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The transformative capacity of transnational and transdisciplinary networks and the potential of alumni work

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The Transformative Capacity of Transnational and Transdisciplinary Networks and the Potential of Alumni Work

Johanna Vogel

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Abstract

The Corona pandemic has shown us more than any other recent event that when it comes to a global crisis, we are all in the same boat. In a complex world, we need cooperation to meet global challenges. Networks can provide a structure that enables cooperation and offers promises of being flexible and adaptable. This paper will focus on transnational and transdisciplinary knowledge networks formed by alumni – people who have experienced collective training at the start of their network journeys. Through this shared experience, I see a special potential for these types of networks to engage in collaborative work and create a wider impact in society. The overall question of this paper is: How can knowledge networks fully develop their transformative potential through strategic alumni management? This question is of interest to network facilitators, especially of alumni networks.

In order to address the challenge, the paper first presents findings from the alumni management literature focusing on the definition of alumni management, its relevance and the life stages of ideal alumni. This is complemented by insights from the social movement area that highlight the development paths of networks as well as the success factors for social impact networks. Empirical examples from existing alumni networks elaborate the success factors within their work. From these three areas, five recommendations are deduced. In order to foster transformation and create social impact beyond their networks, alumni networks should:

- (1) align their activities to the life stages of their alumni,
- (2) establish and nurture trustful relations among their network members – encompassing all elements of trust (benevolence and confidence, reliability and predictability, competence, honesty, openness as well as familiarity and intimacy),
- (3) initiate and continually work on a collaborative we-identity process,
- (4) provide supporting structures that allow for making easy connections as well as
- (5) enable self-organisation.

When these five recommendations are taken into consideration, knowledge networks have a great potential to support societal change.

Acknowledgements

This paper emerged in the context of the Managing Global Governance (MGG) Network. I am part of the facilitation team. As network facilitator, the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) is especially interested in further developing the network's potential to create transformation towards sustainability.

The MGG Network's overarching mission is to address the challenges of global governance and, more specifically, to support the implementation of the United Nations 2030 Agenda for Sustainable Development. Network activities consist of three interconnected elements: training, policy dialogue and knowledge cooperation. The training programme – the MGG Academy – has taken place every year since 2007 and lasts four months.¹ The core idea of the MGG Academy is to develop participants' capacity as change makers. We consider change makers to be individuals who take leading roles in the global transformation towards more sustainable and just societies. Change makers combine ambition, knowledge, competence and attitude for the global common good. The programme is transdisciplinary and targeted at young professionals from academia, politics, the private and business sectors as well as civil society. Additionally, the programme is transnational. Participants come from the emerging economies in the Global South (China, Brazil, India, Mexico, Indonesia and South Africa) and the Global North (the European Union). After participating in the MGG Academy, participants become part of the MGG Network and engage in policy dialogues and knowledge cooperation formats. Beyond the individuals, the MGG Network comprises partner institutions across different sectors. Currently (2020), the network consists of almost 400 alumni and around 100 partner institutions. The MGG Network aims at initiating and implementing transformation within institutions and society as a whole. The programme is financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the DIE.²

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Bonn, September 2021

Johanna Vogel

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- 1 See https://www.die-gdi.de/fileadmin/user_upload/pdfs/Ausbildung/GGS/20181024_DIE_MGG_AcademyFlyer_2018.pdf.
 - 2 For more information on the MGG Network, see their website: <https://www.die-gdi.de/en/managing-global-governance/>.

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Abstract

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Abbreviations

AA	German Federal Foreign Office / Auswärtiges Amt
DAAD	German Academic Exchange Service / Deutscher Akademischer Austauschdienst
DIE	German Development Institute / Deutsches Institut für Entwicklungspolitik
iac Berlin	International Alumni Center (Robert Bosch Foundation)
MGG	Managing Global Governance

1 Introduction

The Corona pandemic has shown us more than any recent event that when it comes to a global crisis, we are all in the same boat. In a complex world, we need cooperation to meet global challenges. Networks can provide a structure that enables cooperation and offers promises of being flexible and adaptable – competencies very much needed in an increasingly changing society. Networks can also offer a culture of flat hierarchies, which allow for participation and integration – further essential ingredients to collectively define solutions for global challenges. These are just a few reasons why networks are a suitable space to discuss global challenges and can be used as instruments to promote societal change. Here I will focus on transnational and transdisciplinary knowledge networks formed by alumni. These types of networks consist of people who have experienced collective training at the start of their network journeys. Through this shared experience, I see a special potential for these types of networks to engage in collaborative work and create a wider impact in society. How can this capacity be promoted? Therefore, the overall question of this paper is: How can knowledge networks fully develop their transformative potential through strategic alumni management?³

Knowledge networks create spaces that can enable transformative capacity. In order to do so, they should be transnational, transdisciplinary and act systemically – which means looking at the individual spheres of the world as a whole. Transnational and transdisciplinary networks bring together actors from different countries and diverse disciplines with a common aim. In this diversity of perspectives and bundle of capacities lies the key to collectively defining problems and creating innovative solutions. Transnational and transdisciplinary networks can be a laboratory to experiment with effective and efficient ways of cooperation that foster transformation.

The empirical work for this study on alumni management structures started in 2017, when the Managing Global Governance (MGG) Network aimed at professionalising and structuralising its alumni work. The network then had its 10th anniversary and started growing. It was time to develop a strategic alumni concept to further promote the impact of the network. On the basis of a literature review regarding alumni management structures and interviews with diverse coordinators of alumni networks, the MGG Network developed an alumni strategy. Existing alumni management literature did not provide sufficient answers to further promote transformation towards sustainability. Practical handbooks on network development in the social movement area filled this gap. All three strands – interviews with practitioners coordinating alumni work as well as theoretical inputs from the alumni management literature and the social movement network development literature – were combined to answer the question: What does it take to develop a network's transformative capacity through alumni work?

Alumni work or network management is understood here as the provision of structures that support a group of former participants of a training format to strengthen their network among each other and between them and the hosting institution. Alumni networks can be considered as special types of transnational knowledge networks. This paper aims at research and education organisations that seek to gain insights on how to benefit from alumni work in order to maintain and increase their transnational networks and boost their

3 Alumni management and alumni work are used as synonyms.

transformative capacity. Suggestions in this paper will also enrich other types of knowledge networks. Investing in network structures can help make networks more efficient and increase their impact.

To answer the research question of how alumni work can strengthen a network's transformative capacity, the paper proceeds as follows. I first present the alumni management literature focusing on defining alumni management and highlighting its relevance (Section 2.1). Section 2.2 elaborates on tailor-made network services in line with the typical "life stages" of alumni. This is followed by Section 3, which starts with a presentation of the ideal steps of network evolution according to the practical literature from the social movement area (Section 3.1). This is followed by an overview of the key elements that make for successful networks (Section 3.2). The final part of Section 3 applies the insights from the social movement literature to alumni networks. Section 4 provides empirical examples from existing alumni networks and what they define as the success factors within their work. The study closes with recommendations on how transnational and transdisciplinary alumni networks can (further) develop their transformative capacity (Section 5).

2 Alumni management literature

2.1 Defining alumni management and its relevance

Alumni networks consist of people who have a shared experience: Typically, it is the participation in a training or education format. These networks include graduates of universities, participants of academic trainings in think tanks or fellows from research institutions. In order to keep its members connected after the initial shared experience, increase collaboration for a common objective and make membership in the network rewarding, most networks require active management. Alumni management aims at professionalising, institutionalising, intensifying, enlarging and structuring these networks. In other words, alumni work means implementing tools and mechanisms to strengthen institutions' larger networks and create mutual benefits for the host institution and the alumni. Investing in alumni work has the potential to strengthen a research or education institution's output, increase its visibility and reach, and thereby strengthen its position as an actor within the arena of transnational cooperation.

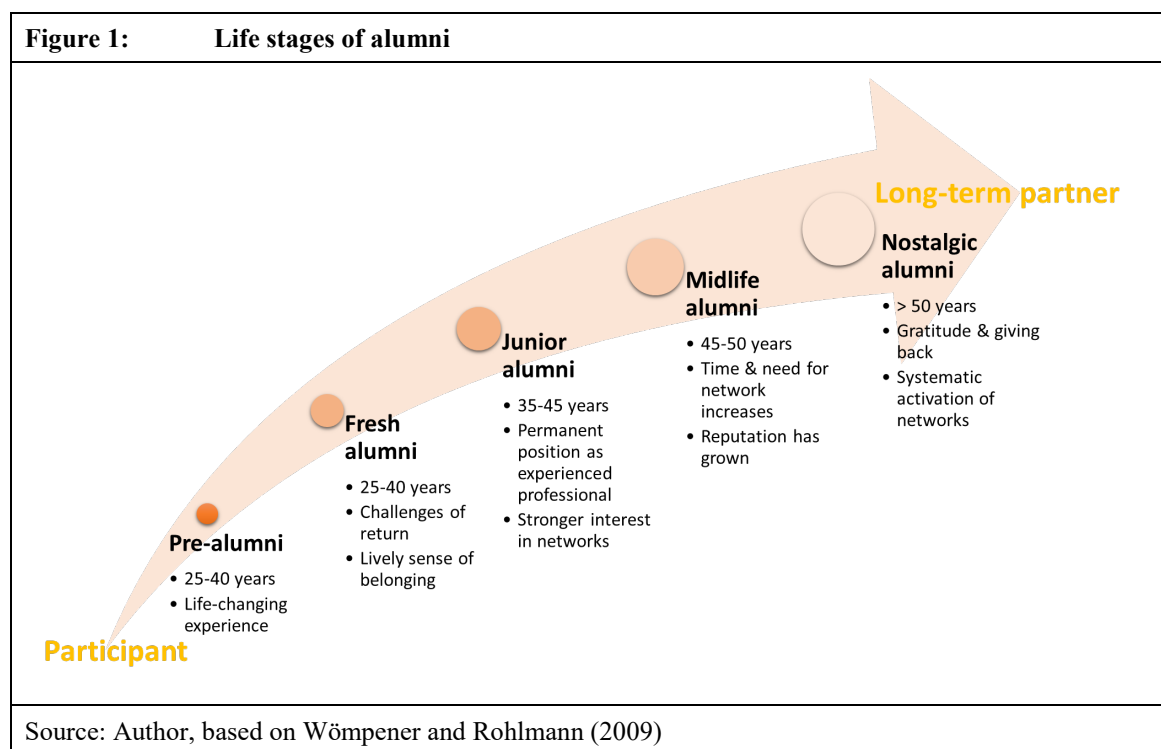
Hosting institutions as well as alumni can benefit from continued engagement. From the hosting institution's perspective, the main aim of alumni management is to further develop and promote shared ideas, aims and projects, thereby benefitting from alumni's capacities, potential and reputations (Wömpener & Rohlmann, 2009). The alumni's potential can be a source for enriching teaching, training and education at the home institution. The alumni's connections are especially valuable to enlarge networks and research cooperation, not least within strategies of internationalisation or diversification of the institution's agenda. Additionally, the alumni's expertise and contacts are helpful regarding joint applications for third-stream funding. Alumni are often multipliers and door openers for both subsequent trainees and for their previous educative and current employment institutions (Brembeck, Borchert, & Burtscher, 2011; Pätsch, 2014, p. 74).

Not only the host institution, but also the alumni need to experience the advantages of staying in touch. Alumni work can only be sustainable and maintained if both parties profit

from the relation. Ideally, alumni have (continued) access to a network of experts and benefit from a wide range of collaboration possibilities to apply to in order to further develop skills and broaden knowledge. Most alumni networks offer possibilities for life-long learning or other services that benefit their alumni. This is not necessarily about distinct offers made only to alumni. Yet, active alumni management by the host institution is necessary to strengthen the bond between the host institution and the alumni in order to keep alumni engaged; it does not happen automatically (Expertenkreis Alumniarbeit, 2016, p. 7; Fritsche, 2015, p. 8; Moes, Lipke, & Richter, 2010, p. 2; Wedel, 2017).

2.2 Alumni development over time

The most promising way to keep alumni engaged is when alumni work addresses specific needs. The needs of alumni go through stages, that is, the experiences of alumni network benefits change over time (Wömpener & Rohlmann, 2009). The following Figure 1 displays the life stages of an ideal alumna*us, during which they develop from a participant to a partner in a knowledge cooperation network.



Alumni undergo the following stages: (1) Pre-alumni, or explorers, are the current group and just finishing their training within the hosting institution. Ideally, they are experiencing a life-changing moment. This is the moment when the most trust between the hosting institution and the alumni is built. During this time, the foundation for deep connections between the participants is also created. (2) Fresh alumni, or the “go-getters”, are network members who share their experiences with others and strive to apply new insights. They are the alumni who just recently finished their training within the hosting institution. (3) Junior alumni, or the networkers, are establishing their engagement with the network and exploring what the network has to offer. In most cases they have a permanent position as an experienced professional. (4) Midlife alumni, or the shapers, are driving content and using

the network to broaden the reach of their work. The time they make available for – and their need for – the network increases as their reputations grow. (5) Nostalgic alumni, or the mentors, are engaging with the network as door openers (Sheldon & Schilling, 2015, p. 25). Often they systematically activate the network. In each stage, different factors determine the alumni's capacities to participate within the network and draw benefits from it.

The alumni's interests and social positions differ, depending on the ages and career levels of the alumni. Being a fresh alumnus*a, the motivation to engage might be especially high due to recent positive experiences within the training programme. Challenges of returning home – such as old routines or mindsets of colleagues, superiors and family – might hinder the spirit of change. For junior- or midlife alumni, the levels of family and professional responsibilities have probably increased, thereby decreasing the amount of time that is available for engagements. Also, the interest in professional networks increases, which can motivate participation in the alumni network. Later, as nostalgic alumni, time capacities increase again, and gratitude has developed for the achievements one has made in life, which also fosters the motivation to give something back (Moes et al., 2010, pp. 1-2). Alumni management is most promising if these different life stages are considered and catered for in the opportunities that the network provides.

3 Social movement literature

3.1 Network development and success factors

Social-impact networks are designated as a category in the social movement literature. It refers to networks built to produce collective actions that have an impact beyond the network. These types of networks aim to have social impact to attain sustainable transformation. Traditional alumni networks are mostly set up for people to connect with and support each other in a professional context, share a sense of belonging and cultivate gratitude towards the hosting institution. This paper argues that alumni networks also have the potential to produce actions that have an impact beyond the networks, and through these actions they can support sustainable transformation. This is why success factors from the social movement literature are described here in more detail. I argue that applying the success factors of network development from the social movement literature to alumni management will reveal alumni network's transformative potential. Therefore, this section first highlights the development paths that typical social impact networks take before describing the success factors that support these pathways.

Peter Plastrik, Madleine Taylor and John Cleveland describe the pathway of network-building for social impact networks as: connecting, aligning and producing. These steps are connected to the basic human desires to connect, belong, share and make a difference (Plastrik, Taylor, & Cleveland, 2014, p. 37). Most of the time, this development path is not linear. Some network members primarily will connect, others will align their goals and some might already be implementing joint projects (Plastrik et al., 2014, p. 105). The evolution process can be steered by network facilitators, or it can develop from within the network through self-organisation. As a network facilitator, it helps knowing the “ideal” steps that networks can take. This allows them to better tailor supporting structures to their respective goals. It also helps to better use opportunities or anticipate possible challenges (Plastrik et al., 2014, p. 103).

Networks of connectivity link people to allow them to exchange information, learn as a result of interchanges, make connections and start building trust (Plastrik et al., 2014, p. 104). This network type often includes a mentoring system (Plastrik et al., 2014, p. 34). **Alignment networks** link people for a different purpose and help create and share ideas, goals and strategies. They discover, explore and define goals, strategies and opportunities, which they share. They also revise their activities to achieve this goal. **Production networks** foster collective action to produce innovative practices, public-policy proposals and other outputs for social impact (Plastrik et al., 2014, p. 35). At this stage, networks organise to take joint action. They agree on, design and implement joint projects (Plastrik et al., 2014, pp. 104-105). In all network types, reciprocity is an essential driver of activities and network development. Members share their knowledge, skills, connections and resources, expecting that their sharing will be rewarded and that mutual exchange – reciprocity – will occur (Plastrik et al., 2014, pp. 37-38).⁴

Three interlocking aspects – trust, intentions and structures – support successful social impact networks according to June Holley, member of the Network Weaver Consultants Network (Network Weaver, s.a.). Usually, successful networks take time to work on and develop each of the three elements. The different elements influence, complement and support each other (Holley, 2012, p. 16).

1) Trust

Relationships are essential for networks and refer to the connections and interactions in the network. For the effective functioning of a network, the network must continually maintain and improve relations (Holley, 2012, p. 18). Supporting relationships includes: connecting people, building trust and bringing new people into the network. Building trust is regarded here as the foundation of supporting relationships and connections. Therefore, the concept of trust will be discussed in more detail. The following paragraph highlights the **positive implications that trust has on collaboration processes in networks**. These positive effects are mentioned primarily in management literature, but they are also applicable in the context of collaboration in networks aiming to achieve transformation towards sustainability.

Trust plays a crucial role in networks because it helps to reduce complexity and the cognitive load (Cheng, Yin, Azadegan, & Kolfschoten, 2016, p. 267). It allows team members to economise information processing and safeguarding behaviour (Benetytė & Jatuliavičienė, 2014, p. 18). The more trust is involved in collaboration processes, the more likely it is that efficiencies can be created. Transaction costs are lowered and decision-making becomes more simple if there is trust among the collaboration partners (Benetytė & Jatuliavičienė, 2014, p. 19). Trust influences collaboration processes positively because it supports speeding up knowledge-sharing and facilitates cooperation and joint problem-solving. It also allows to simplify the acquisition and interpretation of information. Creativity and innovation are promoted in trustful forms of collaboration. Trust helps to structure

4 See also: Reciprocity is the basis of cooperation and therefore the basis for successful knowledge cooperation networks (Messner, Guarín, & Haun, 2016). Högl showed that “reciprocity had the effect of deepening and maintaining cooperation” (Högl, 2018, p. 2). Reciprocity is the main evolutionary mechanism that underlies cooperation (Messner et al., 2016, p. 53). We do something for others when they do something for us “when no award is apparent” (indirect reciprocity) (Messner et al., 2016, p. 53).

collaboration by influencing the status and reputations of actors. Trust affects network members' positions. It shapes and structures the network itself. Trust also has a mobilising function. It motivates actors to contribute, combine and coordinate in a more collaborative manner (Benetytė & Jatuliavičienė, 2014, p. 21).

In the management literature around trust, there exists a vast range of different **trust conceptualisations**. Here, only a few aspects of trust that seem to be fruitful for transnational collaborations in alumni networks aiming to foster sustainability transformations are presented. Trust is considered a “voluntary exposure to the ill will of another, with a faith that no such ill will exists” (Benetytė & Jatuliavičienė, 2014, p. 18). That means trust is the willingness to accept vulnerability based on positive expectations about another's intentions or behaviours. In this context, trust can also be considered an altruistic action: an act that improves outcomes for the other party, while either decreasing the chances of or risking an adverse outcome for the trusting person (Messick & Kramer, 2001, p. 90). In other words: Trust represents positive assumptions about the motives and intentions of another. Meghan Tschannen-Moran and Wayne Hoy define trust as “one party's willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open” (Tschannen-Moran & Hoy, 2000, p. 556).

This notion of trust encompasses different facets of trust that promote trust-building. Cultivating benevolence, familiarity and competence within your network increases trust. **Benevolence** implies that the needs of the other person or group are being considered and a willingness to support their interests. In other words, benevolence is “the confidence that one's well-being, or something one cares about, will be protected and not harmed by the trusted party” (Tschannen-Moran & Hoy, 2000, p. 557). **Familiarity** among network partners supports the stabilisation of network activities by generating social capital for cooperation (Koch, 2018, p. 593). “Being a competent network member means performing as expected and according to the standards of the given assignment” (Cheng et al., 2016, p. 272).

Acting reliably, predictably, honestly and openly are further factors that increase trust within your network. **Reliability** “involves positive behaviours that are consistent and predictable” (Leighton, Seitz, Chu, & Gomez, 2016, p. 60). In order to promote the development of trust “individuals must behave in a consistent and predictable manner in the interest of other members of the team” (Cheng et al., 2016, p. 272). **Honesty** includes the ideals of truthfulness, authenticity and commitment (Cheng et al., 2016, pp. 272-273). It is a fundamental asset of trust. In this context of collaboration processes in networks, being honest means being accurate and congruent in words and actions as well as following up on one's promises (Leighton et al., 2016, p. 60). **Openness** and **transparency** are crucial to avoid mistrust and enable trust (Koch, 2018, p. 594). Openness in a collaboration process determines the degree to which information can flow freely. It is the extent “to which relevant information is not withheld and it is a process by which people make themselves vulnerable to others by sharing their personal information” (Cheng et al., 2016, p. 273). This includes transparent decision-making processes. Decision should be explained and communicated in a timely manner in order to enable smooth and efficient collaboration (Leighton et al., 2016, p. 60).

2) Intentions

Intentions refer to a collective vision or the aim that a network of people or organisations are working on (Holley, 2012, p. 17). Intentional networks, as June Holley calls this category of networks, address an issue, solve a problem or develop a system or vision. Many intentional networks aim to create change or transformation (Holley, 2012, p. 220). The process of creating a shared vision for the network is called here creating the network's identity, or "we-identity".

We-identity means keeping up and nurturing a shared group spirit. This also includes maintaining and cultivating the emotional bond. We-identities can be considered as shared norms or shared beliefs, which increase the level of cooperation (Högl, 2018, p. 17). A shared set of norms (or we-identity) supports the process of building mutual trust and understanding, and it provides guidance for the work within the group (Lunardon & Pasqualoni, 2017, p. 46). We-identities are constructed – that is, they need to be actively worked on – through shared narratives, which strengthen the sense of belonging and expand the common ground (Messner et al., 2016, p. 55). Networks – here: alumni networks – play an important role in this. A prerequisite for the creation of we-identities is that an individual's own worldview needs to be transcended (Fues, 2018, p. 24). Developing a shared we-identity is key to creating a successful network with transformational impact (Quilling, Nicolini, Graf, & Starke, 2013).

Marshall Ganz (2007) explains why a successful network relies on creating a shared story – a we-identity. The individual stories of the network members as well as their experiences, values, interests and motivations must become a "story of us". The individual stories must be joined together by sharing and weaving them into one story, which means developing shared purpose, values and visions. Based on this, a strong "story of us" can be built (Ganz, 2007). Only if the individual stories are aligned with the collective story can a strong network vision be built that has the power to pull everyone in the network in the same direction. In order to strengthen a network or increase its impact and output, it needs to be clarified as to what the network is doing and how it does it. But before that, the most relevant questions are: Why does the network exist, and why does it want to achieve a specific goal? To fully unlock a network's potential, it is necessary to find out what the visions, values and competencies of the network are. The network should jointly define its future. A story about the network and a story about the present are the basis for a story about tomorrow.

3) Supporting structures enabling self-organisation and actions

To achieve impact, networks need to create explicit structures that ensure accountability, transparent communication flows as well as leadership and action (Holley, 2012, p. 22). Creating supportive structures within a network includes: setting up communication systems and platforms; restructuring resources to support networks and collaboration; setting up evaluation and reflection mechanisms; supporting "network weavers" – networkers who connect, share, align and initiate projects with a wider impact – and advising members using social media (Holley, 2012, p. 23).

Most networks are trying to achieve their objectives through actions. "Usually action in networks is self-organizing. (...) Self-organization occurs when an individual or group in the network sees an opportunity to do something and pulls together others to make

something happen” (Holley, 2012, p. 20). The more that self-organisation is supported by network structures or facilitators, the more collaborative the projects that emerge. “Action in networks is focused on opportunities and leverage points that have the greatest chance of making a difference” (Holley, 2012, p. 21). For network facilitators, supporting actions include: encouraging people to take initiative, clustering people interested in the same projects and fostering collaboration. Making actions more likely is strongly interlinked with setting up supporting structures for the network (Holley, 2012, p. 23).

Self-organisation is a crucial principle for creating actions within a network. It makes networks more innovative and adaptable, because it intrinsically motivates people to work and follow their passions. Self-organising also encourages experimentation, which is crucial to create breakthroughs that make a difference. Being more flexible through self-organised projects allows people to take advantage of the most promising opportunities (Holley, 2012, p. 170). Self-organisation is “the aspect of networks that is most likely to bring transformation” (Holley, 2012, p. 170).

3.2 Implications for alumni networks

The development pathways of social impact networks by Plastrik et al. (2014) and Holley’s (2012) success factors of network development complement each other. Their literature is beneficial in allowing us to better understand how to enable alumni networks to attain transformation towards sustainability. Since this paper is focusing on knowledge networks consisting of alumni – in contrast to social impact networks consisting of activists – the following categorisations of knowledge networks aiming to achieve social impact is suggested here: **Network of belonging**, **transactional network** and **transformative network**.⁵ These categorisations are similar to the categorisations of networks of connectivity, alignment networks and production networks. In order to highlight where the connectivity within alumni networks comes from, the first type is named network of belonging, the second type of network is dominated by support and transactions across the network, while the last type of network has transformative potential in producing joint action.

Alumni networks are especially strong in initiating and cultivating trust. The collective experience at the start of the network’s development sets the foundation for this cultivation of trust. Therefore, alumni networks develop in a slightly different manner than social impact networks. First, the feeling of belonging together (network of belonging) is strong; over time, mutual support and joint action emerges (transactional network), and finally, joint projects with social impact can develop (transformative network). Categorising alumni networks this way helps network coordinators to better tailor their network strategies, understand the development of their networks and identify unused potential. One of the main assets alumni networks have is the collective experience that alumni share. The level of trust is especially high among the network members, which can make them more efficient in creating shared impact. On the other side, categorising alumni networks according to social impact network development pathways helps to boost effectiveness within alumni

5 The International Alumni Center (iac) of the Bosch Alumni Foundation used these terms at a conference (Richter & Menz, 2020). Here they are enriched with findings from alumni and network development literature.

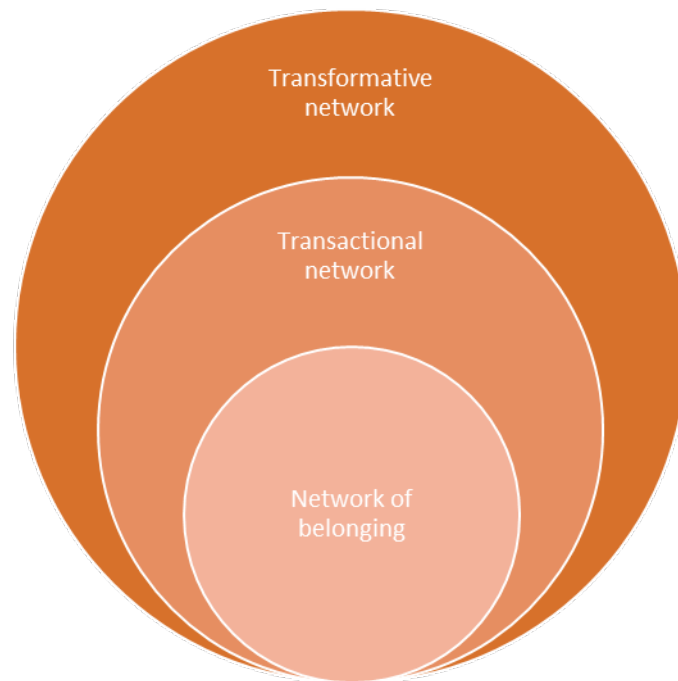
networks. The different types of transnational knowledge networks consisting of alumni are described here in more detail.

Overall, the reciprocity of relations within the **network of belonging** is characterised as a sense of belonging. Members might feel as part of a family due to the collective experience they have shared. The network members feel gratitude towards the host institution for this shared and often continually changing experience. Trust, which ideally has been built up during the shared experience, is further nurtured and increased. The role of the network facilitators in this network type is to nurture and maintain this connectivity.

In a **transactional network**, the goal then is to share contacts and improve professional networks. Network members aim to improve their personal careers through network contacts. In this step of network development, network members might also develop the desire to formulate shared goals for the network. Network facilitators should provide structures that allow for easy information-sharing and connecting with their network members, as well as facilitate group processes. One possible tool to support the development from a network of belonging to a transactional network is the establishment of working groups, which are set up around different topics. As a network facilitator, you have the option to support this process to further increase your network's development (Plastrik et al., 2014, p. 107). Setting up working groups can also be a structure to further promote the network's evolution towards a transformative network.

In **transformative networks**, the goal is to create joint projects with impact beyond the network or to initiate transformation in a wider social or institutional setting. This type of network is oriented towards a shared goal. Members can be regarded as innovators or change makers (see Holley, 2012). Network members become change makers if they take responsibility to shape change within society, their institutional context or their private environment. In this step, collective action is fostered to produce innovative practices, public-policy proposals or other projects that might have social impact (Plastrik et al., 2014, p. 35). Network facilitators should support organising and implementing collective work processes and performances (Plastrik et al., 2014, p. 105). This process demands much clearer agreements about responsibilities and time schedules as well as mechanisms that hold people accountable for delivery (Plastrik et al., 2014).

At each stage, the level of connectivity between network members increases and builds on the previous achievements. On the level of transaction, providing easy access to contact details and managing group processes is essential. Shifting towards creating joint projects and becoming a transformative network require even more commitment from the members. The level of interdependence is much deeper than in the previous network development steps (Plastrik et al., 2014, pp. 106-111). The following graph illustrates the three steps of network development, combining insights of the alumni and social movement literature.

Figure 2: Network evolution

Source: Author, based on Plastrik et al. (2014)

4 Examples of alumni networks: Success factors from the practice

Alumni coordinators were interviewed in order to see how alumni networks characterise themselves and what they identify as success factors in their applied network management. Empirical examples from the alumni coordinators helped in detecting clearer recommendations for developing transformative alumni networks. Success factors for alumni management from practice were related to theoretical insights from the alumni management literature as well as from the social movement literature. These included the Federal Foreign Office (Auswärtiges Amt, AA), the German Academic Exchange Service (Deutscher Akademischer Austauschdienst, DAAD) and the Alexander-von-Humboldt Foundation as well as the iac Berlin (International Alumni Center of the Robert Bosch Foundation). Apart from being important actors shaping transnational knowledge cooperation, the institutions' experience with alumni management and the employment of a person dedicated to alumni work were criteria for selecting these examples.

- (1) The AA represents a public national body whose alumni number approximately 3,500 diplomats (Gising, 2017). As an international alumni network and cooperation partner of the MGG Network, the AA was chosen as an example.
- (2) The DAAD, for its part, is a funding organisation for students and researchers – a service that goes back to 1925. In 2018 it counted 160 associations in 98 countries; in 2017 nearly 140,000 people were funded by the DAAD (Deutscher Akademischer Austauschdienst, s.a.). Because of its long years of experience in alumni work, insights from the DAAD alumni management were considered relevant.

- (3) The Humboldt Foundation promotes academic cooperation between scholars and researchers. Supporting, maintaining and increasing the Humboldt Network, which consisted of about 29,000 scientist in 2018, are some of the core aims of the Humboldt Foundation (s.a.-a). It prides itself on establishing a special spirit and pride for those who are part of the Humboldt Network, which made the Humboldt alumni's work particularly enticing to analyse.
- (4) The Robert Bosch Foundation's alumni activities are coordinated by the International Alumni Centre (iac Berlin) – a competence centre for impact-oriented alumni work. The iac Berlin was founded in 2017 and develops and coordinates the Bosch Alumni activities. As of 2020, the network counted 6,600 members across countries and sectors. It also functions as an advisor for other networks in the area of philanthropy and advises other networks and foundations in this area. The main aim of this network is to create transformation in society beyond the network. This is very similar to the MGG Network, which is why the iac Berlin was chosen as an example (Richter & Menz, 2020).

In the following, the alumni activities of the four institutions are presented in an overview (see Table 1 below) in order to explore how they support long-term transnational knowledge cooperation. The alumni strategies have been structured along the categories: aims, focus, activities, type of alumni management structures and success factors according to the network managers. These categories were derived from the semi-structured qualitative interviews, which were conducted with the above-mentioned alumni coordinators.

The alumni services provided by the AA include issue-driven regional meetings, meetings in the German language, financial support to strengthen ownership and issue-driven summer schools (Gising, 2017). Part of the DAAD's alumni work is to provide funding for regional alumni clubs and alumni meetings (big ones organised by the DAAD, small ones organised by the alumni clubs) and individual funding for alumni, such as funding for materials, re-invitation scholarships and special projects (Wedel, 2017). The Humboldt Foundation provides a great variety of funding for alumni from Germany and other countries. This includes, for example, sponsorship for publications and scientific cooperation between members of the Humboldt Network as well as support for being a host for academics (Humboldt Foundation, s.a.-b). The iac Berlin aims at cross-sectoral exchanges between its members and fostering international collaborations (Bosch Alumni Network, s.a.). The network supports alumni in becoming change agents. Special services that the iac Berlin offers include: Learning Exchange grants, practitioners lab, webinars or support for regional groups and innovative change ideas (Richter & Menz, 2020).

The table shows that all four alumni networks incorporate characteristics of a network of belonging. The DAAD specifically points out in its aims that it promotes the long-term connection it has with Germany. All alumni networks organise regular meetings and maintain databanks to keep in touch. The AA, the DAAD and the Humboldt Foundation named both elements as success factors. Especially the AA and the iac Berlin focus on topics that can be interpreted as elements of transactional networks, aligning the network members' capacities so they can work on shared topics. All four alumni networks provide structures to manage their networks – employing persons who are specifically responsible for network development. This structural element is important for all three types of alumni networks. The iac Berlin and the AA support and try to enable self-organisation – one of the success factors for transformative networks. Furthermore, the iac Berlin aims at

supporting alumni in becoming change makers – another characteristic of transformative networks. In the last section, the factors that are needed to further develop an alumni network's transformative potential are elaborated.

Table 1: Comparing AA, DAAD, the Humboldt Foundation and the iac Berlin				
	AA	DAAD	Humboldt Foundation	iac Berlin
Activities	Issue-driven regional meetings Meetings in German language Financial support of ownership Issue-driven summer school	Funds for regional alumni clubs Big and small alumni meetings Funds for individuals	Sponsorship of a great variety of activities for German and foreign alumni, such as: research stays, materials, conferences, colloquiums, publications	Learning exchange grants Practitioners lab Webinars Monday on the couch Regional groups Call for ideas
Aims	Promote the ideas and values of the Federal Foreign Office Networking; AA is interested in topics	Long-term connection with Germany Contribute to peaceful communication, prevention of conflicts Internationalisation Mobilisation Linking economy and science	Support intercultural and science dialogues Keep contact with researchers as contact persons Strengthen Germany as a research location Use know-how and expertise Contribute to development cooperation	Support alumni to be change makers in society Use alumni as input givers for foundation
Focus on	Topics	People	People	Topics
Type of alumni-management structure	Centralised Customised contact management	Centralised	Decentralised	Centralised through the iac Berlin
Success factors according to network managers	Centralised communication and organisation Up-to-date databank tool Issue-driven, in-person events	Up-to-date databank; filter according to keywords Provides added-value for the alumni Global alumni meetings	Up-to-date databank Sponsorship Marketing	Thematic cluster and impact fields Enable self-organisation
Source: Author				

5 Becoming a transformative alumni network

The main aim of this paper was to provide an answer for network facilitators – especially those in alumni networks – about how to develop their network's capacity to create transformation towards sustainability. First, the alumni management literature was presented to explore the definition and benefits of alumni management in general. Alumni management is one form of network development in which, ideally, the hosting institution and the alumni both benefit from continued interaction. The analyses of the alumni management literature demonstrated that alumni networks' greatest potential lies in their shared experience. Network participants have experienced an especially intensive and often life-changing time together. That creates especially strong connections and relations among this group of people. Obviously, these connections and levels of trust were primarily built within one group. The challenge for network facilitators is to expand these trustful relations beyond one group and spread them across all network members. Nevertheless, this is an advantage that alumni networks have, in contrast to other networks from, for example, the social movement area.

Findings from the previous sections are now combined and illustrated in the following Table 2, which summarises and characterises the necessary conditions that support networks in reaching their respective aims. The first column lists the three different steps of an ideal network evolution: 1. Network of Belonging, 2. Transactional Network and 3. Transformative Network (see Section 3.1). The first row displays the necessary elements to create a successful network (as explained in detail in Section 3.2): connections in the form of relations and trust, a network identity (including a purpose, vision, mission, values, competencies, leverage points), supporting structures and activities. Ideally, transformative networks include all conditions of the other two network types. In reality, the different steps and conditions mostly do not develop in a linear process.

Table 2: Characteristics and conditions to develop networks' transformative capacities				
Conditions for/ network evolution (connected human desire)	Activities	Connection/ relations/ trust	Network identity	Supporting structures
Network of belonging (belonging and connecting)	Nostalgic get-togethers Acts of gratitude (donations)	Confidence Personal familiarity Competency	Nostalgic/shared experiences in past	Maintain up to date databank
Transactional networks (sharing)	Sharing contacts, bringing people together, mentoring	Openness Honesty Authenticity	Share contacts Professional network Establish shared identity (?)	Accessibility to contact details, making easy connections
Transformative networks (making a difference)	Create shared topics with social impact	Commitment Dedication	Shared future narrative	Enabling ownership/ Facilitate project implementation Provide feedback structures
Source: Author				

I now recommend five factors to support alumni networks in developing their transformative potential.

Recommendation #1: Align your activities to the life stages of your alumni

Keeping alumni engaged is most promising when the hosting institution addresses the alumni's specific needs over time. Alumni have different experiences that change over time due to career choices and different stages of life. Typically, a participant develops from a fresh alumnus*a (with strong sense of belonging but experiencing challenges of returning home) into a junior alumnus*a with a stronger interest in networks but also greater family and career responsibilities, before becoming a midlife alumnus*a whose reputation has grown while the amount of free time as well as need for networks have increased. A nostalgic alumnus*a is typically full of gratitude and willing to give back. These types of seniors use networks regularly. With regard to transformative networks, fresh alumni are often especially dedicated to making a difference and are still full of spirit and motivated to make change happen. Over the years, private and professional responsibilities tend to increase. Midlife- and nostalgic alumni can later become important "network weavers" with a wide range of connections (transactional networks), develop feelings of gratitude (network of belonging), have experiences in experimenting and innovating, as well as acquiring know-how to create change. Nostalgic alumni might have collected experiences as change makers and ideally share their knowledge with fresh alumni (transformative networks).

To maintain this network of belonging, host institutions should nurture the strong connections, for example through regular face-to-face meetings, in which nostalgic memories are cultivated. The DAAD, the Humboldt Foundation and the MGG Network do this through regular domestic and international alumni meetings. Strong memories come back especially when the meetings take place in the same locations as the prior experiences had taken place, which nurtures a sense of belonging. An up-to-date databank is crucial for enabling regular alumni meetings. Alumni feel a deep gratitude and a willingness to give something back.

Recommendation # 2: Invest in trust-building

The social movement literature and practical network development handbooks provide important recommendations on how to make networks successful. June Holley (2012) recommends working on the following aspects to create successful networks: relationships, intentions, support structures and actions. Creating relations, which benefit successful networks, include: connecting people, building trust and bringing new people into the network. This paper regards trust as the fundamental basis on which relations are grounded, because the more that trustful relations exist, the more the number of collaboration processes within the networks. Trust allows network members to economise information, increases efficiencies, transaction costs are lowered and decision-making processes are simplified. Trust supports knowledge-sharing while facilitating cooperation and shared problem-solving, which are all core functions of successful networks. This paper suggests working with Meghan Tschannen-Moran and Wayne Hoy's definition of trust, which describes benevolence and confidence; reliability and predictability; competence; honesty; openness as well as familiarity as being essential elements of trust. Working with these different notions of trust allows network facilitators and members to operationalise trust in everyday practices.

In alumni networks of belonging especially, aspects of trust such as personal familiarity, confidence and competence play important roles. During the shared training experience, a fundamental trust in the network – but also in the other participants – should have been developed. Network facilitators should not miss the opportunity to seed the fundamental conditions for a strong sense of belonging and deep trust in this first collective experience. Later, network facilitators normally use alumni meetings to revive the network's identity and maintain trustful relations. Over time fresh alumni become nostalgic alumni, ideally look back full of gratitude, and are willing to support their hosting institution and fellow network members. In transactional alumni networks, the aspects of openness, honesty and authenticity become additionally important. Only when experiencing mutual openness and honesty within the network will members share their professional contacts. Within transactional alumni networks, the last aspects of trust – commitment and dedication – play a crucial role. The initiating and implementing of joint projects demands much more commitment and dedication than only sharing knowledge and information regarding professional contacts.

Recommendation # 3: Develop a we-identity

The third element, which is crucial for successful networks according to June Holley, is intentions or a network's "we-identity". We-identities are a set of collective norms and beliefs that support the building of mutual trust. Ideally, we-identities are created together within the network and encompass dimensions such as the network's purpose, vision, mission, competencies, values and leverage points. Whereas in alumni networks of belonging the network's identity normally focuses only on a shared experience in the past, in transactional networks, members often start to establish identities that goes beyond this. Transformative networks then need to establish a shared future narrative to create projects with social impact beyond their network. What is the network's vision and mission for the future? What is the network's purpose? Which leverage points do the network members see for creating impact? Additionally, the other aspects of a network's identity should also be continually worked on, such as the network's values and competencies. This process should be participatory and collective. The whole network should be able to contribute in order to create legitimacy. A collectively established we-identity can function as a guiding framework for the network's actions. The Humboldt Foundation cultivates a very strong we-identity and spirit of togetherness, which is illustrated in their claim "once a Humboldtian, always a Humboldtian".

Recommendation # 4: Provide supporting structures for making easy connections

To be successful, networks should create supporting structures, which enable action. Supportive structures within a network can include setting up communication systems, digital community platforms, helping people to use social media, enabling and supporting collaboration processes as well as evaluating and reflecting on the network's impact. In alumni networks of belonging, network facilitators mostly organise regular alumni meetings to nurture shared memories. Transactional networks additionally provide structures that enable making easy connections and the sharing of contacts among network members. Actions usually include connecting like-minded people and enabling new business opportunities. The alumni network of the AA benefits from sharing professional contacts.

Recommendation # 5: Enable self-organisation

One of the most crucial elements for transformative networks though is creating supporting structures that include setting up and initiating self-organisation within the network. Self-organisation is the engine of collaboration projects in networks. It is also the aspect that is most likely to bring transformation. Network facilitators' main goal should be to enable self-organisation and facilitate the implementation of collaboration projects. Network facilitators should also regularly promote an active feedback culture as well as evaluation mechanisms for the network's impact. The iac Berlin and the AA network both highlighted how crucial the enabling structures are for initiating self-organisation. The AA established, for example, an innovation fund to support innovation within their network.

6 Conclusions

How knowledge networks can fully develop their transformative potential through strategic alumni management is relevant for alumni coordinators, network facilitators and decision-makers involved in network activities. The paper defined alumni management as being the hosting institution's aim to professionalise, institutionalise and structure their network of former participants who have completed a training or education programme. Furthermore, the mutual benefits for the hosting institution as well as for the alumni were highlighted. From this perspective, alumni management is beneficial for a range of training or education institutions. Networks are an incremental part of contemporary society. Therefore, improving networks' efficiency and impact is also relevant for sectors beyond education or research.

Our findings are based on a combination of the alumni management literature, the social movement literature and empirical examples from alumni networks, including the MGG Network, which is hosted by DIE. The first recommendation – align your network activities to the life stages of alumni – was acquired from the alumni management literature. In other sectors, it could be applied to aligning your network's activities to the needs of *your target group*. The second recommendation – to invest in trust – is based on both the social movement literature and experiences from the MGG Network. Investing in trust takes time and is a continuous task; in fact, it is essential for all forms of cooperation. The third recommendation – invest in developing a we-identity – is based on the social movement literature, experiences from various alumni networks as well as on own processes within the MGG Network. Investing time to develop a shared vision helps to motivate collaboration partners and establishes common points of reference. The forth recommendation – to provide supporting structures – is discussed in the alumni literature, the social movement literature as well as in own interviews with alumni coordinators. What is meant here is to create structures to formalise initially loose networks, which is an incremental step to achieve a shared goal. The recommendation to enable self-organisation – our fifth and last – is specifically highlighted within the social movement network development literature. It is linked to the aspiration of achieving transformation: Creating spaces and structures for self-organisation is essential for creating impact beyond the confines of one's own network.

In short, transformative alumni networks need to

- (1) align their activities to the life stages of their alumni,
- (2) establish and nurture trustful relations among their network members – encompassing all elements of trust (benevolence and confidence, reliability and predictability, competence, honesty, openness as well as familiarity and intimacy),
- (3) initiate and continually work on a collaborative we-identity process,
- (4) provide supporting structures that allow for making easy connections as well as
- (5) enable self-organisation.

I argue that when an alumni coordinator, network facilitator or decision-maker involved in networks takes these five recommendations into consideration, it enhances the potential of a knowledge network to support societal change.

Networks are a tool to facilitate cooperation, enable collaboration on eye-level and create space for mutual dialogue. With the increasing complexity of society's challenges – the Corona pandemic, climate change, migration, cyber criminality and many more, to name just some examples – networks are becoming more important. Global issues demand collaborative solutions and cannot be tackled by one nation or one actor alone; first, agreement needs to be reached on the priorities for tackling the challenges on a global scale so that important actors are – or can be – brought on board. Communities and societies need to cooperate in order to collectively define the problems and find the solutions, thereby including a variety of perspectives and increasing the legitimacy and local suitability of suggested solutions. From a network member's perspective, the network needs to be relevant to the current stage of his or her professional life – while also contributing to the greater common good that the respective group is aiming for. Although this paper focused on transformative alumni networks, our recommendations can also be considered for different types of networks to improve their social and political impacts. Investing in trust, a shared vision and structures of self-organisation are especially effective instruments for increasing cooperation to work on complex challenges.

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