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Networks – The Socialization of Academics

Abstract

We analyze academic institutions as a place for networking. We focus on the importance of networks for the socialization of academics and the perceived impact on academic careers. In the analysis of guided interviews, we focus on the relevance of different networks for the transmission of disciplinary microcultures and the importance of interpersonal relations for network success. Our results grant new insights into network perception and the impact they have on academic socialization. This has several implications for the development of academic networks at higher education institutions.

Keywords

Academic networks, academic career, socialization, network attitude

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1 Introduction

Since networks play a vital role in the induction into and the transmission of sociocultural and disciplinary norms of academia, joining these networks is considered to be a pre-requisite for success in an academic career. When socialization is a learning process that allows individuals to acquire not only knowledge, but also specific attitudes and habits (BRAGG, 1976), then the access to, as well as, the functioning of academic networks is of high importance, as these networks are representations of current disciplinary microcultures (MÅRTENSSON, 2014).

In this paper, we address the socialization of academics via (academic) networks and their impact on careers. The prior literature on the socialization of academics has focused on the interaction between academics and/or other groups. We, in contrast, choose to analyze researchers' perceptions of their own professional networks, i.e. their interaction within academia. Our interviews focus on the impact of networks on careers without specifying any situation and/or time period. Thereby, our interview partners (IPs) allow us profound insights into both, their networks and the respective function at different career stages.

While Manuel Castells postulated the term "network society" some 20 years ago (CASTELLS, 1996), network analysis has so far mainly focused on economic and/or business settings. For example, BECKER, DAMMER & HOWALDT (2011) and HOLZER (2010) explore aspects of communication and cooperation within individual companies that are perceived as networks. WOHLFAHRT (2006) analyzes the impact of network structure on career development and promotion.

Regarding networks and academia, DOLLHAUSEN, FELD & SEITTER (2013), FELD (2011), and QUILLING, NICOLINE, GRAF & STARKE (2013) analyze academic institutions as communication and cooperation networks. However, the impact of differently designed networks on academic socialization, career development, and the perception of academic networks have so far not been addressed.

In this paper, we address the socialization via joining academic networks and the (perceived) impact of networks on academic careers. We conduct guided inter-

views with researchers at German higher education institutions (HEIs) working in the field of social sciences or STEM (science, technology, engineering, and mathematics). In these interviews, we address individual researchers' careers, the perceived impact of networks hereon, and the perceived influence (and/or relevance) of networks in academia. Our results provide new insights on the importance of networks on academic careers; still, we consider these results preliminary as female researchers are underrepresented in the interviews.

2 Aspects of Network Research

Over the past decades, the fast-paced development of information technology has emphasized information availability, information sharing, and the communication between individuals, organizations, and societies. This development together with an increasing medialization and virtualization has enabled connections between people, but also increased the perceived complexity of modern life (BAUMAN 2003, 2007; BECK, GIDDENS & LASH, 1996).

This increased importance and relevance of networks has led to an increase in research on networks in different disciplines. In social sciences, several authors have analyzed networks from a theoretical system approach (e.g. KÄMPER & SCHMIDT, 2000; LUHMANN, 1984). According to Luhmann's systems theory, a society represents a comprehensive social system/network that encompasses all other social systems. In organization science, research projects have focused on the design and function of social networks (e.g. ADERHOLD, 2004; JANSEN, 2003; TRAPPMANN, HUMMEL & SODEUR, 2005). HOLLSTEIN (2001) has studied networking (as the mechanisms and behavior patterns of building a network) and the interaction within a network. Regarding these interactions, LOOSE & SYDOW (1994) and LUHMANN (1973) highlight the importance of trust in networks. Regarding the impact of interpersonal relations on network structures, GRANOVET-TER (1973, 1974) was one of the first to suggest a linkage between individual relations and the network at large, i.e. between a micro and a macro perspective. He

focused on the influence of "weak ties", i.e. how the overlap between two individuals' networks varies with the strength of their interpersonal relation.

In the context of academia, these research questions apply similarly. Roxå and Mårtensson have analyzed networks in an academic context. The authors thereby focus on the teaching and learning culture at universities (ROXÅ & MÅRTENSSON, 2009, 2011). In a subsequent article, Roxå and Mårtensson highlight the impact of microculture on informal learning in local higher education workplaces (ROXÅ & MÅRTENSSON, 2015).

When assuming networks to facilitate research and innovation, a new challenge for HEIs lies in the active encouragement and facilitation of network creation and interaction. This necessitates new forms of research management in international and/or interdisciplinary networks and new organizational designs for networking opportunities or formal networks like mentoring projects (e.g. BAUMANN, 2011).

These academic networks may provide vast opportunities for interdisciplinary research and the identification and analysis of intradisciplinary and interdisciplinary projects as networks encourage the exchange of ideas and methods within and between disciplines. This (simple) opportunity for exchange may lead to innovation in research questions, design and analyses, and thereby enhance interdisciplinary research in academia.

In our subsequent analysis, we classify networks as follows: Formal networks are those established in an institutionalized context like a professional institution / social-professional organization. In contrast, informal networks encompass personal contacts with friends and acquaintances. This differentiation between formal and informal networks is common in research literature (e.g. IBARRA, 1993). In addition, we use the term of "non-formal networks" for those networks that are in between formal and informal networks.

Formal networks encompass a multitude of relations between single participants (individuals and/or organizations); members of this formal network are generally assumed to be equals and to pursue the same (defined) goals. In the context of academia, a formal network may be identified via affiliation with an individual HEI,

school, and/or department. Informal networks are built on individual relationships in highly informal (private) interaction. These personal relations are established based on trust and empathy. They do not follow any formal design and/or structure and ultimately serve individual goals. Informal networks are characterized by interaction in a non-professional context (e.g. social activities). Non-formal networks are generally initiated in a formal setting, but provide opportunities for more informal interaction. In an academic context, brown bag seminars may be considered non-formal networks, in particular when these seminars are jointly held by different research groups and cover different, but (potentially) related topics.

3 Data & Methodology

We conducted guided interviews on the topic of "networks & academic career" with researchers at German HEIs in spring 2015. Since interviews served as a pretest for a larger research project², we focus on faculty at HEIs within the state of Baden-Wurttemberg, Germany. The sample of HEIs consists in almost equal parts of universities, universities of education, and universities of applied sciences.

To ensure the comparability of IPs in regard to their current academic position, we identified faculty members employed at HEIs based on publicly available information (e.g. webpages). We conduct 20 interviews: 4 with researchers in the social sciences and 16 with researchers in STEM. We identify IPs by the following codification: the abbreviation IP for interview partner is followed by the letters SOC for social sciences or STEM for science, technology, engineering, and mathematics, followed by a number identifying the respective subject.

IPs are between 33 and 55 years old; most of them hold tenured positions. We interviewed two female and two male researchers from the social sciences; study

² The comparative study represents a pre-test for a larger project on "academic networks & careers". Therein, guided interviews and social networks analysis are conducted within two disciplines of the social sciences.

participants from STEM are all male. We are aware of a gender imbalance in our sample of IPs. However, we were unable to conduct interviews with female tenured STEM faculty in the area. This gender imbalance may lower the generalizability of results.

We conduct semi-standardized guided interviews and analyze these in a qualitative content analysis according to MAYRING (2002). The interview design focuses on the central role of networks within HEIs and specifically for academic careers. In addition, we address the active formation and design of these networks in interviews and ask IPs to tell us about their individual networks, the perceived value, access to and communication within their networks.

For content analysis of interviews, we initially deducted categories from the literature (deductive method). As interviews revealed additional aspects and categories, we added these new categories to the interview guide (inductive method). For example, IP STEM 1 also addressed social media: "When you are talking about networks like Facebook, you will not find me there" (ll. 176-178). We subsequently added this aspect of social media networks as a category to the interview guide and explicitly addressed it in content analysis. Hence, we applied a deductive-inductive method (GLÄSER & LAUDEL, 2013, 2009).

MAYRING (2010) and KUCKARTZ (2012) highlight the foundation of qualitative content analysis methods in hermeneutics. In our context, we utilize qualitative content analysis as a method to describe and interpret the most relevant interview parts. We first identify the most relevant content as categories and then assign interview parts to these categories (SCHREIER, 2014).

4 Results

4.1 Network & Career

In each interview, the IPs are first asked to briefly describe their (academic) career. All IPs confirm a strong positive impact of networks on their academic careers. Networks are perceived as opportunities to meet colleagues and practitioners and to grant access to individual opportunities. IP SOC 1 explains that networks play a major role in the current academic position, e.g. publications, course design, academic societies, etc. IP SOC 1 considers being up to date with the latest developments in the field as a crucial necessity for career advancement and places a high information utility on being part of the larger academic network (IP SOC 1, II. 319-327).

In academic settings, networks seem to fulfill several functions: on the one hand, they serve as knowledge areas within and for individual disciplines. These knowledge areas enable and enhance the exchange of knowledge and expertise, the dissemination of (recent) research, and the development and discussion of new research questions and ideas (IP STEM 4, Il. 83-87). On the other hand, networks also serve as "insider knowledge areas", as members share their experiences within academia, the so-called unwritten rules that underlie the profession. This shared knowledge not only generates an exclusivity within the network and separates it from non-network members, but also helps to establish a common etiquette and dictum for the discipline. The socialization within and through networks then enables junior members to develop an academic habitus that reflects and furthers their integration within academia.

The face to face contact (opportunities) within networks are generally perceived as crucial, as they allow access to joint research projects and career offers. Optimal career advancement is seen in a combination of profound academic qualification, supportive and supporting contacts including professional and/or personal networks (e.g. IP STEM 7). In this regard, IP STEM 10 (ll.35-40) states that the importance of acquaintances, in the sense of knowing someone, who then makes the connec-

tion with someone else, who is either a good match or looking for one's specific qualifications. In addition to any qualification, knowing someone is important, but so is knowing someone who is actually willing to open their own network and to make connections and/or share experiences. Thus, knowing an (active) mentor is highly advantageous for career advancement.

These insights on the relation between networks and careers in academia may also present a new perspective on gender (in)equality. When female researchers have less access to and less interaction within academic networks, this may present a significant impediment in their academic career. Thus, network design and network access for female researchers may be a suitable tool for increasing the number of female professors. Additional research on network design to enhance the participation of female members is strongly suggested, yet beyond the scope of this paper.

4.2 Network Access

The access to a network is generally provided through the support of a current network member, who is willing to introduce the individual into this new social group/network and to play a central part in the integration and socialization within the network (VAN GENNEP, 1986). In this context, the term "gatekeeper", as introduced by STRUCK (2001), applies. A gatekeeper is not only a supporter in the process of socialization within the network, rather a gatekeeper is a key person with strong ties within the network and, in addition, with decision authority regarding the intermediation between (outside) individuals and the network itself.

The relevance of gatekeepers for joining a network and their thus crucial role in career advancement is stated by IPs in different fields. For example, IP SOC 2 (ll. 83-89) mentions in the context of network access that "one always needs a key person to get in. Sometimes access is regulated via a formal membership (i.e. that one needs to become a member of a special section or group) that may also include the payment of membership dues. But often one is simply suggested for membership by one of the current members, maybe because of a prior interaction, a research talk, etc. I believe these central players to be very important." In this con-

text, gatekeepers not only assist in the transition process, but serve as companions in the sense of mentors (LÖDERMANN, 2013; SCHLÜTER, 2010).

For most IPs, their PhD advisors (and other (senior) network members) took on a mentoring role, introduced them to networks, and also opened the gates to their individual network. IP STEM 1 (II. 96-100) strongly values the inspiration from these mentors as crucial for personal career advancement. Further explaining that throughout the career, "there were always supporters serving as sources of inspiration, who asked me to consider other directions, other projects, and who also encouraged me to take the necessary steps [for career advancement] ..." IP STEM 1 (II. 185-188) remembers in particular: "One colleague allowed me to tag along and introduced me to his network. He must have been some 20 years older than me, and he soon retired. He was really crucial for my career, as he introduced me to academic circles that I am still a part of today."

The influence of these mentors (or key network participants) can be identified on (at least) three layers: first, they support network entrance itself and the passage from non-member to member, i.e. they introduce younger colleagues to and within the network, make connections, communicate the respective network culture and etiquette. Second, they embody the influence of networks on career advancement and further the idea of networks and networking by their own actions. Third, they are perceived as valuable sources of inspiration, as these mentors enhance (in same cases even demand) active participation of all members and thereby create an environment supportive to the exchange of ideas, discussions, experiences, and reflections within this exclusive network. Hence, mentors and key network participants facilitate access not only to an individual network, but to the microculture of their discipline.

4.3 Network Function

Since all IPs explicitly state the positive impact of networks on their individual careers, it is now interesting to see how networks function. All IPs consider the interpersonal relations within a network as the most important, crucial factor.

These relations are considered to be the "glue" holding the network together. As long as there is interpersonal relation, the network will preserve any differences between individual members. These interpersonal relations are built on and characterized by honesty, trust, reliability, and responsibility, in addition to continuity and authenticity (e.g. IP STEM 9).

Networks are strongly characterized by these long-lasting (interpersonal) relations. This may explain why several IPs perceive that networks not only serve purely professional purposes, but also provide emotional support (e.g. IP SOC 2, Il. 506-508). This aspect is highly evident in networks for doctoral students, as they aim at providing doctoral students from different disciplines an opportunity to share their experiences and to support each other during the pursuit of their PhD (outside of any purely topic-specific issues).

Networks also serve as normative transmitters of (discipline-specific) culture. They spread professional approaches, theories, and ethics; they generate scientific discourse and generate a discipline culture. This includes the perception of and attitude towards high workloads in academia. IP SOC 4 (II. 114-122) allows us some insights on this matter when joining a network (e.g. a research group) where all of the members show a specific work attitude, one automatically adapts. If it is the norm to have a part-time contract for several years (while writing the PhD dissertation) and it is the norm to not take any vacation time for years, then one adapts to these rules, and they become one's own (according to IP SOC 4).

Many IPs state that while formal networks may be established in different settings and for different purposes, the depth of the network relation is often influenced by the respective interpersonal relations of network members. This interplay of formal and informal network structures also becomes evident when considering a HEI as a network; formal networks are, for example, evident in the overall organizational structure of a HEI in different departments and schools. In addition, the opportunities to interact across these classic organizational boundaries are seen in social and/or university-wide events.

Furthermore, several IPs have formed non-formal networks. These were most often initiated by joint research topics or interactions outside of the profession. Non-formal networks have a strong foundation on interpersonal relations (e.g. similar, compatible character traits) and focus on a joint project (e.g. publication). Yet, in contrast to formal networks, the initial interaction occurred outside the profession, and the interpersonal relations are emphasized.

4.4 Network Relations

The aspects of relation and connection between members of a network is built on an implicit sense of responsibility and reliability (IP SOC 4, Il. 362-368). The reciprocal exchange relies on an inherent balance of give and take. This balance needs to be established on the macro- and the micro-level, i.e. within the network at large and for each individual member. To achieve this balance, networks (often implicitly) establish guidelines and/or an etiquette for initial inquiries between network members.

IP SOC 4 (II. 362-368) takes a very pragmatic view on networks by stating that "the mutual support is an obvious part of networks. Yet, when asking for help on a specific issue, one should also make a similar to offer to help in exchange." Hence, the network function itself, as stated by IP SOC 4, is reduced to an exchange economy: One helps the other, if (and only if) the other is willing to make some contribution and/or offer help on another issue. IP SOC 4 continues that since all network members have limited resources (e.g. time), one actually needs to rely on such exchanges of limited resources. Moreover, IP SOC 4 perceives this exchange concept not as a weakness, but as a strength of networks, as the idea of mutual exchange fosters the commitment to and within the network.

While IP SOC 4 shows a very pragmatic and almost clinical approach, other IPs like IP STEM 1 (Il. 371-378) strongly negate this position. They perceive a purely factual level of interaction within networks as an illusion and instead once more highlight the importance of interpersonal relations as the foundation for any interaction and exchange within the network. In this regard, IP STEM 1 is strongly in

favor of an interpersonal level of interaction within networks, even stating that a network as relations on a purely factual level without any emotional components is unthinkable. For IP STEM 1, the emotional level is part of any interaction. IP STEM 1 goes even further by saying that a network cannot function without interpersonal relations regardless of the level of professional interaction on a factual level.

This is also in line with most IPs highlighting the influence of emotions on network functions. Feelings of sympathy or antipathy cannot be ignored within network relations, in particular as any networking is voluntary. Yet, all IPs also show a strong willingness to engage in networks and further show an openness towards new network members. Our IPs imply a feeling of indebtedness to the network; they state that since they profited from the network during their career, they now make their expertise available to younger researchers, so that they can make a similar positive experience (e.g. IP STEM 4, 11.339f).

In this regard, it seems like an inter-generational contract within the research community that those who received support from the network in the past are now paying it back. Network culture is thus not only the external view on networks and how they might benefit academic careers. Rather network culture serves to transmit sociocultural disciplinary norms to junior researchers.

5 Discussion

The analysis of 20 interviews with researchers at German HEIs confirms a (perceived) positive impact of networks on academic career advancement and career paths. Yet, IPs perceive formal and informal networks quite differently. As explained in sections 4.3 and 4.4, most researchers consider (strong) interpersonal relations a pre-requisite to openly share their own experiences and also resources (e.g. time, inside knowledge). Hence, formal networks can only be a starting point. The non-formal and informal network opportunities ultimately determine the success or failure of any network.

These results are in line with prior work by Roxå and Mårtensson, who describe smaller and more densely interconnected clusters within a larger academic network: "Academics do form clusters where the links are stronger, and they orient themselves towards a wider community to which they have weaker links." (ROXÅ & MÅRTENSSON, 2011, p. 102). Moreover, our interviews confirm an intergenerational contract within the research community, as previously suggested by ROXÅ & MÅRTENSSON (2011, p. 102): "In research, senior members act as hubs providing their personal network to be utilized as bridges to a much larger network, for the benefit of younger researchers."

6 Implications for Higher Education Institutions

While individual researchers form these networks, HEIs can contribute to their success by providing a suitable setting for network activities. Based on our results, HEIs should emphasize the implementation of non-formal networks and comparatively informal networking opportunities between different departments and/or even all researchers at the HEI. These non-formal networking opportunities would facilitate the socialization of new and/or junior researchers within the HEI and thereby strengthen the HEI's (corporate) identity.

Moreover, our results show that these non-formal setups with a stronger focus on personal relations between network members truly enable new and innovation research cooperation and lead to interdisciplinary research projects. Considering the strong emphasis on interdisciplinary work, an increase in innovative interdisciplinary research may positively influence a HEI's own reputation. Thus, HEIs have an inherent incentive to support and foster non-formal network structures.

Against the background of the developments in information technology, it is important to note that our results indicate a comparatively low value for social media networks. All IPs that mention social media networks perceive these quite negatively. While they acknowledge the necessity to be visible in online networks, IPs

are unwilling to actively participate in these as the personal relations are absent. Thus, HEIs should not consider these networks as important tools for communication (and interaction) between researchers. Moreover, HEIs should not overextend their (monetary and/or personnel) resources for social media networks.

7 Conclusion

This paper sheds light on the perception of academic networks in academia and its impact on careers. We document the strong importance of interpersonal relations for successful networking and networking activities and thereby highlight the importance of non-formal and/or informal networking opportunities. In addition, a positive attitude towards networks and network activities is highly relevant. Based on our interviews, this network attitude is founded on a curiosity for (research) questions beyond discipline specific topics, a willingness to exchange ideas, and also a willingness to establish new relations. Interestingly, members who received the benefits of network interactions in the past seem to have an inherent willingness to provide similar opportunities to the next generation of researchers. This intergenerational interaction in networks enables the transmission of (disciplinary) culture and the formation of an academic identity within a discipline.

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