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Organisational Emergence – Interdisciplinary Perspectives against the Backdrop of the Digital Transformation**

Abstract

Organisational emergence is of key interest in organisational theory. Most of the present studies, however, analyse the emergence of changes in already existing phenomena such as, for example, how strategies or organisational routines are subject to change. In contrast, previous research in organisational theory has rarely addressed organisational emergence in essence (i.e., from scratch) and might benefit from looking beyond the confines of one's own discipline. To address this void, we draw on the case of digital emergent self-organised organisations as an exemplary form thereof. Emerging organisations in digital environments appear to be created much more spontaneously, and multiple processes occur simultaneously. So, probing into a digital environment allows us to get a fresh perspective on organisational emergence and to advance previous theorising by incorporating notions from the fields of leadership and entrepreneurship.

Keywords: organisational emergence, digitisation, organisational theory, entrepreneurship, leadership
(JEL: M10, M12, M13, M15, O33)

Introduction

Organisational emergence represents a traditional topic in organisation theory. Among others, organisational emergence is described as a change of organisational phenomena pervading the organisation such as organisational culture (Armenakis & Bedeian, 1999) or as a flow of processes, routines, and strategies (e.g., Feldman & Pentland, 2003). What most of these organisation theoretical studies have in common is that they analyse the emergence of changes in already existing phenom-

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ena such as, for example, how strategies or routines are subject to change in existing firms.

However, previous research has hardly addressed organisational emergence in essence, i.e., how organisations actually come into being 'from scratch'. As Bapuji, Hora, and Saeed (2012, p. 1588) observe for routines, previous research has "rarely examined the emergence of routines" – and in particular, as we would add, the very emergence of initial organisational routines. Hence, research on the processes of genuine organisational emergence remains scant and a better comprehension of how organisations come into being is needed.

We seek to address this issue by drawing on organisational theory as a baseline, which we infuse with the literatures of leadership and entrepreneurship as neighbouring fields because we feel that they oftentimes address organisational emergence, though terminology might vary. For instance, following the idea of leadership as informal, emergent, and dynamic as pointed out in complexity leadership theory (Uhl-Bien, Marion, & McKelvey, 2007), leadership research identifies emergent leadership and shared leadership as important success factors in emergent, dynamic, and self-managed organisational settings (see, for example, Hoch & Dulebohn, 2017; Plowman et al., 2007). Along similar lines, in entrepreneurship studies the process of organisational emergence is often linked with nascent entrepreneurship – the establishment of a new organisation by pursuit of different (required) actions such as developing an idea, writing a business plan, acquiring funding, and recruiting personnel. This burgeoning literature stream provides several explanations why some organisations ultimately emerge, while others stop their activity. For instance, previous studies have argued or shown that nascent entrepreneurship is forwarded by legitimacy (Tornikoski & Newbert, 2007), human and social capital (Davidsson & Honig, 2003), and perceived obstacles (Kollman, Stöckmann, & Kensbock, 2017).

By linking these perspectives, we seek to enhance the understanding of organisational emergence. We thereby draw on the case of digital emergent self-organised organisations. These are plausible candidates to explore organisational emergence because among them emergent organisations and emergent organising oftentimes unfold in a well-documented fashion (Kozinets, 2002). Moreover, emerging organisations in digital environments appear being created much more spontaneously, and multiple processes occur simultaneously. So, probing into a digital environment allows us to get a fresh perspective on organisational emergence and to advance our understanding. Thus, our paper aims to offer an answer to the following research question: *How can organisational emergence in digital environments be conceptualized?* For this, it starts with an exploration of the organisation theoretical perspective on organisational emergence and then explores what we can learn from neighbouring disciplines such as leadership and entrepreneurship in order to better conceptualize organisational emergence in digital environments.

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Organisation Theory and Its Multiple Contributions to Emergence

Viewed from an organisation theoretical stance, emergence has been addressed from a *number of theoretical perspectives and a variety of empirical phenomena* (e.g., Feldman & Pentland, 2003; Mintzberg & McHugh, 1985). To offer a *working definition* for the following elaboration, we perceive organisational emergence as a process consisting of nascent multiple predominantly goal-directed activities for establishing boundaries and systems of activities. Herein we follow ideas put forward, among others, by Aldrich and Ruef (2006) who advocate an evolutionary understanding of the way organisations develop. However, we do not theoretically intend to follow this line of research, namely evolution theory, though the definition is useful for our purposes. In what follows, we present insights from different organisation theoretical perspectives, e.g., literature on strategy, routines, crisis management, and IT-based settings to elucidate our understanding of organisational emergence.

Insights from Organisation Theoretical Accounts Relating to Strategy

One of the probably earliest treatise of *emergence in the literature on strategy* stems from Mintzberg and McHugh (1985). The authors' key interest was to sensitise for the observation that making and pursuing strategies is not a generic and static phenomenon. Instead, the authors propose that deliberate and emergent ways of how strategies unfold represent the ideal types from which a continuum evolves. Moreover, when considering the aspect of emergence in terms of the way a strategy unfolds, once a strategy is developed, it is likely being subject to change. This idea represented a stark contrast to the dominating deductive and top-down oriented approaches of strategic management.

The authors justify this assumption that a strategy will most likely not be implemented as supposed by relating back to strategies as exhibiting a long-term character – and along the way of implementing the strategy, there are numerous unforeseeable occasions that alter the course of the strategy as defined ex ante. The reasons for lacking an implementation of the strategy as intended are twofold. First, unpredictable events – as already insinuated – might lead to a strategy being abandoned, i.e., an unrealised strategy (Mintzberg & McHugh, 1985). Second and more important for our inquiry, there are bottom-up emergent phenomena that might have an influence upon the way strategising unfolds. It is suggested that emergent changes to the intended strategy are possible. As influencing factors, the authors assume that autonomous actions by organisational members might simply alter the intended trajectory of a strategy. Moreover, reallocating resources might distort or amplify (and at least modify) the way a strategy is put into practice. Finally, the possibility of serendipity to occur is also assumed. The aforementioned two phenomena distorting an intended strategy, unpredictable events, and bottom-up emergent aspects, culminate in a realized strategy.

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Insights from Literature Focusing on Organisational Routines

Research on *organisational routines* (Feldman & Pentland, 2003) focuses upon routine dynamics understood as routine stability and change. Viewed from this perspective, the emergence of routines can be understood as "a process that produces new routines, i.e., new, repetitive, recognizable patterns of concerted, individual actions when no previous pattern has existed" (Sargis-Roussel, Belmondo, & Deltour, 2017, p. 102).

To recognise a routine as a routine by other participants, it is commonly assumed that routine participants need to have a shared understanding of the very routine at stake (Danner-Schröder, 2016; Feldman & Rafaeli, 2002), usually culminating in a coordination of activities across participants (Cohen & Bacdayan, 1994). Even in crisis situations, when the situation is constantly changing, high-reliability organisations rely heavily on routines. As Danner-Schröder and Geiger (2016) have shown, routine actors need to act flexibly in dynamic settings, however, this flexibility is incorporated into the knowing of routine participants. Flexible routine enactment is not a process of enacting new routines, however, the sequences of routines are new each time. Actors select and recombine different routines according to the situation. Nevertheless, predictability is key, understood as allowing a routine to be relied upon by actors (i.e., the expected likelihood of a routine to reoccur under specific circumstances; Pentland, Feldman, Becker, & Liu, 2012). Bapuji et al. (2012) focused on the emergence of a new routine and suggest that routines emerge from the interaction between actors. In their study on changing towels in a hotel, they showed that this process is facilitated through intermediaries that communicate the intentions from one actor to another. However, it was the emergence of a new routine out of an already existing one. Thus, the context was well known to the routine participants.

Insights from Crisis Management

Venturing beyond general organisation theoretical insights into emergence, we now turn attention to advances made in the literature dealing with crises. As in the example of Hurricane Katrina in which several spontaneous organisations emerged as a consequence of the disaster (Majchrzak, Jarvenpaa, & Hollingshead, 2007), crisis management is sensitive to organisational emergence as each crisis is different (for an overview see Müller-Seitz & Schüßler, 2013). Thus, we shed light upon organisation theoretically informed studies that use crises as an empirical canvas for their inquiries.

Relating to the idea of *bricolage* as set forth by Lévi-Strauss (1966), the key idea addresses the need and wit to make the best out of the resources at hand (see for an overview Duymedjian & Rüling, 2010). Bearing this insight in mind, bricolage targets the act of spontaneously (re-)using of what is presently available and an open-endedness in terms of what is supposed to being pursued. A prominent contribu-

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tion where bricolage was adapted is that by Weick (1993), who reanalysed the Mann Gulch disaster. In his reinterpretation of this disaster where several firefighters died in a gulch due to misinterpreting the situation, he proposes that *dropping one's tools* to act spontaneously in the face of crisis might be essential and enhance individual – or in more general terms – organisational resilience. He justifies his rumination with the way one of the firefighters survived, when he discarded conventional firefighter wisdom by setting fire around him to fight off the advancing fire, which in the end saved his life. Moreover, Weick's (1995) interest in organising – rather than organisations – is of further interest insofar as he directs attention at the emergence of novelty.

In a similar vein, Berthod, Müller-Seitz, and Sydow (2014) observe how actors from different spheres react on an emergent basis to a crisis unfolding. Taking the outbreak of a deadly disease in Germany as an example, they introduce the idea of interorganisational assemblage, understood as consisting of different actors that are facing several barriers (i.e., missing ties across relevant actors, uncertainty, and a bureaucratic heritage), which they can overcome by a common frame of reference consisting of potential actors' gains, past experiences, and existing infrastructures. The idea of interorganisational assemblage that is formed ad hoc sensitises us for the relational dimension of organisational emergence. Nonetheless, IT-based features of responding to crises are not decidedly taken into account and only fleetingly mentioned.

Another prominent study that explicitly addresses the idea of emergent self-organised organisations in response to crises is the study of Majchrzak et al. (2007). They analyse responses to Hurricane Katrina that caused social and economic havoc. In the aftermath of this incident, several spontaneously formed emergency-related self-organised activities and ephemeral organisations (Lanzara, 1983) emerged. Applying the group-oriented conception of transactive memory systems (TMS), they refine the TMS approach to the settings of crises. For instance, the authors argue that trust is more important than credibility, and voluntary engagement is key when compared to more conventional settings where prior expertise is deemed decisive to assess members' expertise. Though the authors touch upon IT-mediated instances of the way emergency responses are organised, they nonetheless also fall short of genuinely taking the IT-based nature of organisational emergence into account.

Insights from Organisation Theoretical Accounts Relating to IT-Based Settings

Digitisation enables individuals and organisations to more easily experiment with new forms of value creation and interact with significantly more and more stakeholders (Zott, Amit, & Massa, 2011) by at least two (related but distinct) mechanisms. On the one hand, business and innovation processes as well as their results are less constrained by physical, structural, spatial, and temporal boundaries (Danner-

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Schröder, 2018). On the other hand, digitisation means that a larger number and, in some cases, changing actors can be involved in the organisational emergence process. For example, crowdfunding platforms, digital maker spaces, and social media platforms allow more democratic and collective forms of cooperation in emerging organisations. Thus, digitisation can help to shift influence in emerging organisations from individuals to groups or more quickly between different persons/groups. This creates dynamics that can positively influence organisational emergence, but also make these processes less predictable (Baum, 2018).

Reflecting upon information technology, this research stream gained increasing attention in the 1990s, when IT-based devices (e.g., computers and laptops) became widespread and when subsequently the internet allowed for global connectivity a few years later. Informative organisation theoretical accounts for our purposes stem from the debate about open source software (OSS for short). OSS was introduced to counter the for-profit orientation of proprietary software with the aim to be as inclusive as possible (Raymond, 2001; Torvalds & Diamond, 2002).

Two key issues appear worth considering in particular to better comprehend the way IT-based organising unfolds: First, in line with the affordance perspective (Leonardi, 2011; Leonardi & Vaast, 2017), the internet exhibits several features that facilitate the emergence of organisations. *Digital affordances* encompass, for instance, generativity, disintermediation, and decoupling (Autio, Nambisan, Thomas, & Wright, 2018). Generativity describes the ability of the internet to spontaneously generate an innovative input from a large, non-centrally coordinated audience (Zittrain, 2006). The increasing digitisation exerts a decisive influence on this ability by bringing together people from all parts of the world and facilitating exchange relationships between them (Autio et al., 2018). Disintermediation describes the ability to create direct interactions between creators of products and services and end users. Digitisation makes it easier to circumvent merchants or other intermediaries and thus to deliver directly to end users or to enter into an exchange relationship with them and include them directly in the design and creation process. Decoupling between physical form and utilisation is provided, among other things, by the reprogrammability of digital technologies. This mitigates factor specificity and increases flexibility in vertical transactions (Baum, 2018).

Second, *motivational factors* are worth exploring to comprehend the reasons why participants volunteer to engage in self-organised settings. In that regard, digital technologies provide vast possibilities for confidence-building features (e.g., certificates, user ratings, or trustworthy payment systems) that establish extrinsic motivational cues. In terms of the *IT-based features* of online groups such as open source software development activities (see Faraj, Jarvenpaa, & Majchrzak, 2011), it is critical to note that the ubiquity of the internet lowers the barriers for participating and coordinating organisational emergence processes. What is more, the possibility to modularise tasks helps to allocate persons to tasks that they feel comfortable dealing

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with. In addition, it is possible to divide an overarching task or ambition into manageable chunks (Baldwin & Clark, 2006; Benkler, 2002). Viewed from the perspective of persons that aspire to engage themselves in emerging organisations, drawing on Deci (1975), several studies concerning OSS (Lakhani & Wolf, 2005; Lerner & Tirole, 2002) or related phenomena have documented the possibility that the IT-based features allow for intrinsically and extrinsically motivating experiences. Intrinsic motivation can stem from the sheer possibility to offer assistance to others or to practise one's own skills. Extrinsic motivation might stem from the possibility to retrace online contributions. For instance, Kaiser, Müller-Seitz, Lopes, and Cunha (2007) have documented this for online diaries (weblogs), where contributions can conveniently be traced back in a chronological fashion, allowing authors to heighten their visibility.

Taking Intermediate Stock

Summing up the aforementioned, we feel that organisational emergence from an organisation theoretical perspective is conceived as relating to a – at least to a certain degree – coordinated and reciprocal pattern of communication and/or action to pursue joint objectives. The actions that are produced are partially new, however, emergence and, therefore, new actions in these studies are analysed in already existing settings. For example, emergent strategies do not emerge out of nothing, they emerge while already following an intended strategy or operating in an existing organisational frame. Organisational routines emerge when already existing routines are changed or are enacted in a flexible way. Within the realm of crisis management, actors are per se confronted with very dynamic settings that are to some extent new each time. Nevertheless, actors make the best out of the resources at hand and build heavily on well-established routines. Even though each sequence of action might look differently, the context as such – as very dynamic – is known by the participants. Information technology might be used flexibly. However, as pointed out above, some constraints still exist for emergent enactments given the enabling and constraining characteristics when one adopts an affordance perspective (Leonardi, 2011; Leonardi & Vaast, 2017) and given the ubiquity of digital infrastructures venturing beyond mere e-mail correspondence (e.g., current possibilities and visions for the internet of things and services, such as autonomous production systems or artificial intelligence enabled interaction between humans and robots; see, e.g., Rohs & Rabl, 2019, for examples).

Despite merits relating to these perspectives, we feel that looking beyond the rim of organisation theory might be fruitful as several gaps in our understanding remain particularly due to the new realities created by digital transformation. Given the affordances of digital technologies, organisational emergence should become less constrained on individuals or established organized settings, but become more crowd-based with changing and diverse actors and fluctuating involvement levels of partic-

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ipants in the organisational emergence process. Emergence should also become less static, predictable, and "strategised" but more means-driven, contingency seeking, and virtually embedded, with team members informally arising as leaders and sharing leadership roles and working together in a digital instead of a physical setting. Bearing these observations in mind, we feel it justified to turn our attention to the neighbouring perspectives of leadership and entrepreneurship research because these two research streams represent viable candidates to enhance our understanding concerning the sketched conceptual challenges.

Leadership Perspective

Now, what can we learn from a leadership perspective on organisational emergence? According to the organisation theoretical view, emergent virtual organisations reflect organisational forms with "novel and coherent structures, patterns, and properties" (Goldstein, 1999, p. 49) that a) arise through a "process of self-organization in complex systems" (Goldstein, 1999, p. 49), i.e., result from the actions, reactions, and transformations of interdependent agents (Chiles, Meyer, & Hench, 2004) who b) are swift-starting, i.e., have to cooperate immediately without knowing each other before in order to respond to urgent tasks (Munkvold & Zigurs, 2007) and c) "use [digital] technology in working across locational, temporal, and relational boundaries" (Martins, Gilson, & Maynard, 2004, p. 808). Due to these specific characteristics, the question arises how leadership is enacted in such organisations.

Following complexity theory (Gleick, 1987), emergent virtual organisations can be seen as complex adaptive systems that are characterised by dynamism, non-linearity, and self-organisation (Anderson, 1999; Chiles et al., 2004; Plowman et al., 2007). Consequently, complexity leadership theory (Uhl-Bien et al., 2007) can serve as a base for identifying leadership research streams that will enlighten our understanding of leadership in emergent virtual organisations. Complexity leadership theory emphasises the role of leadership as an "informal emergent dynamic that occurs among interactive agents" (Uhl-Bien et al., 2007, p. 305) in order to create adaptive outcomes. In accordance with this definition, two leadership concepts appear to be particularly relevant in emergent virtual organisations: emergent leadership and shared leadership. Both are characterised by an internal locus of leadership (i.e., leaders are part of the team and involved in the team's tasks) and by informality (i.e., no responsibility for team leadership is assigned) (Morgeson, DeRue, & Karam, 2010) and have been identified as important in self-managing virtual teams (Hoch & Dulebohn, 2017).

Emergent Leadership

Emergent leadership "describes an individual leadership phenomenon whereby an individual arises as team leader informally, without being assigned formal leadership responsibility" (Hoch & Dulebohn, 2017, p. 2). Empirical research on au-

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tonomous, self-managing, and virtual teams offers us insights into relevant determinants of leader emergence in emergent virtual organisations.

As both generativity and disintermediation are important affordances linked with digital technologies that enable the immediate participation and direct communication of a large group of actors (Autio et al., 2018), emergent virtual organisations are characterised by high dynamism. In such environments, individuals with high general cognitive ability (see Rabl & Petzsche, 2018) are likely to emerge as leaders because of high information processing and problem-solving skills as well as high adaptability, learning ability, flexibility, and creativity (Taggar, Hackett, & Saha, 1999).

As in emergent virtual organisations members are likely to be highly diverse with regard to a number of characteristics such as sociodemographics, personality, knowledge, skills, and abilities, empathy (see Rabl & Petzsche, 2018) is likely to be another critical precondition for leader emergence (see Wolff, Pescosolido, & Druskat, 2002), particularly in initial stages of virtual team development (Sarker, Grewal, & Sarker, 2002). Wolff et al.'s (2002) study on self-managing teams showed that empathy, defined as "sensing others' feelings, perspectives, and taking an active interest in their concerns" (Goleman, 1998, p. 318), was positively related to the cognitive skill of perspective taking, which – in turn – was related to being chosen as an informal leader.

Moreover, in emergent virtual organisations, swift trust plays an important role (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2015). Swift trust is dynamically resulting from action based on inferences about "how people might care for what [others] entrust to them" (Meyerson, Weick, & Kramer, 1996, p. 192). It is tied to expectations about whether individuals will competently and professionally fulfil their duties (Meyerson et al., 1996). In virtual teams, emerging informal leaders were found to be individuals who are trusted by organisational members regarding their role performance (i.e., their competencies regarding necessary goal-directed behaviours), their ethical integrity (i.e., their choice of behaviours that are accurate and appropriate to the situation), and their affective bonds (i.e., their relationship-building abilities; Tyran, Tyran, & Shepherd, 2003). Trust is a critical precondition for leadership emergence particularly in the initial stages of team development, while credit gained through demonstrated performance is critical in all stages (Sarker et al., 2002). Agreeableness – a personality characteristic reflecting facets of affective bond trust (see Costa & McCrae, 1992) – was shown to be positively related to emergent leadership oriented toward members' social needs, while conscientiousness – a personality characteristic reflecting facets of role performance and ethical integrity trust (see Costa & McCrae, 1992) – was shown to be positively related to emergent leadership oriented toward the team task (Cogliser, Gardner, Gavin, & Broberg, 2012).

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Due to the virtuality of emergent virtual organisations, members' communication (see Rabl & Petzsche, 2018) is crucial with regard to leader emergence. Findings regarding the relevance of communication frequency are mixed, showing either positive (e.g., Yoo & Alavi, 2004) or no relationships (e.g., Sarker et al., 2002) with leader emergence in virtual teams. A number of studies, however, indicate that – beyond the potential role of communication frequency – communication effectiveness (i.e., speed and accuracy of message typing; Charlier, Stewart, Greco, & Reeves, 2016) or communication quality (i.e., idea dense, linguistically complex, but easy comprehensible messages; Balthazard, Waldman, & Warren, 2009; Johnson, Safadi, & Faraj, 2015) are important prerequisites for leader emergence, particularly for emergent transformational leaders, i.e., those who clearly, thoughtfully, and appealingly communicate inspiring ideas that generate confidence and credibility (Balthazard et al., 2009; Tyran et al., 2003).

Referring to studies taking a social network perspective on virtual team settings (e.g., Fleming & Waguespack, 2007; Sutanto, Tan, Battistini, & Phang, 2011), centrality is likely to be another important predictor of leader emergence in emergent virtual organisations. Particularly members taking mediating and directing roles (rather than monitoring roles) are likely to be perceived as a leader (Sutanto et al., 2011).

Emergent virtual organisations are characterized by membership of people who are geographically and/or temporally dispersed (Tong, Yang, & Teo, 2013). Charlier et al.'s (2016) study showed a positive relationship between team dispersion and emergent leadership. It is argued that the more dispersed team members are, the more salient becomes the shared task environment in which team members operate, offering opportunities to engage in leadership for a larger number of individuals.

Shared Leadership

Charlier et al.'s (2016) finding already indicates that another leadership concept becomes relevant in the context of emergent virtual organisations: shared leadership. It is defined as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another on the achievement of group or organizational goals or both" (Pearce & Conger, 2003, p. 1). Rather than having one single individual holding the leadership role, leadership is a "team phenomenon whereby leadership roles and influence are distributed among team members" (D'Innocenzo, Mathieu, & Kukenberger, 2016, p. 1968). While emergent leadership focuses on the selection of an appointed leader, shared leadership addresses the "'serial emergence' of multiple leaders over the life of the team" (Pearce & Conger, 2003, p. 9). In settings such as emergent virtual organisations in which individuals with diverse personal characteristics manage themselves in order to successfully act in often ambiguous situations, shared leadership is likely to emerge (Carson, Tesluk, & Marrone, 2007). If leadership is shared to a high degree, organisational members

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are engaged in mutually reciprocated acts of leading and following that occur simultaneously (DeRue, 2011). While they lead with regard to certain aspects relevant for team functioning, they follow others' leadership with regard to other aspects (Carson et al., 2007).

Emergent virtual organisations show group characteristics (e.g., member diversity) and task characteristics (e.g., interconnectivity, complexity, criticality, and urgency) that Pearce and Sims (2000) pointed out as antecedents of shared leadership. In addition, Carson et al. (2007) identified an internal environment characterised by shared purpose (i.e., members' similar understanding of the team's objectives), social support (i.e., members' mutual provision of emotional and psychological strength), and voice (i.e., members' participation and input) as preconditions for shared leadership.

Shared leadership, in turn, prompts affective, cognitive, motivational, and behavioural processes such as trust, team learning, team cohesion, and member-member exchange that are critical to team performance (Hoch & Kozlowski, 2014; Zaccaro, Rittman, & Marks, 2001). Empirical research found positive relationships between shared leadership and virtual team performance (e.g., Carte, Chidambaram, & Becker, 2006; Hoch & Kozlowski, 2014; Muethel, Gehrlein, & Hoegl, 2012; Yoo & Alavi, 2004). Consequently, shared leadership is a likely critical factor for persistent performance of emergent virtual organisations.

Entrepreneurship Perspective

In the entrepreneurship literature, organisational emergence is often seen to be connected to the demonstration of a specific (entrepreneurial) intention, establishing boundaries, acquiring resources, and engagement in exchanges (Katz & Gartner, 1988). Research on entrepreneurship has put considerable effort into understanding each of these cornerstones (take for instance Schlaegel & Koenig, 2014, for a review on the antecedents of entrepreneurial intent).

In this line of research, the process of organisational emergence is often linked with nascent entrepreneurship – the establishment of a new organisation by pursuit of different (required) actions such as developing an idea, writing a business plan, acquiring funding, and recruiting personnel. This burgeoning literature stream provides several explanations why some organisations ultimately emerge, while others stop their activity. For instance, previous studies have argued or shown that nascent entrepreneurship is forwarded by legitimacy (Tornikoski & Newbert, 2007), human and social capital (Davidsson & Honig, 2003), and perceived obstacles (Kollman et al., 2017).

Another research avenue that is deemed helpful for explaining organisational emergence is research on effectuation (Sarasvathy, 2001, 2008). Effectuation is a decision making logic that views entrepreneurial projects as means-oriented cooperative pro-

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cesses in which entrepreneurs find creative solutions, consider affordable losses, and leverage contingencies (Hubner & Baum, 2018a; Sarasvathy, 2001). Effectuation therefore provides a more dynamic and less causal view on organisational emergence than causation, assuming a rather strategically planned, goal-oriented approach. As such, effectuation may be helpful in explaining organisational emergence in a digitally enabled dynamic context (i.e., social network sites), as decision processes can be group centred and means as well as the ultimate goals of the community can shift in such settings.

We draw on these and related literatures in order to advance our understanding of organisational emergence and provide a framework for researching organisational emergence in the context of social network sites. In the following, we focus on legitimacy, human capital, social capital, and entrepreneurial orientation and how these factors influence organisational emergence in social network sites. We will furthermore briefly incorporate how specific behavioural capabilities (affordances) of the features of social network sites (Smith, Smith, & Shaw, 2017) influence the respective mechanisms. We focus on social network sites here because they are important digital platforms that allow for collaboration, resource integration, and coordination at very low costs and already very early in the organisational emergence process.

Legitimacy

Legitimacy, a social judgment of acceptance, appropriateness, and desirability (DiMaggio & Powell, 1991) is one of the major pillars in institutional theories and has informed organisational research for decades. Legitimacy is also deemed important in the organisational emergence process (Perkmann & Spicer, 2014). In order to remain active, new organisations have to be perceived as legitimate (Aldrich, 1999). If organisations are not able to build legitimacy, they will face comparative disadvantages in acquiring important resources such as financial or human resource inflows, but may also experience problems in convincing customers or partners. Legitimacy can be created by different routes, and different concepts of legitimacy have been defined over the years. Following Aldrich and Fiol (1994), two particularly important types of legitimacy are cognitive legitimacy and socio-political legitimacy. "In a cognitive legitimacy judgment, the organization is categorized as belonging to a certain known organizational form, based on a set of recognizable organizational characteristics" (Bitektine, 2011, p. 156). Cognitive legitimacy often refers to a certain taken-for-grantedness. It helps the organisation to avoid being scrutinized, strictly evaluated or distrusted because the organisation has features that are commonly accepted and thus it "blends in". Socio-political legitimacy refers to judgments over the organisation's actions that are benchmarked against existing norms and rules. Accordingly, in socio-political judgments, organisations are actively evaluated, and if this evaluation is favourable, the organisation receives legitimacy. So, cognitive legitimacy avoids that organisations and their specific actions are

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evaluated because they have certain characteristics that are seen as credible, while socio-political legitimacy judgments trigger evaluation processes.

Cognitive and socio-political legitimacy should both be applicable in the process of organisational emergence on digital platforms such as social network sites, yet for different reasons. When a newly established self-organised group shows similar characteristics like other existing groups, such as a specific mission towards the identified problem, it may be evaluated as cognitively legitimate. However, even though cognitive legitimacy has been reported to be helpful for organisational survival, it may be less promotive for organisational emergence in the social network context. In this context, organisations, their members, and their processes are very visible, and users of social network sites can easily search for groups with similar features. So, we anticipate that cognitive legitimacy will have an effect on organisational emergence and how well an organisation establishes, however this effect will wear off quickly and may be contingent on the overall number of similar organisations in the same network. If the density of organisations rises above a certain point, the legitimacy effect will be replaced by competition for limited resources (Hannan & Freeman, 1977).

Emergent organisations on social network sites will, however, profit (more strongly) from socio-political legitimacy. On social network sites it is easy to convey a message and to show what an organisation does and what it stands for. Thus, evaluation processes are much easier and will be more prevalent in this context. If an organisation's actions are evaluated as beneficial or positive in general, more users are likely to join the organisation and thus provide important resource inflows into the emergent organisation.

Human and Social Capital

Human and social capital are important factors for entrepreneurial processes (Hubner & Baum, 2018b; Powell & Sandholtz, 2012) and the survival of organisations (Sui, Baum, & Malhotra, 2019). Human capital refers to the capabilities, prior relevant experience, and resources that individuals bring into an organisation. Human capital theory lays the ground for assuming that individuals and organisations with superior human capital should also have superior ability in successfully exploiting opportunities and thus be more successful in establishing and growing organisations (Davidsson & Honig, 2003). Human capital is not only helpful for enhancing exploration and exploitation of opportunities, but can also be used as a positive signal conveying the quality of the organisation. This way, human capital can help to build a positive image and to provide improved access to (financial) resources, securing organisational development and survival. Accordingly, we assume that human capital of the key group members will aid organisational emergence in the social network context.

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Human capital of the key members will affect the proficiency and the quality of problem-solving assets provided on emergent organisations in social network sites. At the beginning, key members will most likely be founding members of the organisation, but as social network sites are open and groups are fluid entities (particularly at the beginning), it is well possible that other members than the founders of a group will emerge as key members. However, at the start of the organisational emergence, particularly the founding team will be important and it is likely that their influence will endure over some time. Prior research has already demonstrated that the founding conditions have a lasting effect on organisational processes and survival (Bamford, Dean, & McDougall, 2000). Founders' human capital should be of particular impact for the organisational emergence process because of the quality of their actions and self-selection processes. Strong human capital will affect the quality of the activities unfolded by the organisation. In such, organisations with a strong human capital should be able to spot opportunities more efficiently and provide convincing problem-solving capacities. In consequence, more users will be attracted and the membership base increases will enhance the survival chances of the emergent organisation. Moreover, not only mere numbers will increase by the human capital of the founders but also other individuals with strong human capital will more likely self-select into groups with members having strong human capital. Given this self-selection, human capital of key members will provide a human resource base for the emergent organisation and thus be helpful for establishing a sustaining entity.

Similarly, social capital of the key group members should be helpful in the organisational emergence process. Social capital theory refers to the ability to extract value from social structures, memberships, and networks (Portes, 1998). Social capital can be defined as "the actual or potential resources embedded within, available through, and derived from the network of relationships possessed by a social unit" (Nahapiet & Ghoshal, 1998, p. 243).

Social capital will be an important driver in the organisational emergence process on digital platforms such as social network sites as it helps to establish a larger member base from the start. This process is related to the legitimacy processes above, but does not work in a reactive but rather in a proactive manner. Key members' social capital allows them to more efficiently incorporate other relevant individuals having valuable resources for the organisation. As social network sites allow for searching and sharing personal information, and such information are particularly rich within the personal already existing network, individuals with strong structural and relational capital will be able to more easily detect, inform, and integrate suitable members. This way social capital feeds forward into more members and should also help to have members incorporated early on who have valuable human or social capital on their own. This way a self-enhancing process can be triggered helping the organisation to grow and establish themselves more effectively.

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Entrepreneurial Orientation

While human capital refers to general skills, abilities, and qualifications of an individual, entrepreneurial orientation reflects more entrepreneurship-specific features of an organisation such as proactivity, innovativeness, and risk-taking. So entrepreneurial orientation, yet correlated with human capital, is a separate construct in our framework. Entrepreneurial orientation has been perpetually shown to have a significant correlation with organisational performance (Rauch, Wiklund, Lumpkin, & Frese, 2009; Saeed, Yousafzai, & Engelen, 2014) and is usually seen as an organisation's strategic orientation, entailing decision-making styles, methods, and practices enhancing an organisation's capacity to create and introduce new products or services (Covin & Slevin, 1989; Lumpkin & Dess, 1996). Even though entrepreneurial orientation is usually seen as a firm or organisational level variable, it is routed in and strongly influenced by the organisation's key members.

Entrepreneurial orientation helps emerging organisations in digitally enabled contexts such as social network sites to create more innovative and valuable problem solutions. Organisations on social network sites have to provide a specific solution to the problems. Only if the solutions offered by the organisation are evaluated by the public as meaningful and capable in providing a benefit, organisations can grow and prosper. Entrepreneurial orientation should help an organisation to produce more innovative and novel solutions to the problems encountered in a crisis and thus should attract more resources and users to become active members. Entrepreneurial orientation should also help an emerging organisation to reinvent itself if required. A crisis usually provides a dynamic and hostile environment. In such environments, it is more likely that the situational parameters change often and significantly and that either a solution to a problem is rendered useless by environmental changes or a problem's relevance is reduced and other problems become more salient. As entrepreneurial orientation helps with the successful creation and implementation of novel products and services, organisations in the social network context scoring high levels of entrepreneurial orientation should be particularly apt in changing their business model and their problem-solving solutions. This way, an organisation is able to endure longer and establish itself more likely.

The reinventing processes should be particularly important in a digitally enabled context as this environment allows for reviewing and comparing different groups and their problem-solving capacities very efficiently. Thus, users can easily find other organisations that provide a more compelling solution and decide to join this organisation and withdraw from the previous one. This way entrepreneurially oriented emergent organisations in the digital environment should be better able to leverage contingencies and use the means at hand in a creative, innovative fashion and thus apply principles described as potentially helpful for organisational emergence in effectuation literature (Sarasvathy, 2001).

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Discussion and Implications

In light of the key concerns of the research streams described previously, in the following, we present a synopsis so as to better comprehend the valuable input of the leadership and entrepreneurship research streams to the organisation theoretical conceptions of organisational emergence and organisational emergence in digital environments in particular, before we point out how future theorising is informed.

We identified insights from *leadership research* that fruitfully inform organisation theoretical ambitions to comprehend organisational emergence. Focusing on individuals and their interactions represents a hallmark of leadership theorising. Emphasising the individual and the interpersonal levels of analysis, leadership research helps us understand some of the dynamism and adaptability in organisational behaviour at the micro and meso level when it comes to organisational emergence in digital environments. It highlights that informal emergent dynamics (Uhl-Bien et al., 2007) such as emergent leadership and shared leadership (Morgeson et al., 2010) reflect important preconditions for emergent virtual organisations' success (see, for example, Hoch & Dulebohn, 2017; Plowman et al., 2007). It thereby also provides insights into the individual, interpersonal, and situational antecedents of these leadership dynamics in emergent virtual organisations.

Along similar lines, *entrepreneurship research* directs attention to the abilities and orientations of individuals and entrepreneurial teams, as well as the ways entrepreneurs and organisational members of a nascent organisation interact with one another. This is by nature also present in leadership-related debates, in which leadership issues as social interaction issues between individuals and in teams (Yukl, 2013) are a key concern. Both research streams also share a common interest in human and social capital as well as related concepts (e.g., Carson et al., 2007; Tyran et al., 2003, for the case of leadership research, and Smith et al., 2017, for the case of entrepreneurship research). Moreover, linking leadership and entrepreneurship perspectives may prove helpful for further addressing the question how organisations can encourage employees to unfold corporate entrepreneurship behaviour (Baum & Rabl, 2019).

Moreover, the *key level of analysis* in entrepreneurship research more prominently takes the organisational environment into account. This can be traced back to the observation that entrepreneurship research assumes that actors enact (Weick, 1995) their environment so as to come to terms with what they have at hand (Lévi-Strauss, 1966). In a parallel vein, effectuation argues for such means-oriented and contingency leveraging behaviour that incorporates the resources from the respective (social) environment of the entrepreneur to spot and exploit entrepreneurial opportunities and by that informs organisational emergence.

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Implications and Directions for Future Research

Organisational emergence is a rich phenomenon that demands for an interdisciplinary approach to address its complexity – particularly when considering new developments in digitally enhanced environments. By infusing organisational theory with leadership and entrepreneurship literatures, we come to an understanding of organisational emergence in digital environments as a process that moves beyond the established context and allows to span multiple players and layers.

Organisational emergence is a process with strong dynamics and temporal asymmetries that may incorporate few individuals but also integrate seemingly uncoordinated crowds that enter their individual resources for a common cause that shapes and reshapes itself over time. Especially the latter scenario is enabled by digital technologies and their affordances. Digital infrastructure allows interactions to take place with reduced transaction costs while increasing unpredictability and permeability to business processes and outcomes. Generativity, for instance, allows for leverage effects (the possibility to generate a large output with a relatively small input), adaptability (systems can be more easily modified and new features can be installed), as well as the facilitation of access and control/utilisation of the technology. These characteristics make it possible and attractive for a large audience to participate in value-added processes via digital technologies thus creating a dynamic environment for the development of emerging organisations (Nambisan, 2017). Disintermediation, as another example, allows for direct communication and exchange between actors, therefore enabling interactions at lower costs and immediate access to required information (Autio et al., 2018)

In particular in such highly dynamic and complex environments that require self-organisation (see, for example, Anderson, 1999; Chiles et al., 2004; Plowman et al., 2007), it is likely that individuals with strong human and social capital will unfold a prominent impact and at some time take over a leadership role in the emergence of the organisation. Emergent leadership and shared leadership as complex interactive dynamics are important for emerging organisations in digital environments in order to succeed because they allow for learning, innovation, and adaptability (Uhl-Bien et al., 2007). Moreover, routines will take shape over time even in digitally enhanced environments – at least literature on highly dynamic situations such as crises suggests that. These routines may be based on different actions and different subsets of activities than in non-digitally enhanced environments (e.g., the management of a crowd) and might be infused by effectual decision-making logics instead of causation-based logics – but, in the end, routines are likely to establish also in these contexts. Future research on organisational emergence in digital environments therefore may focus on research questions taking three specific perspectives that are fuelled by the different research streams organisation theory, leadership, and entrepreneurship and span and link different levels of analysis.

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First, taking a *process perspective* will be an avenue for future research that is mainly guided by organisation theory and emphasises the processes emanating from organisational emergence. This research will, for example, contribute to our understanding of a) how processes are shaped in emerging organisations in digital environments and b) how routines emerge in such organisations.

Second, taking an *organisation-level perspective* will inspire future research that is mainly driven by the entrepreneurship literature. This research will complement studies taking the process perspective and enter important insights regarding the top management (e.g., upper echelon perspective) but also concerning the resources, strategies, and decision-making logics within organisational emergence. It will, for example, help us understand a) how specific decision-making logics evolve in emerging organisations in digital environments, b) how strategies and entrepreneurial orientations are formed in such organisations, c) how (upper echelons') human and social capital influence the processes in emergent organisations in digital environments, and d) how external resources can be incorporated into the virtual/digitized organisation.

Third, taking an *individual- and team-level perspective* will set the ground for future research that enters a more micro- and meso-level perspective into the picture. Mainly fuelled by the leadership literature, it will allow us to better grasp how specific individuals but also interpersonal processes within teams shape organisational emergence in the digital environment. This research will, for example, deliver insights into a) how people can effectively work with each other in emerging organisations in digital environments, b) how individuals can "lead" "followers" in such organisations, c) when it is defined who is leader and who is follower, d) how fluent those relationships are, and e) when informal processes get formalized.

In summary, these three perspectives driven by organisational theory, leadership, and entrepreneurship provide a fruitful ground separately but also and particularly when observed in tandem to enhance our understanding of organisational emergence in the digital age. However, we still await further exploration to better come to terms with this challenging topic.

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