A Social Relations Perspective on Organizational Business Continuity

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Abstract. Organizations’ Information Systems (IS) are subject to various IS incidents. Organizations’ efforts for preparing for, mitigating impact of and recovering from incidents, including those caused by IS incidents, are commonly called as business continuity. Scholars interested in business continuity have introduced approaches that through technologies, planning and changes in social behavior enable smooth IS operations. Increasingly, the importance of social behavior for business continuity has been recognized. In this conceptual article, the relation between social relations and business continuity is theoretically analyzed. The theoretical conclusion from this conceptual article is that business continuity is essentially embedded in networks of ongoing and interconnected social relationships that constrain and enable behavior. Discussion of the implications of the conceptual findings are discussed. Suggestions for future research are given.

Keywords: business continuity, embeddedness, social relations, incident, information systems

1 Introduction

Any organization dependent on their Information Systems requires Business Continuity Management (BCM) [17]. Business process streamlining has ensured IS have become deeply integrated to business [37]. The role of IS for organizations has truly and permanently shifted: IS is not only mediating, but enabling operations [21]. Therefore, any IS incident can have significant business impact or even perish an organizations. Organizations need to be prepared for IS incidents. Organizations' efforts for preparing for and responding to incidents, including IS incidents, are commonly referred to as business continuity management (BCM).

Despite that IS scholars have introduced a number of technologies for business continuity [3], and plethora of planning methodologies (e.g., [24]) in the end 'it is people who actually deal with business continuity and crisis' [41, p.28]. It is thus not surprising that the part that social has for business continuity has received increasing attention (cf. [10; 19; 35]).

Technological improvements for business continuity pay scant attention to scenarios when the technology fails, although increased technological complexity...
increases the possibilities for the systems to fail. It is as Gall [13] has rather cynically stated 'when a fail-safe system fails, it fails by failing to fail safe' (p. 78). However, in order to understand incidents and failures in socio-technical systems, such as IS [5], the incidents cannot be explained in terms of technology alone [11].

On the other hand, approaches focusing on planning create plans that should govern organizations’ efforts to quickly recover from incidents. Instead of proactively preparing, planning focuses on the anticipation of unexpected events [10]. Bound by the limits of ingenuity, the planners are expected to come up with plans comprehensive enough to guide through incidents of all sort [42]. Scholars have questioned whether it is feasible that 'likely future scenarios can be probabilistically anticipated and that individuals can understand, or at least imagine, their potential impact' [10, p.218]. In addition to technology and planning, business continuity scholars have lately introduced approach coined business continuity management (BCM) that instead of planning or technological solutions emphasizes embeddedness. Practitioners agree on the importance of embeddedness. International and national standards, such as BS-25999 [8] and ISO-22301 [20], share the scholarly view that the purpose of BCM is to achieve embeddedness. Achieving embeddedness is a process realized over time as participation in the business continuity permeates an organization [19]. Central to embeddedness of BCM is to embed business continuity as part of organizational actors everyday work routines and practices, in order to facilitate organizational adaptability and flexibility (Ibid.) to cope with incidents as they arise.

However, past studies on the social aspects of business continuity are scarce. Past research has underlined the importance of culture and organizational values for business continuity [2; 38]. Further, Butler and Gray [10] and Braun and Martz [7] have argued for the importance of proper collective (situated) cognition as a to improve business continuity. In this article, instead of focusing on organizational structures or on cognition the aim of this article is to provide a theoretical analysis on how social relations relate to business continuity. The theoretical analysis suggest social relations, or embedded ties more specifically, provide an interesting and compelling theoretical insight to explain differences in organizational business continuity. Drawing on insights of Granovetter [15; 16] and Uzzi [44], the theoretical conclusion from this conceptual article is that business continuity is essentially embedded in networks of ongoing and interconnected social relationships that constrain and enable behavior.

In order to develop the theoretical insight, first I will shortly review the literature on business continuity management, after which a short introduction to sociological conception of embeddedness is given. Thirdly, I will integrate the sociological insights with prior literature on BCM in order to increase understanding on organization's preparations and response to IS incidents. Lastly, discussion on the conceptual findings are provided and conclusion drawn.
2 Business Continuity Management

Business Continuity Management (BCM) is a holistic management process [18] that aims to prepare organizations for incidents of any type. Although BCM aims to cover all sources of incidents, central to contemporary organizations is the well-being of its critical IS [37]. Without appropriate organizational measures IS incidents can cause significant damage to or even perish an organization. The concept of BCM originates from practitioners [47], but has found its way to multidisciplinary scholarly discussions. IS scholars have applied the ideas derived from the multidisciplinary business continuity literature in IS security [6; 25] in IS operations [10] and in information strategy [14] to name a few.

As a management process, the BCM aims to shift perspective from planning to managing. Planning approaches have been criticized to focus only on creation of plans, that is likely to end up as unwanted bureaucracy [41] failing to provide any real value for the organization. To level some of this criticism, business continuity scholars have emphasized the importance of organizational commitment and employee involvement to business continuity practices, a substance of BCM coined as embeddedness [19]. Organizational commitment and involvement should ensure the employees are aware and understand the importance of business continuity [25; 26]. Thus, it is likely that any BCM endeavor will have to deal with user resistance, opportunistic behavior, and induce changes to existing social structures. To mitigate some of these adversities and to ensure proper allocation of resources, prior literature on BCM has underlined the significance of top management support (cf. [24]; [6]).

BCM also incorporates stages of planning. During planning, organizations prepare plans that define measures for responding to IS incidents and describe steps that govern employees’ actions during recovery. The planning is a joint task where input and involvement is required from heterogeneous organizational members, and requires information exchange among employees to be successful [45]. As part of planning, organizations need to prioritize their systems, which requires input from the top management. The IS systems need to be prepared for possible IS incidents and procedures for recovery actions should be put in place [14]. The accuracy of the plans should be verified through periodic or change initiated reviews [14]. To increase assurance on the implemented BCM, audits can be used [12]. In addition, a leader for the endeavor, who should coordinate the overall business continuity efforts and ensure all measures are in place, should be appointed; a task that is often appointed to IS managers [30]. Coordination skills, such as the ability to lead a BCM committee, have been found as the most significant personal skills for BCM leader [40]. All multifaceted and diverse BCM responsibilities that span across departmental borders [2] should be clearly and explicitly defined [12]. Distributed responsibility requires shared information and depends on shared skills [46].

One of the ongoing conflicts in the literature is the role of plans versus social response to incidents. Stucke et al. [42] argue organizations response to incidents should be based on well-tested plans and not on adaptability, whereas those emphasizing the social response, have questioned whether predicting all possible future scenarios is feasible [10] and noted that 'a blinkered faith in planning, and using the past as a mirror to the future, is likely to lose the initiative by constraining the understanding, insight and lateral thinking by of quality employees' [46, p.379].
Indeed, managing behavior contra prescribing it in plans is a difficult balance to achieve, especially under adverse circumstance [19] that are characterized by uncertain responses and uncertain outcomes as well as tight time constraints.

Embeddedness is assumed to improve organizations' ability to detect emerging incidents as well as to cope with them. Dealing with incident requires adaptability and flexibility [19] in which BCM can play a decisive role [29]. Butler and Gray [10] have argued for the significance of collective mindfulness for business continuity. Collective mindfulness emphasizes the importance of properly situated collective cognition. In other words, organizational members are to consciously evaluate and come up with novel solutions to a problem at hand. As Butler and Gray argue, mindfulness is not about choosing the best option amongst available options but to come up with new (novel) options [10]. Therefore, while the planning techniques and routines may impact organizations' ability to perform reliably, the impact of the planning techniques and routines is affected by the degree of which they either enhance or are enhanced by collective mindfulness (Ibid.).

In addition, Alonaizan [2] and Sawalha and Anchor [38] suggest a shift in organizational culture is required and Freestone and Lee [12] and Tammineedi [43] see that business continuity should be adopted as organizational core value. The organizational social structures (e.g., culture and values), are assumed to ensure correct collective actions for preparing for and responding to an incident. Through awareness, training, education [41], and exercises and maintenance [2] a business continuity culture is expected to result. As awareness refers to employees knowledge on a given topic [9] the purpose of the practices is thus to increase employees knowledge on business continuity, in order for the employees to fully internalize the organizational business continuity message [2]. Morwood [25] argues the contents of awareness and training should be tailored in such a way that the lessons can be arranged in most convincing manner to a specific target group to ensure success. Thus, BCM culture seems to emerge as an aggregate of individuals knowledge.

Despite that social relations have been found to influence organizational and individual adaptability, cooperation and response during incidents and organizational crisis [22, 35], past literature on business continuity has not paid any attention to the social relations. Business continuity as a context of study however has potential to illustrate new aspects of social relations.

3 Sociological Conception of Embeddedness

In order to fill some of the gap identified in the previous chapter, a sociological conception of embeddedness is first introduced in general and then a framework for embeddedness from Uzzi [44] is discussed. As noted by [31], the same ideas represented in embeddedness have been present all along in sociological tradition. It is not for its originality, or uniqueness of this theoretical perspective, but due to the way how it encapsulates this tradition. Further, the concept of embeddedness offers insights into the quality of social relations, rather than the structural configurations that characterize the interconnected network of social relations [39].
3.1 Background

The concept of embeddedness has become to explain economic behavior, although Granovetter's conception of embeddedness is also suitable to explain wider social action:

'Actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive action are instead embedded in concrete, ongoing systems of social relations' [15, p.487].

The citation above not only indicates the wide applicability of Granovetter's conception of embeddedness, but also neatly positions Granovetter's conception of social action in relation to the canonical conceptions of social action. The canonical conceptions of social action, according to Granovetter, were either under-social or over-social. Figure 1 illustrates the positioning of embeddedness in relation to other schools of thought. It is important to note that the purpose of the illustration is only to convey the positioning in regards to how the schools of thought have viewed social action.

In Granovetter's thought the under- and over-social views differ in how they view social action: '[i]n the undersocialized account, atomization results from narrow utilitarian pursuit of self-interest; in the oversocialized one, from the fact that behavioral patterns have been internalized and ongoing social relations thus have only peripheral effects on behavior' [15, p.485]. In other words, what both of these share is atomism[23]. In over-social view individuals adhere slavishly to norms and values they have thoroughly internalized and thus knowledge of social structures becomes irrelevant (Ibid.). In under-social view the social outcomes follows from aggregation of actions taken by rational individuals in isolation from others (Ibid.). Instead, social action is embedded in networks of ongoing social relations [15].

The embeddedness is not a binary, but a continuum. The level of embeddedness affects action [15]. With social relations comes also the sense of social responsibility that decreases the likelihood of malfeasance. However, when the level of embeddedness raises too high, it opens possibilities for malfeasance, that is, opens up possibilities for exploiting the others, perhaps best summarized by the sentence 'you always hurt the one you love'.

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![Diagram](image.png)

**Fig. 1** Positioning the embeddedness (based on Granovetter (1985))
3.2 Conceptual framework of embeddedness

Granovetter's conception of embeddedness has been criticized for being too general for application. Uzzi's [44] framework provides the needed applicability. The framework has three components: 1) trust; 2) fine-grained information exchange; and 3) joint problem-solving arrangements. The framework has been successfully utilized in prior IS research, as discussed later.

Trust - In forming embedded ties, trust is the most central as it enables the parties to engage in an activity. Trust is expression of expectations about individual’s future behavior, often based on prior interactions [36] or mediated through common acquaintance [15]. Organizational members are assumed to possess expert knowledge and not willing to divulge information that is strategic or private in nature except for those they trust [34]. In addition, trust enhances cooperation amongst employees. When one trusts another, one expects honorable behavior from another, that is, one trusts that the other will not use information or engage in activities that are harmful. If the trust is broken, cooperation amongst employees will be severely impaired [22].

Fine-grained information exchange - Trust opens the possibility for fine-grained information exchange [44]. Amongst embedded ties, information exchange is more fine-grained than in other relations (Ibid.). The information shared between embedded ties tends to be more tacit and proprietary than in other relations [34]. Without trust, the parties are not willing to engage in fine-grained information exchange, as there is too large of chance for opportunistict behavior or even malfeasance [15]. Individuals can be reluctant to engage in information sharing if they fear criticism from peers or recrimination from management [4].

Joint problem solving arrangements – Joint problem solving does not only mean solving problems together. When embedded ties have been formed, each party can trust others to solve problems as they arise. Uzzi [44] when discussing apparel industry, found that organizations who had embedded ties, seemed to trust others would solve problems proactively for their benefit and to help them avoid catastrophic consequences. For instance, organization producing apparels had found that fabric dyed with a certain color shrank more than fabric colored with other colors. As such, the organization would cut the fabrics differently in order to ensure the end products would meet the customers’ needs even though this had not been contractually stipulated. Indeed, the customer was not even aware of the need to cut the fabrics differently. The joint problem solving amongst those parties who share embedded ties suggests the organizations were willing to 'go the extra mile' as of their social relations. It is as [33] explains, generalized reciprocity involves "not 'I'll do this for you, because you are more powerful than I,' nor even 'I'll do this for you now, if you do that for me now,' but 'I'll do this for you now, knowing that somewhere down the road you'll do something for me’" (p. 182-183) (quotes theirs)

Although the concept of embeddedness originates to denote a form of inter-organizational relation, spanning beyond the confines of a single organization, the social relations within the firm might be more dense and long-lasting on the average than existing between [organizations] [15, p.495]. As such, it is expected that embedded ties also has significance for an intra-organizational endeavor, such as BCM.
3.2 Embeddedness in IS research

In IS literature, the sociological conception of embeddedness has been used to analyze social networks in organizations as well as outsourcing/offshoring. As an illustration of past contributions, in IS offshoring literature, [34] studied the offshore project success through the theoretical lens of embeddedness. Utilizing a longitudinal field study, analyzing 155 offshore projects, the authors conclude 'offshore IS projects should be managed with a systemic emphasis on relational [social relations] and cultural factors' (p. 633). In addition, [39] analyzed the formation of social relations in practice through a lens building largely on the Granovetter's conception of embeddedness. Their findings suggest, the use of IT in managing customer relations poses challenges to especially organizations that rely on embedded relations.

4 Social Relations in Business Continuity Management

Building on past literature, central for BCM is to: (1) facilitate creation of plans in such a way that accurate and comprehensive plans that are integrated as organizational practices result; (2) deal with governance, i.e., ensure that appropriate, agreed measures (e.g., plans, technologies, processes and procedures) are actually implemented across organization; (3) facilitate conditions for information sharing; (4) facilitate conditions for dealing with cues of possible incidents as they arise; (5) facilitate organizational adaptation to incidents. Next, building Uzzi's [44] framework and theoretical insights of Granovetter, a discussion on the relation between social relations and business continuity is provided to show how the social relations can to a large extent explain the success or failure of organizational business continuity. A summary of how social relations can explain organizational business continuity is provided in Table 1.
The theoretical relation between social relations and business continuity is illustrated in Figure 2.

Table 1 Summary of the relation between embedded ties and business continuity

<table>
<thead>
<tr>
<th>BCM</th>
<th>Embedded ties</th>
<th>Embedded ties in BCM</th>
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<tbody>
<tr>
<td>(1) facilitate creation of plans in such a way that accurate and comprehensive plans that are integrated as organizational practices result</td>
<td>Embedded ties facilitate employee commitment to plan creation and sharing of fine-grained information that is needed in order to create plans that are accurate and comprehensive.</td>
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<tr>
<td>(2) deal with governance, i.e., ensure that appropriate, agreed measures (e.g., plans, technologies, processes and procedures) are actually implemented across organization</td>
<td>Embedded ties facilitate dyadic trust and a sense of social responsibility. Trust and social responsibility facilitate conditions in which employees are more likely to be willing to implement the agreed measures, and even ‘go the extra mile’ when needed. Further, employees who have a sense of social responsibility are more likely to do a ‘favour’ to another employee with whom she/he has embedded ties.</td>
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<tr>
<td>(3) facilitate conditions for information sharing</td>
<td>Through embedded ties employees are willing to share even information that is more tacit and private in nature. Further, information shared through embedded ties is likely to be more fine-grained than in other relations.</td>
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<tr>
<td>(4) facilitate conditions for dealing with cues of possible incidents as they arise</td>
<td>Embedded ties are likely to encourage employees to raise perceived cues of IS incidents for discussion and proactively solve issues (i.e., joint-problem solving arrangements) before the issues escalate into large scale incidents.</td>
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<td>(5) facilitate organizational adaptation to incidents</td>
<td>Embedded ties facilitate cooperation that increases organizational adaptation to incidents. Past incidents may create or deepen the embedded ties which further contributes to improved organizational conditions for incident adaptability.</td>
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Next, a discussion to elaborate the illustrated relations is provided.

Trust - Trust should be seen as an integral part of efforts for preparing for and responding to IS incidents. Organization's ability to prepare for and respond to IS incidents requires employee commitment [19], which is not feasible to expect without trust. Trust forms the basis for embedded ties [44].

Trust amongst employees participating in BCM, is expected to form when individuals congregate to form organizational BCM or through transitive embedded ties. For instance, awareness and training sessions have potential to increase trust to BCM leader, if the BCM leader himself is present. In addition, complements and recommendations by already trusted peers can create trust to third party. Such is likely in BCM when the BCM leader is perceived trustworthy by some system owner, who then can recommend the BCM leader to other system owners. It then becomes
instrumental that the BCM leader is actively involved in the BCM, rather than merely distributing responsibilities, i.e., giving them 'from above', or by appeal to fiat. The preparation for IS incidents should rely on the input of those specialized and most knowledgeable on certain organizational function. For instance, those responsible for IS systems, must prepare suitable and realistic plans for preparing for IS incidents. The preparation of detailed plans that should govern employees' actions during a recovery is only feasible to expect from those expert in the specific organizational function. The experts are likely to be reluctant to expose such tacit, fine-grained information that is private and strategic [34]. Trust can facilitate sharing of such information that is not possible in the absence of trust. It facilitates sharing of information based on an open architecture that promotes sharing of information and expertise crucial for successful business continuity (will be discussed more thoroughly below). However, the embedded ties may also be counter-productive for the preparations. Within a group of individuals who share embedded ties, novel information is a rarity. Rather, such information is more likely to flow through relations that are not embedded ties, i.e., from acquaintances [16]. As the threat landscape evolves and improved planning techniques as well as technologies evolve, information of such changes is crucial for business continuity. A group that shares embedded ties may thus become 'blind' for the novel approaches for business continuity emerging in the extra-group environment.

With embeddedness comes also the sense of social responsibility [15] that is one type of commitment. Instead of organizations enforcing employees for commitment to business continuity, the sense of social responsibility is assumed to ensure proper actions by those whose task it is, as a form of generalized reciprocity. Thus, instead of hierarchical, management mandated approach, social relations afford a governance based on reciprocity, in which embedded ties may replace or complement formal governance structures. However, such view is not without its deficiencies. When the social relations are overly embedded (characterized by high levels of trust), possibilities for malfeasance open [15]. For instance, trust may become too high and prevent healthy suspicion. Within business continuity, as discussed earlier, the preparation of plans for IS is a task that requires input and actions from the system owners. When the level of embeddedness rises too high, it might open possibilities for opportunistic behavior. A person responsible for implementing plans and measures for mitigation of IS incidents might not do what is expected and on the other hand, those responsible for leading the BCM endeavor might not question whether the measures have really been implemented. In order to increase assurance that measures have been implemented and are sufficient, organizations may use auditing. However, while auditing of BCM may provide assurance to top management [12], literature on economics suggests audit practices 'actually creates the very distrust it is meant to address' [32, p.10].

Trust by enhancing cooperation increases adaptation to incidents [22] and thus improves organization's response to IS incidents. In addition, a successfully handled incident is likely to improve the social relations amongst employees. Past (positive) experiences in general, strengthen social relations, and "surviving" time constrained, stressful situations is likely to even create friendship.

Fine-grained information exchange - Distributed responsibilities necessitates integration of information [46] between BCM participants. Individual employees
participating possess specialized knowledge of distinct organizational functions that is required for BCM. The knowledge is likely to not reside solely within IT function, but across number of functions to which the manager may not have jurisdiction, creating a 'conundrum of CIO' [27]. Those who possess knowledge on business operations are dependent on those who possess the knowledge on how the systems are maintained and what are their weaknesses as well as how quickly a system can be recovered in the event of IS incident. Those who possess the knowledge on operating information systems depend on the knowledge of business managers to decide whether their systems are able to recover as quickly as expected. Thus, to be successful, preparing for IS incidents requires exchange of fine-grained information, that is unlikely to occur in absence of embedded ties. Without established social relations, system owners might not be willing to reveal tacit or private information about their system, such as weaknesses in the implementation that might be of crucial importance. System owner might be reluctant to share such information as revealing it might damage the system owners image as being 'sloppy' or criticized in other ways. Further, sharing of such private and strategic information would be difficult, if not even impossible, to stipulate a priori with explicit, written policies or descriptions of responsibilities, as they might be highly sensitive and dependent on a specific system.

Joint problem solving arrangements - When planning for IS incidents, the joint problem solving facilitates solving problems “on the fly” [44]. For example, contemporary information systems are complex systems that consist of multiple components. When preparing for disasters, it is important to realize the dependencies of the different components and not only see each part in isolation. Instead of only focusing on a single system, through embedded ties the IS managers may themselves engage in problem solving and account for the system dependencies proactively. Without such joint problem solving the results could be catastrophic in case of incident. The preparation of information system without accounting for all the components it consists could render the system non-operational despite the preparations for one of its components. Enforcing such requirements a priori on systems/system owners can be a task impossible to realize.

Within the context of business continuity, when responding to IS incidents, solving problems as they arise is crucial. Instead of waiting for small issues to cascade as large scale disaster, organizations should have sensitivity to perceive cues of emerging disaster and act as they arise [10]. Such actions require not only joint problem solving arrangements, but also trust and fine-grained information exchange. Employees have to have trust in order to address and bring up cues they perceive that could lead to a disaster without the fear of criticism. Reacting to such cues on the other hand requires exchanging information that might be private in nature, for instance information of mistakes made by peers or by self.

The significance of joint problem solving becomes even more pervasive when the organization has to respond to IS incident. Although comprehensive plans can go a long way, it is not feasible to expect all possible scenarios could be assumed beforehand. Social relations influence the employees’ response to incidents [35] and adaptability [22]. IS incidents require joint problem solving of multiple individuals, all solving problems at the same time, even if no central orchestration exists. Consider, for example, a simple scenario where a business critical IS has failed. The business units have to solve problem of finding ways to cope with the incidents with
minimal business impact, IS managers ways to recover quickly and in correct manner and PR to solve what information and how much can be given to public. Then, '[t]he trick is to have an organisation with enough internal trust so that it can be left to be self-organising in face of external threats' [46, p.373].

5 Discussion and Conclusions

This conceptual article sought out to understand how social relations relate to business continuity. Building on literature on BCM and on sociological conception of embeddedness, the theoretical arguments suggest understanding how social relations enable and constrain behaviour influences business continuity. Indeed, the social relations may largely explain the differences between organizations’ business continuity. The social relations can thus provide insight to understand why some organizations are more successful in their preparations and more responsive to incidents. Consequently, more emphasis should be put to social relations in BCM literature, in order to improve organizational BCM practices. The theoretical conclusion from the theoretical analysis is that business continuity is essentially embedded in ongoing social relations that enable and constrain action. Next, I will compare and contrast the theoretical insights to prior literature. To support the discussion, Figure 3 provides an overview of positioning the study in contrast to prior literature.

![Fig. 3 Contrasting embedded ties view to prior BCM literature](image)

If it is truly 'people who actually deal with business continuity and crisis' [41, p.28] then the actions they make are of crucial importance. Prior BCM literature on embeddedness has suggested the BCM should be embedded to organization, whether it is 'everyday practices' [47], work routines [14], culture [2; 38] or core values [12]. These approaches share an over-social view [15] on social action. The approaches aim at making docile bodies that slavishly follow a script embedded in the social structures (e.g., in culture, core values), neglecting individuals capability to make independent choices. The social structures which they happen to occupy, when internalized, works as scripts that others have written for them, determining the course of their actions. The employees are to mindlessly act according to the culture.
and be oppressed by the norms and values embodied in it. In other words, when BCM has become a part of culture (or norms etc.), the actions individuals make will be according to that scripted in the culture (or in norms, values or 'everyday practices'). Thus the culture itself is not of interest, but it is a means for reaching a given end. On the other end of the continuum lies the under-social views that emphasize employees' knowledge. The little what has been said about business continuity awareness and training assume if only the individual is aware of the importance of BCM or if only the individual is knowledgeable enough (e.g., the right course of action has been internalized through exercises) right actions will follow [25]. Such under-social views do not account for the social structures and how they might bind action. Employees are to rationally evaluate options imaginable to them and afforded by their knowledge on how to optimally perform under given circumstances and to choose a proper course of action. Instead, what have been proposed here, is an understanding of business continuity as embedded in ongoing networks of social relations that enable and constrain behavior. In such a view, the actions are not merely guided by the internalized social structures, neither determined by knowledge, but constrained and enabled by the ongoing interconnected social relations. The intention is not to suggest culture would be irrelevant, or that awareness and training would not have an impact on BCM. However, the extent of which they enhance or are enhanced by embeddedness of BCM is influenced by the extent of embedded ties within an organization. This has practical implications, as the theoretical discussion suggests more emphasis should be placed on fostering embedded ties across organizations.

Analyzing the social action in the context of business continuity has further implications for business continuity literature. The theoretical insights from Granovetter could be used to position the prior views on social action in business continuity literature as discussed above. This paves way for understanding of organizational actions around business continuity that do not overly emphasize the social structure, neither the agency (e.g., the cognition or 'free-will'), but aims for balanced understanding. Further, the theoretical findings brought forward here provide further support that the social relations influence response adverse conditions [35] and widen the understanding to IS incidents. In considering the social relations, the view taken here is that some employees are more important than others when preparing for and responding to IS incidents. This view reflects the BCM arrangements organizations have in place, as also noted by Butler and Gray [10] and as further suggested by my experience as a consultant. Organizations prepare for and respond to IS incidents by mobilizing expert resources (e.g., IS managers, system owners, system administrators), not as an organizational collective. However, this argument is not fully explanatory. Especially in large scale IS incidents, the incident is an organizational concern to which the whole organization has to respond (as discussed already above). Such understanding of organizational response to IS incidents necessitate the embedded ties (at least to a certain degree) would have to be shared across organization. Would such conception be feasible to achieve, is a question that will have to wait for future empirical research. Future research should study whether the theoretical analysis presented here also hold in practice. As the embeddedness forms over time, a process analysis [28] of the
shaping of embeddedness and embedded ties would be fruitful. More specifically, the view promoted here suggests the embeddedness of BCM is a continuum in which the business continuity at one end is 'a mere plan' and at another end the business continuity is 'not merely a plan'. Further, in this view the embedded ties are also a continuum from 'no social relations' to 'intimate relations' between those participating in organizational business continuity. The implications of this view on organizational business continuity was merely touched upon in this conceptual article. The complexity, however, provides many interesting paths to be explored that has potential to improve understanding of not only business continuity but also on social relations. In addition, much of the late literature focusing on social relations has seen fit to focus on an 'umbrella term' coined as 'social capital' [1]. Future research should also study how social capital, that incorporates also sociological embeddedness, might improve and complement the view on embeddedness of BCM presented here.

References