i to j , while $x_{ij} = 0$ indicates absence of this tie: General tendency to have a friend.
Reciprocity	$\sum_j x_{ij}x_{ji}$	The number of reciprocated ties: The tendency to have reciprocated friendships.
Transitive triplets	$\sum_j x_{ij}x_{jh}x_{hi}$	The number of transitive patterns in i 's relations (ordered pairs of actors (j, h) to both of whom i is tied, while also j is tied to h): The tendency of friends becoming friends.
3-cycles	$\sum_j x_{ij}x_{jh}x_{hi}$	Generalized reciprocity: Tendency for a friend's friend to choose the student as a friend.
Ego	$v_i x_{i+}$	Covariate-ego or covariate-related activity: The effect of a student's own [variable name] on the selection of friends (sociability).
Alter	$\sum_j x_{ij}v_j$	Covariate-alter or covariate-related popularity: The effect of potential friends' [variable name] on the selection of friends (popularity).
Same	$\sum_j x_{ij}I\{v_i = v_j\}$	The number of ties of i to all other actors j who have exactly the same value on the covariate: The effect of the student and the potential friend having an identical value on [variable name].
Similarity	$\sum_j x_{ij} (sim_{ij}^v - \hat{sim}^v)$	The sum of centered similarity scores sim_{ij}^v between i and the other actors j to whom he is tied: The effect of the student and the potential friend having a similar value on [variable name].
Average alter	$z_i(\sum_j x_{ij}z_j)/(\sum_j x_{ij})$	i 's behavior multiplied by the average behavior of his alters: The effect of students' whose friends have a higher average value on [variable name], themselves having a stronger tendency towards high values on [variable name].

Appendix 3. Results SIENA analysis cut-off point “once a month”

Variable	Model 1 - expert			Model 2 - market		
	Coeff	SE	Sig.	Coeff	SE	Sig.
Network as outcome:						
Rate parameter t1–t2	17.194	1.606	***	17.135	1.689	***
Rate parameter t2–t3	11.122	0.953	***	10.906	1.026	***
Outdegree	–2.449	0.075	***	–2.4808	0.078	***

Structural effects:						
Reciprocity	1.727	0.135	***	1.767	0.135	***
Transitive triplets	0.367	0.030	***	0.364	0.033	***
3-cycles	−0.365	0.069	***	−0.353	0.076	***
Dyadic covariates:						
Same specialization	0.843	0.070	***	0.843	0.071	***
Constant attributes:						
Sex (male = 1)						
Alter	0.034	0.070		0.068	0.075	
Ego	0.056	0.068		0.001	0.076	
Same	0.267	0.070	***	0.274	0.069	***
Changing attributes:						
Selection system orientation						
Alter (H1)	0.034	0.070		−0.066	0.039	+
Ego	0.054	0.053		0.123	0.037	**
Similarity	0.064	0.499		0.079	0.367	
Behavior as outcome:						
Rate parameter t1–t2	2.526	0.660	***	4.337	1.103	***
Rate parameter t2–t3	3.777	1.242	**	2.483	0.635	***
Linear shape	0.060	0.082		0.082	0.075	
Quadratic shape	−0.184	0.064	**	−0.176	0.054	**
Average alter (H2)	0.491	0.314		0.539	0.279	+
Sex	0.079	0.159		−0.044	0.162	
Expert orientation				−0.006	0.085	
Market orientation	0.058	0.059				

Note: coefficients, standard errors, and significance levels are reported.

* $p < 0.05$.

+ $p < 0.1$.

** $p < 0.01$.

*** $p < 0.001$.

Appendix 4. Results SIENA analysis cut-off point “once a week”

Variable	Model 1 - expert			Model 2 - market		
	Coeff	SE	Sig.	Coeff	SE	Sig.
Network as outcome:						
Rate parameter t1–t2	18.015	2.180	***	17.495	1.824	***
Rate parameter t2–t3	9.390	0.922	***	9.138	0.934	***
Outdegree	−2.558	0.089	***	−2.598	0.087	***
Structural effects:						
Reciprocity	1.809	0.157	***	1.841	0.171	***
Transitive triplets	0.459	0.038	***	0.456	0.041	***
3-cycles	−0.525	0.086	***	−0.523	0.091	***
Dyadic covariates:						
Same specialization	0.837	0.078	***	0.847	0.077	***
Constant attributes:						
Sex (male = 1)						
Alter	0.084	0.082		0.098	0.091	
Ego	0.175	0.084		0.109	0.085	
Same	0.231	0.077	**	0.247	0.082	**
Changing attributes:						
Selection system orientation						
Alter (H1)	−0.028	0.069		−0.046	0.048	
Ego	0.061	0.062		0.146	0.046	**
Similarity	−0.200	0.592		0.156	0.442	
Behavior as outcome:						
Rate parameter t1–t2	2.517	0.704	***	4.182	1.254	***
Rate parameter t2–t3	3.734	1.173	**	2.423	0.633	***
Linear shape	0.062	0.083		0.079	0.079	
Quadratic shape	−0.181	0.066	**	−0.193	0.069	**

Average alter (H2)	0.407	0.334	0.573	0.350
Sex	0.084	0.154	−0.056	0.166
Expert orientation			−0.013	0.095
Market orientation	0.056	0.060		

Note: coefficients, standard errors, and significance levels are reported.

+ $p < 0.1$.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Appendix 5. Results SIENA analysis with school dropouts included

Variable	Model 1 - expert			Model 2 - market		
	Coeff	SE	Sig.	Coeff	SE	Sig.
Network as outcome:						
Rate parameter t1–t2	20.912	1.818	***	20.768	1.994	***
Rate parameter t2–t3	12.336	1.238	***	12.142	1.029	***
Outdegree	−2.502	0.075	***	−2.536	0.082	***
Structural effects:						
Reciprocity	1.734	0.134	***	1.743	0.138	***
Transitive triplets	0.385	0.027	***	0.384	0.031	***
3-cycles	−0.410	0.059	***	−0.404	0.067	***
Dyadic covariates:						
Same specialization	0.817	0.066	***	0.822	0.070	***
Constant attributes:						
Sex (male = 1)						
Alter	−0.020	0.067		0.015	0.074	
Ego	0.075	0.065		0.037	0.072	
Same	0.276	0.064	***	0.284	0.067	***
Changing attributes:						
Selection system orientation						
Alter (H1)	−0.065	0.055		−0.091	0.041	*
Ego	0.074	0.049		0.095	0.035	**
Similarity	−0.058	0.500		0.477	0.387	
Behavior as outcome:						
Rate parameter t1–t2	2.841	0.819	***	4.485	1.307	***
Rate parameter t2–t3	3.901	1.286	**	2.449	0.581	***
Linear shape	0.107	0.078		0.078	0.075	
Quadratic shape	−0.187	0.068	**	−0.193	0.059	**
Average alter (H2)	0.615	0.373		0.582	0.284	*
Sex	0.070	0.161		−0.070	0.165	
Expert orientation				0.032	0.086	
Market orientation	0.052	0.058				

Note: coefficients, standard errors, and significance levels are reported.

+ $p < 0.1$.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Appendix 6. Results of logistic regression

Variable	Model 1 - expert performance			Model 2 - market performance		
	Coeff	SE	Sig.	Coeff	SE	Sig.
Control variables:						
Centrality	0.247	0.237		0.094	0.139	
Sex (1 = male)	0.945	1.259		2.104	0.798	**
Education	0.669	0.899		−0.658	0.519	
Age	−0.318	0.218		−0.252	0.136	+
Experience	2.068	1.289		−0.976	0.721	
Documentary	0.055	0.020	**	−0.044	0.015	**

Main variables:				
Expert orientation	0.806	0.869	−0.252	0.407
Market orientation	−0.346	0.428	0.616	0.310 *
AIC	48.897		76.365	
Pseudo R2	0.373		0.380	
Observations	68		68	***

Note: coefficients, standard errors, and significance levels are reported.

+ $p < 0.1$.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

References

- Ahuja, G., Soda, G., Zaheer, A., 2007. Call for papers: the genesis and dynamics of networks. *Organ. Sci.* 18 (6), 1024–1025.
- Amabile, T.M., 1979. Effects of external evaluation on artistic creativity. *J. Pers. Soc. Psychol.* 37 (2), 221.
- Amabile, T.M., 1993. Motivational synergy: toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Hum. Resour. Manag. Rev.* 3 (3), 185–201.
- Amit, R., MacCrimmon, K.R., Zietsma, C., Oesch, J.M., 2001. Does money matter?: wealth attainment as the motive for initiating growth-oriented technology ventures. *J. Bus. Ventur.* 16 (2), 119–143.
- Autio, E., Kenney, M., Mustar, P., Siegel, D., Wright, M., 2014. Entrepreneurial innovation: the importance of context. *Res. Policy* 43, 1097–1108.
- Azoulay, P., Liu, C.C., Stuart, T.E., 2017. Social influence given (partially) deliberate matching: career imprints in the creation of academic entrepreneurs. *Am. J. Sociol.* 122 (4), 1223–1271.
- Becker, H.S., 1982. *Art Worlds*. University of California Press.
- Benjamin, B.A., Podolny, J.M., 1999. Status, quality and social order in the California wine industry. *Adm. Sci. Q.* 44 (3), 563–589.
- Bergkvist, L., Rossiter, J.R., 2007. The predictive validity of multiple-item versus single-item measures of the same constructs. *J. Mark. Res.* 44 (2), 175–184.
- Beverland, M.B., 2005. Crafting brand authenticity: the case of luxury wines. *J. Manag. Stud.* 42 (5), 1003–1029.
- Bhansing, P.V., Leenders, M.A., Wijnberg, N.M., 2012. Performance effects of cognitive heterogeneity in dual leadership structures in the arts: the role of selection system orientations. *Eur. Manag. J.* 30 (6), 523–534.
- Bhansing, P.V., Leenders, M.A., Wijnberg, N.M., 2016. Selection system orientations as an explanation for the differences between dual leaders of the same organization in their perception of organizational performance. *J. Manag. Gov.* 20 (4), 907–933.
- Bingham, J.B., Oldroyd, J.B., Thompson, J.A., Bednar, J.S., Bunderson, J.S., 2013. Status and the true believer: the impact of psychological contracts on social status attributions of friendship and influence. *Organ. Sci.* 25 (1), 73–92.
- Bourdieu, P., 1996. *The Rules of Art: Genesis and Structure of the Literary Field*. Polity Press, Cambridge.
- Boutinot, A., Ansari, S., Belkhouja, M., Mangematin, V., 2015. Reputational spillovers: evidence from French architecture. *Strateg. Organ.* 13 (4), 284–306.
- Brace, I., 2018. *Questionnaire Design: How to Plan, Structure and Write Survey Material for Effective Market Research*. Kogan Page Publishers.
- Bradshaw, A., Holbrook, M.B., 2007. Remembering Chet: theorizing the mythology of the self-destructive bohemian artist as self-producer and self-consumer in the market for romanticism. *Mark. Theory* 7 (2), 115–136.
- Buchmann, C., Dalton, B., 2002. Interpersonal influences and educational aspirations in 12 countries: the importance of institutional context. *Sociol. Educ.* 75 (2), 99–122.
- Carroll, G.R., Mosakowski, E., 1987. The career dynamics of self-employment. *Adm. Sci. Q.* 32 (4), 570–589.
- Cattani, G., Ferriani, S., Allison, P.D., 2014. Insiders, outsiders, and the struggle for consecration in cultural fields: a core-periphery perspective. *Am. Sociol. Rev.* 79 (2), 258–281.
- Caves, R.E., 2000. *Creative Industries: Contracts between Art and Commerce*. Harvard University Press.
- Cohen, J., 1983. Peer influence on college aspirations with initial aspirations controlled. *Am. Sociol. Rev.* 48 (5), 728–734.
- Coleman, J.S., 1988. Social capital in the creation of human capital. *Am. J. Sociol.* 94, S95–S120.
- Crane, D., 1976. Reward systems in art, science, and religion. *Am. Behav. Sci.* 19 (6), 719–734.
- Dacin, M.T., 1997. Isomorphism in context: the power and prescription of institutional norms. *Acad. Manag. J.* 40 (1), 46–81.
- De Klepper, M., Sleebos, E., Van de Bunt, G., Agneessens, F., 2010. Similarity in friendship networks: selection or influence? The effect of constraining contexts and non-visible individual attributes. *Soc. Networks* 32 (1), 82–90.
- DeFillippi, R.J., Arthur, M.B., 1998. Paradox in project-based enterprise: the case of film making. *Calif. Manag. Rev.* 40 (2), 1–15.
- Douglas, E.J., 2013. Reconstructing entrepreneurial intentions to identify predisposition for growth. *J. Bus. Ventur.* 28 (5), 633–651.
- Duncan, O.D., Haller, A.O., Portes, A., 1968. Peer influences on aspirations: a reinterpretation. *Am. J. Sociol.* 74 (2), 119–137.
- Ebbers, J.J., Wijnberg, N.M., 2009. Latent organizations in the film industry: contracts, rewards and resources. *Hum. Relat.* 62 (7), 987–1009.
- Ebbers, J.J., Wijnberg, N.M., 2010. Disentangling the effects of reputation and network position on the evolution of alliance networks. *Strateg. Organ.* 8 (3), 255–275.
- Ebbers, J.J., Wijnberg, N.M., 2012. Nascent ventures competing for start-up capital: matching reputations and investors. *J. Bus. Ventur.* 27 (3), 372–384.
- Eikhof, D.R., Haunschild, A., 2007. For art's sake! Artistic and economic logics in creative production. *J. Organ. Behav.* 28 (5), 523–538.
- Elfring, T., Hulsink, W., 2007. Networking by entrepreneurs: patterns of tie-formation in emerging organizations. *Organ. Stud.* 28 (12), 1849–1872.
- Ertug, G., Yogev, T., Lee, Y.G., Hedström, P., 2016. The art of representation: how audience-specific reputations affect success in the contemporary art field. *Acad. Manag. J.* 59 (1), 113–134.
- Falck, O., Heblich, S., Luedemann, E., 2012. Identity and entrepreneurship: do school peers shape entrepreneurial intentions? *Small Bus. Econ.* 39 (1), 39–59.
- Farmer, S.M., Yao, X., Kung-Mcintyre, K., 2011. The behavioral impact of entrepreneur identity aspiration and prior entrepreneurial experience. *Enterp. Theory Pract.* 35 (2), 245–273.
- Faulkner, R.E., 1983. *Music on Demand: Composers and Careers in the Hollywood Film Industry*. Transaction, London.
- Ferriani, S., Fonti, F., Corrado, R., 2013. The social and economic bases of network multiplexity: exploring the emergence of multiplex ties. *Strateg. Organ.* 11 (1), 7–34.
- Fisher, G., Kuratko, D.F., Bloodgood, J.M., Hornsby, J.S., 2017. Legitimate to whom? The challenge of audience diversity and new venture legitimacy. *J. Bus. Ventur.* 32 (1), 52–71.
- Freeman, L.C., 1979. Centrality in networks: conceptual clarification. *Soc. Networks* 1, 215–239.
- Friedland, R., Alford, R., 1991. Bringing society back in: symbols, practices, and institutional contradictions. In: Powell, W.W., DiMaggio, P.J. (Eds.), *The New Institutionalism in Organizational Analysis*. University of Chicago Press, Chicago, pp. 232–263.
- Garud, R., Gehman, J., Giuliani, A.P., 2014. Contextualizing entrepreneurial innovation: a narrative perspective. *Res. Policy* 43 (7), 1177–1188.
- Gehman, J., Soublière, J.F., 2017. Cultural entrepreneurship: from making culture to cultural making. *Innovation* 19 (1), 61–73.
- Gemser, G., Leenders, M.A., Wijnberg, N.M., 2008. Why some awards are more effective signals of quality than others: a study of movie awards. *J. Manag.* 34 (1), 25–54.
- Getzels, J.W., Csikszentmihalyi, M., 1976. *The Creative Vision: A Longitudinal Study of Problem Finding in Art*. Wiley, New York.
- Giannetti, M., Simonov, A., 2009. Social interactions and entrepreneurial activity. *J. Econ. Manag. Strateg.* 18 (3), 665–709.

- Giddens, A., 1984. *The Constitution of Society: Outline of the Theory of Structuration*. University of California Press.
- Glaser, V.L., Fast, N.J., Harmon, D.J., Green Jr., S.E., 2016. Institutional frame switching: how institutional logics shape individual action. In: Gehman, J., Lounsbury, M., Greenwood, R. (Eds.), *How Institutions Matter!*. Emerald, Bingley, UK, pp. 35–69.
- Glynn, M.A., Lounsbury, M., 2005. From the critics' corner: logic blending, discursive change and authenticity in a cultural production system. *J. Manag. Stud.* 42 (5), 1031–1055.
- Godart, F.C., 2012. *Unveiling Fashion: Business, Culture and Identity in the most Glamorous Industry*. Springer.
- Godart, F.C., Shipilov, A.V., Claes, K., 2013. Making the most of the revolving door: the impact of outward personnel mobility networks on organizational creativity. *Organ. Sci.* 25 (2), 377–400.
- Granovetter, M.S., 1973. The strength of weak ties. *Am. J. Sociol.* 78 (6), 1360–1380.
- Granovetter, M.S., 1985. Economic action and social structure: the problem of embeddedness. *Am. J. Sociol.* 91 (3), 481–510.
- Hoang, H., Antoncic, B., 2003. Network-based research in entrepreneurship: a critical review. *J. Bus. Ventur.* 18 (2), 165–187.
- Ibarra, H., 1992. Homophily and differential returns: sex differences in network structure and access in an advertising firm. *Adm. Sci. Q.* 37 (3), 422–447.
- Jack, S.L., 2005. The role, use and activation of strong and weak network ties: a qualitative analysis. *J. Manag. Stud.* 42 (6), 1233–1259.
- Jack, S.L., 2010. Approaches to studying networks: implications and outcomes. *J. Bus. Ventur.* 25 (1), 120–137.
- Jennings, P.D., Greenwood, R., Lounsbury, M.D., Suddaby, R., 2013. Institutions, entrepreneurs, and communities: A special issue on entrepreneurship. *J. Bus. Ventur.* 28 (1), 1–9.
- Jones, C., 1996. Careers in project networks: The case of the film industry. In: Arthur, M.B., Rousseau, D.M. (Eds.), *The Boundaryless Career a New Employment Principle for a New Organizational Era*. Oxford University Press, New York, pp. 58–75.
- Jones, C., Hesterly, W.S., Borgatti, S.P., 1997. A general theory of network governance: exchange conditions and social mechanisms. *Acad. Manag. Rev.* 22 (4), 911–945.
- Jones, C., Svejenova, S., Pedersen, J.S., Townley, B., 2016. Misfits, mavericks and mainstreams: drivers of innovation in the creative industries. *Organ. Stud.* 37 (6), 751–768.
- Kacperczyk, A.J., 2013. Social influence and entrepreneurship: the effect of university peers on entrepreneurial entry. *Organ. Sci.* 24 (3), 664–683.
- Kandel, D.B., 1978. Homophily, selection, and socialization in adolescent friendships. *Am. J. Sociol.* 84 (2), 427–436.
- Kilduff, M., Tsai, W., Hanke, R., 2006. A paradigm too far? A dynamic stability reconsideration of the social network research program. *Acad. Manag. Rev.* 31 (4), 1031–1048.
- Kleinbaum, A.M., Jordan, A.H., Audia, P.G., 2015. An altercentric perspective on the origins of brokerage in social networks: how perceived empathy moderates the self-monitoring effect. *Organ. Sci.* 26 (4), 1226–1242.
- Kolvereid, L., 1992. Growth aspirations among Norwegian entrepreneurs. *J. Bus. Ventur.* 7 (3), 209–222.
- Laspita, S., Breugst, N., Heblich, S., Patzelt, H., 2012. Intergenerational transmission of entrepreneurial intentions. *J. Bus. Ventur.* 27 (4), 414–435.
- Lerner, J., Malmendier, U., 2013. With a little help from my (random) friends: success and failure in post-business school entrepreneurship. *Rev. Financ. Stud.* 26 (10), 2411–2452.
- Lofstrom, M., Bates, T., Parker, S.C., 2014. Why are some people more likely to become small-business owners than others: entrepreneurship entry and industry-specific barriers. *J. Bus. Ventur.* 29 (2), 232–251.
- Lomi, A., Snijders, T.A., Steglich, C.E., Torló, V.J., 2011. Why are some more peer than others? Evidence from a longitudinal study of social networks and individual academic performance. *Soc. Sci. Res.* 40 (6), 1506–1520.
- Mars, M.M., Lounsbury, M., 2009. Raging against or with the private marketplace? Logic hybridity and eco-entrepreneurship. *J. Manag. Inq.* 18 (1), 4–13.
- McPherson, M., Smith-Lovin, L., Cook, J.M., 2001. Birds of a feather: homophily in social networks. *Annu. Rev. Sociol.* 27 (1), 415–444.
- Mehta, R., 2017. “Hustling” in film school as socialization for early career work in media industries. *Poetics* 63, 22–32.
- Nagy, M.S., 2002. Using a single-item approach to measure facet job satisfaction. *J. Occup. Organ. Psychol.* 75 (1), 77–86.
- Nanda, R., Sorensen, J.B., 2010. Workplace peers and entrepreneurship. *Manag. Sci.* 56 (7), 1116–1126.
- Patriotta, G., Hirsch, P.M., 2016. Mainstreaming innovation in art worlds: cooperative links, conventions and amphibious artists. *Organ. Stud.* 37 (6), 867–887.
- Powell, W.W., Colyvas, J.A., 2008. Microfoundations of institutional theory. In: *The Sage Handbook of Organizational Institutionalism*, pp. 276–298.
- Powell, W.W., Sandholtz, K.W., 2012. Amphibious entrepreneurs and the emergence of organizational forms. *Strateg. Entrep. J.* 6 (2), 94–115.
- Priem, R.L., 2007. A consumer perspective on value creation. *Acad. Manag. Rev.* 32 (1), 219–235.
- Reagans, R., 2011. Close encounters: analyzing how social similarity and propinquity contribute to strong network connections. *Organ. Sci.* 22 (4), 835–849.
- Ripley, R.M., Snijders, T.A.B., Boda, Z., Vörös, A., Preciado, P., 2018. *Manual for SIENA Version 4.0 (Version August 13, 2018)*. University of Oxford, Department of Statistics; Nuffield College, Oxford. <http://www.stats.ox.ac.uk/siena/>.
- Ryan, R.M., Deci, E.L., 2000. Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemp. Educ. Psychol.* 25 (1), 54–67.
- Sarstedt, M., Wilczynski, P., 2009. More for less? A comparison of single-item and multi-item measures. *Die Betriebswirtschaft* 69 (2), 211–227.
- Schoonmaker, F.G., Solomon, G.T., Rau, P.A., 2017. Early-stage of innovations: selection system criteria for funding U.S. biotech SMEs. *J. Small Bus. Manag.* 55 (S1), 60–75.
- Scott Morton, F.M., Podolny, J.M., 2002. Love or money? The effects of owner motivation in the California wine industry. *J. Ind. Econ.* 50 (4), 431–456.
- Shipilov, A.V., 2005. Should you bank on your network? Relational and positional embeddedness in the making of financial capital. *Strateg. Organ.* 3 (3), 279–309.
- Simsek, Z., Lubatkin, M.H., Floyd, S.W., 2003. Inter-firm networks and entrepreneurial behavior: a structural embeddedness perspective. *J. Manag.* 29 (3), 427–442.
- Situmeang, F.B., Leenders, M.A., Wijnberg, N.M., 2017. New product performance and the benefit of periodically changing the relative influence balance between marketing and R&D. *J. Bus. Ind. Mark.* 32 (1), 179–190.
- Slotte-Kock, S., Coviello, N., 2010. Entrepreneurship research on network processes: a review and ways forward. *Enterp. Theory Pract.* 34 (1), 31–57.
- Snijders, T.A.B., 2001. The statistical evaluation of social network dynamics. *Sociol. Methodol.* 31 (1), 361–395.
- Snijders, T.A.B., 2005. Models for longitudinal network data. In: Carrington, P., Scott, J., Wasserman, S. (Eds.), *Models and Methods in Social Network Analysis*. Cambridge University Press, New York, pp. 215–247.
- Snijders, T.A.B., Steglich, C., Schweinberger, M., 2007. Modelling the co-evolution of networks and behavior. In: Montfort, K., Oud, H., Santorra, A. (Eds.), *Longitudinal Models in the Behavioral and Related Sciences*. Lawrence Erlbaum, Mahwah, NJ, pp. 41–71.
- Snijders, T.A.B., van de Bunt, G.G., Steglich, C.E.G., 2010. Introduction to stochastic actor-based models for network dynamics. *Soc. Networks* 32 (1), 44–60.
- Starkey, K., Barnatt, C., Tempest, S., 2000. Beyond networks and hierarchies: latent organizations in the U.K. television industry. *Organ. Sci.* 11 (3), 299–305.
- Steglich, C., Snijders, T.A.B., West, P., 2006. An illustrative analysis of the coevolution of adolescents' friendship networks, taste in music, and alcohol consumption. *Methodology* 2 (1), 48–56.
- Steglich, C., Snijders, T.A., Pearson, M., 2010. Dynamic networks and behavior: separating selection from influence. *Sociol. Methodol.* 40 (1), 329–393.
- Stuart, T.E., Ding, W.W., 2006. When do scientists become entrepreneurs? The social structural antecedents of commercial activity in the academic life sciences. *Am. J. Sociol.* 112 (1), 97–144.
- Su, J., Zhai, Q., Karlsson, T., 2017. Beyond red tape and fools: institutional theory in entrepreneurship research, 1992–2014. *Enterp. Theory Pract.* 41 (4), 505–531.
- Svejenova, S., Vives, L., Alvarez, J.L., 2010. At the crossroads of agency and communion: defining the shared career. *J. Organ. Behav.* 31 (5), 707–725.
- Thornton, P.H., Ocasio, W., Lounsbury, M., 2012. *The Institutional Logics Perspective: A New Approach to Culture, Structure, and Process*. Oxford University Press on Demand.
- Tracey, P., Phillips, N., Jarvis, O., 2011. Bridging institutional entrepreneurship and the creation of new organizational forms: a multilevel model. *Organ. Sci.* 22 (1), 60–80.
- Wanous, J.P., Reichers, A.E., Hudy, M.J., 1997. Overall job satisfaction: how good are single-item measures? *J. Appl. Psychol.* 82 (2), 247–252.
- Wijnberg, N.M., 2004. Innovation and organization: value and competition in selection systems. *Organ. Stud.* 25 (8), 1413–1433.
- Wijnberg, N.M., Gemser, G., 2000. Adding value to innovation: impressionism and the transformation of the selection system in visual arts. *Organ. Sci.* 11 (3), 323–329.
- Zahra, S.A., Wright, M., 2011. Entrepreneurship's next act. *Acad. Manag. Perspect.* 25 (4), 67–83.