



# University of HUDDERSFIELD

## University of Huddersfield Repository

Abualqumboz, Moheeb and Chan, Paul

To reciprocate or not to reciprocate: Exploring temporal qualities in reciprocal exchanges in networks

### Original Citation

Abualqumboz, Moheeb and Chan, Paul (2014) To reciprocate or not to reciprocate: Exploring temporal qualities in reciprocal exchanges in networks. In: EGOS 2014, July 3–5, 2014, Rotterdam, The Netherlands.

This version is available at <http://eprints.hud.ac.uk/id/eprint/26036/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: [E.mailbox@hud.ac.uk](mailto:E.mailbox@hud.ac.uk).

<http://eprints.hud.ac.uk/>

Sub-theme 31: Theorizing the Network Organization

**To reciprocate or not to reciprocate: Exploring temporal qualities in reciprocal exchanges in networks**

*Moheeb Abu Alqumboz*

[moheeb.abualqumboz@postgrad.manchester.ac.uk](mailto:moheeb.abualqumboz@postgrad.manchester.ac.uk)

*Paul W Chan*

[paul.chan@manchester.ac.uk](mailto:paul.chan@manchester.ac.uk)

*School of Mechanical, Aerospace and Civil Engineering,  
University of Manchester,  
Sackville Street,  
Manchester, M13 9PL, UK*

***NB:*** *This is very much work-in-progress and we are still exploring emerging themes and refining the current themes that represent the inter-organisational learning research. We, therefore, welcome any feedback and comments for improving this piece. Please do not cite or circulate without permission from the authors.*

## **To reciprocate or not to reciprocate: Exploring temporal qualities in reciprocal exchanges in networks**

### **Abstract**

In this article, we sought to draw theoretical explanations of reciprocal exchanges in networks and how reciprocity is seen as the building block of network sustainability through employing a temporal perspective. The article's main contribution was to provide fresh insights into how temporality, drawn upon Bergson's philosophy, advanced the way we look at reciprocity and consequently provided three perspectives of time, namely; emergent networks, discursive practices, and possible times. The practical implications of such perspectives inform organisation on how to select networks and predict their benefits. The research method included 28 interviews and casual observation of network sessions.

**Keywords:** reciprocity, informal learning network, temporality, emergence, discursiveness

## **1 Introduction**

In the age of networks, van Dijk (2012) stresses how notions of time and space have changed. The rise of the network is accompanied by closeness and retraction of time and space. As time has become tighter, everyone wants to do things as quickly as possible, probably due to technological advancements. This has intensified the formation of formal and informal networks that bring organisations. For example, learning networks bring various individuals and organisations from similar industries together to talk about issues or challenges and find solutions thereto (Grant, 1996, Van Wijk et al., 2011). The current literature suggests that networks in business advantage knowledge and create a learning environment that could not otherwise be found (See for example, Swan et al., 2010, Pemsel and Wiewiora, 2013, Pilbeam et al., 2012).

Reciprocal exchanges in which individuals exchange material and immaterial favours such as gift exchange and knowledge sharing are ubiquitous in social and economic life (Levi, 1996, Nowak and Sigmund, 2005).. Networks that are created to advance knowledge and exchange experience requires reciprocal exchanges to sustain (Nowak, 2006). Interaction amongst network participants is therefore vital to enrich knowledge and experience exchange (Tsai and Ghoshal, 1998). Interaction takes different forms. It could be discussions over certain topics, mutual admiration of participant's work, or - in advanced forms of interaction - the agreement on joint work. This suggests that considerable attention should be paid to network dynamics; i.e. the ways in which networks evolve and work over time. Time as a dimension is important in shaping the nature and direction of interaction. The variations of time required to form a network and the time that this network takes to advance business are critical because organisations may find it difficult to plan for reciprocal exchanges. One reason for this is that such reciprocal exchanges rely on endogenous and exogenous variables (Gouldner, 1960, Uehara, 1995, Flynn, 2009). Those variables include time,. This has prompted organisations to seek different ways to evaluate how to engage or establish networks (Molm et al., 2007). In response to the call of this subtheme, this article will shed light on how different perspectives serve to understand network evolution and design (Raab et al., 2013).

In this article, we address three critical questions. The first relates to time and temporality in relation to network theory. Most research on networks tend to present

representations at moments in time, and that what is needed is a deeper understanding of what happens with and in networks over time, By doing so, we try to find avenues whereby temporality is used a lens to explore the concept of reciprocity in networks. This conveys the discussion to the second question, which is: what is the relationship between temporality and reciprocity? By doing so, we closely address how temporality influences reciprocal exchanges in networks. The concluding question is: what does temporal qualities otherwise bring to the study of reciprocity? By this, we conceptualise how studying reciprocity from a temporal lens provides fresh insights to network studies.

This article explores the temporal dimension of reciprocity in networks. Borgatti and Foster (2003) clarified that network research mainly acknowledges the structural analysis of networks. A vast majority of network research tends to address several structural dimensions such as strength of tie, embeddedness, centrality, closeness at a given moment in time (For a comprehensive review, see Ahuja, 2000, Arya and Lin, 2007, Bergenholtz and Waldstrøm, 2011, Borgatti and Foster, 2003, Burt, 1982, Castells, 2011), with relatively few studies that study the moment-by-moment unfolding of networks over time. This time was objective time; the time that is measured quantitatively as episodic periods. While this was practical and useful and consequently led to the evolution of a plethora of research, it was limited for two reasons. The first was that objective time was decontextualised, ignoring qualitative properties of time, and the second reason was that it was standardised; dealing with time too mechanically to see its social aspect (Roberts, 2008). The scholarship of networks has overlooked the existence and consequences of reciprocal exchanges that occur within different temporal dimensions (for example, short or long term). Therefore, we argue that one missing layer that is important in uncovering the quality of network relationships is the temporal dimension of reciprocity in networks.

Positing our research from a Bergsonian perspective of time, we challenge this mainstream research on structural qualities of networks by exposing it to a temporal dimension, on which this challenge is grounded. We specifically focus on reciprocity as a social norm (Gouldner, 1960) that shapes and is reshaped by networks. We argue that reciprocity in networks can be better understood through a temporal dimension due to its flexible nature. Consequently, this research will try to reverse the wheel and

go back in time to look at networks that have been formed through reciprocal exchanges over time and look at them as changes over a temporal dimension.

The contribution of this article is twofold. First, it contributes to organisational theory by advancing the conventional understanding of a network to consider reciprocity from a temporal perspective as a building block of networks. Our theoretical frame extends the traditional approach of studying networks by bringing the norm of reciprocity into network literature. The second contribution is to practice, by explaining how businesses can benefit from networks and how to predict those benefits.

In particular, the article draws upon 28 interviews and observation from two networks from different industries to observe how network members exchange knowledge and how they produce meanings from what they learn. The two networks represent two forms of network. The first network comprises one industry; photography network and the second comprises female entrepreneurs from multiple industries such as jewellery, health products, and management and financial consultancy. The first network is a learning network that brings organisations and individuals together to discuss issues related to photography. Their discussions include best practices, mutual projects, future collaboration, and socialisation. The second network mainly discusses marketing techniques, customer orientation, and joint enterprise.

## **2 Theoretical background and research gap**

### **2.1 Networks**

The importance of networks in delivering organisational objectives has been stressed over the past few decades (For a review see for example, Ahuja, 2000, Arya and Lin, 2007, Beeby and Booth, 2000, Borgatti and Foster, 2003, Brass and Krackhardt, 2012, Huggins, 2010, Raab et al., 2013). This can be seen through the increasing amount of research on networks and most recently, especially social networks (Plickert et al., 2007, Powell, 1991). In business, almost every organisation relies on networks (van Dijk, 2012) to a degree that makes us wonder how businesses managed to survive without them. Networks of suppliers replaced the dyadic supply-chain relationships (Perry-Smith, 2006). The network has become a method of analysis and a level of

analysis too (Marin and Wellman, 2011). It is therefore essential to define this article's boundaries as using networks as an ontological paradigm through which organisations can be understood and reflected upon.

Ajmal and Koskinen (2008) defined learning networks as networks that embody lifelong learners who voluntarily (Blindenbach-Driessen and van den Ende, 2006) engage in learning activities in the network. Learning activities range from discussing topics within a shared domain of knowledge to working on joint ventures. Learning networks attract learners from different multidisciplinary levels of knowledge and expertise, but who usually share the same knowledge domain. Learning networks, whether real-life or virtual, comprise three interconnected entities (Ajmal and Koskinen, 2008): (1) participants: people who seek to learn and share knowledge, (2) learning activity: a topic that participants collectively discuss, and (3) goal: which describes the result of discussing the topic.

Learning networks received criticism stemming from how they are formed and run. Drawing upon Hallpike (1975), who studied learning networks which organisations use to disseminate knowledge and cultivate experience, such networks tend to be flexible in their composition of members; .i.e. members are not the same every time. Network members usually have their own organisational identities coupled or blended with their own social identities (Sennett, 1998). In addition, members of learning networks are usually competitors outside their network boundaries; a situation which poses challenges to trust amongst members (Carney, 1998, Adler, 2001).

Networks may be either formal or informal or in other terms "prescribed" or "emergent". Formal networks are those created from a top-down hierarchy and are officially sanctioned and include superiors and subordinates whose relationships are pre-regulated in order to achieve specific goals (Ibarra, 1993). Members of formal networks may include colleagues, seniors, subordinates from work and also friends or family members as long as the structure of network is regulated and officially sanctioned. One difference from organisational hierarchy and one benefit at the same time is that formal networks are more fluid and more focused (Schoonhoven and Jelinek, 1990). On the other hand, informal networks are discretionary structures (Ibarra, 1993) that are

regulated on an ad hoc basis where networks are continuously evolving and changing to meet sessional expectations of participants.

## 2.2 Reciprocity

Reciprocity can be classified into two broad types; (1) direct reciprocity, and (2) indirect reciprocity (Nowak and Sigmund, 2005, Panchanathan and Boyd, 2004). Direct reciprocity is a dyadic exchange between two participants where participant A gives a benefit to participant B and, consequently, B directly gives a benefit to A (Molm et al., 2007). On the other hand, Nowak and Sigmund (2005) have conceptualised indirect reciprocity as a moral norm based on reputation. That is to say, participant A would reciprocate to participant B based on the reputation of B, although B might not have provided any benefit to A previously. Panchanathan and Boyd (2004) suggested that this type of indirect reciprocity dominates the reciprocal transactions on the large scale of societal exchange and thus indirect reciprocity is a key driver in sustaining moral norms in that society.

Nowak and Sigmund (2005) have conceptualised indirect reciprocity as a moral norm based on reputation. That is, an actor A would be reciprocated to by another B based on the reputation of A, although A might not have provided any benefit to B previously. Thus, indirect reciprocity could be exemplified by an actor A who provides benefit to actor B, but actor B does not provide a benefit directly to A but rather B would provide a benefit to C and C would either provide benefit to A, or to D who will provide another to A. Alexander (1987) suggested that this type of indirect reciprocity dominates the reciprocal transactions on the large scale of societal exchange and thus indirect reciprocity is a key driver in sustaining moral norms in that society. However, research is divided on how such collective exchange develops (Panchanathan and Boyd, 2004). The divide is mainly caused by the existence of, for example, the problem of free riders; those who take but do not give, and hypocritical cooperation (Heckathorn, 1989) thus posing risks to the development of indirect reciprocity as a moral norm in organisational settings, i.e. networks.

Among the different challenges to the notion of reciprocity lies one that questions its very nature. It has been widely accepted that reciprocity is a presupposed social norm that governs our social lives (Gouldner, 1960, Uehara, 1995, Perugini et al., 2003,

Nowak and Sigmund, 2005, Flynn, 2009). However, in various instances, this presumption does not hold strong. In order for reciprocity to be enacted, individuals and organisations need to establish communal trust as a premise. The lack of interorganisational reputation in networks which stems mainly from social history and trust means that reciprocal exchange will be challenged. As such, would reciprocity still exist in such networks of competing organisations who intentionally choose not to disclose their knowledge base? If such a situation exists, how could one make sure such reciprocity is good for knowledge sharing? In a case study, Hallpike (1975) described the case as reciprocating in “the negative form of vengeance” which implies, if you are good to me, I’ll be good to you, and if you are bad to me, I’ll be bad to you too.

### 2.3 Time and Temporality

Time has been the focus of different fields of study such as philosophy and sociology. The seminal work of Ospina and Saz-Carranza (2010) on time has nurtured the research on how we conceptualise time. Bergson has made distinct the two notions of clock time and pure time where the former is a quantitative measurement of time and the latter is a qualitative sense-making of time. This dichotomy is critical to research, especially that time and space ‘distantiation’ are abstract and constitute general historical processes (van Dijk, 2012). Human societies expand over time and space. With this expansion, many of their attributes do so as well. As human societies expand over time and space, the importance of both time and space is observed more. This importance can be noticed in the invention of timing machines (watches, clocks, etc.) and spatial measurements (metres, etc.). As the world has become a small village, customs and traditions have bridged time whereas sophisticated transport has bridged space (van Dijk, 2012). As a consequence, van Dijk (2012) argues that time and space have become more interrelated, however, the noticed change is delineated in the ‘contraction of space and compression of time’. For Bergson, time and space are not on the same level of perception. For Bergson, space is perceived by the senses as images (such as frames of a camera film) while time is the essence of ego, things and existence. Bergson then rejects the fact that we can measure time durations by counting the number of still frames of time we see. In this regard, Bergson said “We give a mechanical explanation of a fact and then substitute the explanation for the fact itself”.

Change in organisations was linked with temporality (Vásquez and Cooren, 2013, van Dijk, 1997). Organisations have enacted organisational changes using time by, for example, changing meeting times, proposing free style meeting on Fridays, or amending office hours, which institutionalised the new temporal changes (Ayas, 1996). Such changes developed to a level where the boundaries between the spatial and temporal blurred (Vásquez and Cooren, 2013), which could be exemplified in people who work from home or divide their work between office and home.

Positioning reciprocity within a temporal dimension presupposes dimensionality of time. Multidisciplinary layers of time are added to theories to make them fertile for explanations. For example, reciprocity as a norm is understood as being spread over a long time where norms take longer to evolve and become established (Gouldner, 1960). However, from a functionalist lens, reciprocal exchanges may be framed within short time frames. For example, it takes an hour to establish a genuine conversation between two parties in a classroom or a birthday party, but this short time does not explain whether this relationship will evolve or diminish. Networks could be looked at as both short term and long term forms of organisational relationship. Any networking event (in the short term) may take no longer than two or three hours where people can establish or build on established relationships. A series of meetings (in the long term) within a supply chain network may be spread over one or two years of time, discussing mutual organisational contracts.

Studying the qualitative nature of time suggests two more questions to tackle: can reciprocity (as an action) in a network be planned for? And is it an unpredictably accidental or discursively occurring phenomenon (intentional)? These are two important questions within the framework of the research, for two reasons. The first is: in either case; accidental or intentional, time is inexorably related. When reciprocal exchanges are accidental, we mean that they evolve or emerge without predefined goals (Bhaskar, 1998). Therefore, we cannot predict the time of their occurrences (i.e. emergence), which questions how and why an organisation would engage with a network when it cannot predict the viability of reciprocal exchanges (arbitrary selection in accidental cases, and informed selection in intentional cases). The second is that being accidental means it becomes difficult to predict the occurrence of reciprocal

exchanges, and consequently it becomes difficult to predict reciprocity results; and positive or negative impact on the network (van den Ende et al., 2012).

So far, however, there has been little discussion in the extant literature about the role of reciprocity in networks from a temporal perspective. One reason for this is that time was dealt with as a linear dimension. This provoked the research questions that problematised time and suggested looking at temporal lens rather than time lens. The extant research on networks is mostly binary, i.e. existence or not of network qualities, and therefore, our take on reciprocity in a temporal dimension enriches the research on the quality of those relationships and contributes to expanding the research from binary to multivariate levels (Brass et al., 2004).

### **3 The approach taken**

#### **3.1 Justification of research method**

Our methodological position draws theoretically upon the philosophical perspectives of time of the French philosopher Henri Bergson accompanied by a qualitative analysis of data collected from an ongoing PhD research. We have followed this approach because we believe the nature of the topic is dynamic and therefore qualitative analysis provides a thick description and adds theoretical layers to the subject matter. We have also noticed that network research is heavily based on quantitative design mainly observed in social network analysis and the Prisoner's Dilemma, which we think have both overlooked important qualities of the network and reciprocity concepts. For example, Prisoner's Dilemma often assumed game players did not know each other and the game itself was based on a one-off scene, which is not the case in networks where participants may meet more than once, and may or may not know each other (Krasnow et al., 2013).

We aim to analyse networks through a different, qualitative lens. Consequently, we delineate our method of analysis to unearth the lived experiences of network members in two different informal learning networks; (1) Photography Network and (2) Businesswomen Network. It is worth mentioning that network member means a network participant who regularly attends network events and engages actively, while non-members are casual participants who may attend one event and disappear later.

### ***Network A: Chinese Photography Network (Name anonymised)***

Photography enterprises meet up in a Photography Network fortnightly. The network is registered as a not-for-profit organisation which aims at supporting photographers whose work is focused on Chinese culture. The network attracts members from all over the UK and also from outside the UK. The network provides information, advice, opportunities, networking, and events. The network also tries to promote the ethics of photography amongst photographers. The network gathers competing companies that deliver media projects in the UK. The network is mainly interested in photography in China but also extended their photography activities to those photographers who conduct photography in the UK. The network is financed through grant funding, subscriptions, event ticket sales, book selling, and paintings and portrait sale. The network also collaborates with other organisations such as the British Photographic Council to deliver projects, events, and galleries.

### ***Network B: Businesswomen network (Name anonymised)***

This network gathers businesswomen from Northwest England and provides a home for networking and marketing. The main goal of this network is to help newly started and small businesses to achieve their goals. A wide range of businesses joined this network, including diamond bespoke design, health products, and estate and letting agency. They deliver small projects to different regions of the UK and also outside the UK. They talk and give feedback to each other and sometimes they market their products and/or projects to each other. The network is financed by subscription and work based on members only access. Networking events are run on a weekly basis on Tuesday mornings.

## **3.2 Description of research method**

For this research, 28 semi-structured interviews were collected from three networks. The interview process with the networks A and B took place respectively. 18 interviews were conducted with Network A and 10 with Network B. Interview questions drew upon “The Personal Norm of Reciprocity” (PNR) questionnaire (Perugini et al., 2003). Each interview began by requesting the interviewee to sign a consent form following which

the interviewees were debriefed about the purpose of the interview and ethical issues thereof. Interviewees were then asked to introduce themselves and provide a background of their professional job. Later on, the researcher inquired about how interviewees joined the network and how they would describe their and other participants' engagement with the network. Other questions included inquiries on how participants join and participate in networks, why they participate, and how they thank others who have helped them in a network. Lastly, interviewees reflected on the impact that networks have on their businesses. Table 1 details interview questions and how they relate to research purpose.

*Table 1: Categorising research questions*

<b>Category</b>	<b>Purpose</b>	<b>Questions include</b>
Part 1: Introduction	To introduce the research to interviewee and get details of their personal and professional details related to the research domain	<ul style="list-style-type: none"> <li>• Can you please tell me about yourself and your work in general?</li> </ul>
Part B: Background	To understand the background of the individual or the organisation that the interviewee represents	<ul style="list-style-type: none"> <li>• Can you tell me about yourself and the business you do?</li> <li>• Do you go to any network?</li> <li>• What is the most recent network you went to?</li> <li>• Can you tell me about it?</li> <li>• Why do you go to those networks?</li> <li>• What do you take from these networks?</li> <li>• How do you reflect on your business?</li> </ul>
Part C: Belief in reciprocity	To explore What participants get from networks and how they reciprocate	<ul style="list-style-type: none"> <li>• How do you describe your engagement in these networks?</li> <li>• How do you describe the network?</li> <li>• What do you like the most about networks?</li> <li>• What do you hate the most?</li> </ul>

Category	Purpose	Questions include
		<ul style="list-style-type: none"> <li>• Can you tell me any success stories that you would like to share?</li> <li>• Or frustrating stories?</li> </ul>
Part D: Reciprocal exchanges	To examine reciprocal exchanges exercised by reciprocators	<ul style="list-style-type: none"> <li>• Have you helped any network participant? How?</li> <li>• Did you expect returns from that participant?</li> <li>• If you contribute to the network (any kind of help), do you expect it will be repaid?</li> <li>• What kind of repayment do you expect and why?</li> </ul>

We have coded the responses that we received for question raised in (Table 1) in addition to other than emerging questions because we used a semi-structured interview. Throughout the data analysis, we have interpreted the codes drawn upon the responses of interviewees.

We have avoided using jargon such as “Reciprocity”, “knowledge sharing”, and “interorganisational learning” explicitly during the interview; however, these terms have been embedded indirectly. The interviews were conducted over the course of a year during which the principal researcher immersed himself with the network and joined some networking events. Observing the networks provided fresh insights into how participants reciprocated.

### 3.3 Interview participants

Our data sample consists of 28 participants representing 20 project-based enterprises. Participants come mainly from photography, jewellery, health products and construction industries. They were approached through the networks in which they were engaged either formally or informally through snow-balling interview technique (Goodman, 1961). Table 2 summarises when participants were interviewed.

*Table 2: Summary of data collected*

	January 2012 – June 2012	August 2012 – January 2013	March 2013 – June 2013	Total
<b>Network A</b>				
Administrator	1			1
Critic	1		1	2
Editor	1	1	1	3
Film makers	1		3	4
Painter	2			2
Photographers	3	1	2	6
<i>Subtotal</i>				18
<b>Network B</b>				
Administrator		1		1
Gold and silver trader		1	1	2
Health products distributor		1	2	3
Training and consultancy firm	1	2	1	4
<i>Subtotal</i>				10
<i>Total</i>	10	7	11	28

### 3.4 Data analysis

The qualitative analysis was developed through synthesising a mixture of semi-structured interviews and casual conversations with network administrators and participants. We seek to weave theoretical theses to describe the role of reciprocity in networks. Through those theses, we endeavour to identify the role of Bergsonian time in knitting stronger and more relevant theory that explains the nature of the cohesion and sustainability of learning networks. Therefore, our approach to illustrative data was necessarily interpretive, through which we seek to build interpretations from individuals whom we interviewed (Lopez and Willis, 2004). The interpretive approach assumes that meanings are constructed from what individuals experience rather than what they know (Solomon, 1987). From the two networks that we interviewed, we have selected those quotes that grounded the emergence of the three main findings, namely: emergent networks, discursive practices, and possible time. Those three findings (or themes) synthesise our theoretical conception of reciprocity in networks.

We sought in this article to respond to the three main questions that we have raised to initiate the inquiry on reciprocity in networks and the role of temporality. The first question sought mainly to clarify time and temporality and their differences, which we have fulfilled in the theoretical background. The next two questions are dealt with in this section, which resulted in three perspectives on temporality and reciprocity.

### 3.4.1 Coding the data

We have coded our data based on the two main coding structures namely, descriptive, and pattern (Miles and Huberman, 1994). The coding process went through three phases. The first phase is coding data, the second is recoding data, and the third is categorising the codes (Saldaña, 2012). We subsequently, re-organised the codes hierarchically as subcodes, codes, and categories. We started by looking at data sets inductively and coded as we go through data finding several codes and categories that resulted into three categories. Table 3 shows categories, codes and subcodes linked to representative quotes from data.

## 4 Findings and discussion

The prominent research on direct reciprocity as a norm indicates that reciprocators receive benefits in the short term from the same person they have already benefited (Gouldner, 1960). On the other hand, the notion of indirect reciprocity suggests that benefits may be received in the long term either from the person who benefited previously or from another who has never benefited from the reciprocator (Boyd and Richerson, 1989, Nowak and Sigmund, 1998, Phelps, 2012).

The importance of the time dimension in our research comes from those two concepts of reciprocity. Indirect reciprocity requires a longer time to actualise than direct reciprocity, which means the basic underpinnings of direct and indirect reciprocity may not sufficiently describe certain occurrences in networks. For example, participant A in an informal learning network expects a favour from participant B in the future because A has done a favour for B in the network. Another example is that participants of an informal learning network may feel the need to formalise the long term reciprocal exchanges; i.e. direct reciprocity (Powell, 2003) in order for this network to be a formal one that meets on a regular basis and has an established place and membership. In indirect reciprocity, to formalise the relationship, time is dealt with as a linear relationship; i.e. how reciprocity develops over even or uneven intervals of time. However, this time is questionable as participants view it according to their experience. Therefore, we posit reciprocity as a formula of temporality.

Table 3: Descriptive codes

Categories	Codes	Subcodes	Representative quotes
Belief in reciprocity	stimulus	Learning Stimulus	<i>..at the same time encouraging the individual to be a participant in the learning process, the support and knowledge they've gained so, yeah, I do see all those facets as being stimulus, constant stimulus on the journey, the learning journey.</i>
		Why join networks	<i>The reason for that is I'm very much interested in Chinese culture and I get a lot from immersing myself in the Chinese community as well as the Liverpool community.</i>
		Why people reciprocate	<i>[it] gives me is an opportunity to network people and get to know different people, some like-minded people so yeah</i>
	Norm	Reciprocity as norm	<i>I'm looking to output a quality outcome that everybody would like and would want to have or would want to use and they ... and what they feel for me would be an openness and an honesty and a sincerity and a believer in the very best.</i>
	Voluntary	Voluntary reciprocity	<i>OK, the difference with them is that they like to make a lot of profit; I'm not interested in money.</i>
	Legacy	Inherited reciprocity	<i>My father is an editor of a newspaper and my mother is a writer and so I did some kind of collaborative work with my Mum</i>
Reciprocal exchanges	Form	Direct reciprocation	<i>If you speak to some people in business they will say networking is the soft, soft skill which is about building the right relationships and eventually require business that way. You will buy and you will sell through those networks, but it will not ever be an obvious correlation between I attended that event and got that sale.</i>
		Indirect reciprocation	<i>So you will just exchange niceties at that point, you know, what you will get from that point is the sense of why they are they. So they are there to buy. Are they there to sell, are they there to simply maintain and increase that network</i>

Categories	Codes	Subcodes	Representative quotes
			<i>and it can quite often be a mixture of all three, but for some of them increasingly people at the networking</i>
	Content	Provide feedback	<i>like to give a part of me back to the networking people and so my photography is just a hobby and what I do is I take pictures for an organisation and give them the pictures and they sell them to make money</i>
		Deliver a presentation	<i>so I've got permission to deliver a course of one day workshops which will be taking place in a couple of weeks and in order to strengthen my bid for that</i>
Emergent networks	Emergence	Creating networks	<i>My father is an editor of a newspaper and my mother is a writer and so I did some kind of collaborative work with my Mum. We did some stuff together and then through connections that both my parents had, I started to meet other people who were photographers, particularly a man called [CM] who is the kind of chairman or the executive director of the [MyFestival] and so he was very helpful to me</i>
		Participating in networks	<i>I just didn't know anybody and until it got to Christmas eve and I was invited to a party and I met some moms in the school who was an architect and she heard about what I do and she said "well, why don't you go to a networking event" and this is the first time I have heard about networking. I didn't know anything about it close I was always employed on my life, so I never knew anything about it and she said "well, just Google it up, there is loads of them, find one and try" and I went to one it was a conducted in Manchester.</i>
	Development	How network developed	<i>So, when people come to [Network B], they realise that it's quite relaxed, but it doesn't really take from the fact that the world the professional individuals. We have all studied hard. We've all worked hard, and we are now running our own businesses, but it doesn't mean you have to dress a certain way or behave in certain way. You can it's very important to be authentic and to be who you are and that's all the part of</i>

Categories	Codes	Subcodes	Representative quotes
			<i>the [Network B] philosophy because branding is all about being authentic and being true to what you are offering</i>
Discursive practices	Disharmony	From chaos to stabilisation	<i>I remember when I first started going to them, I found them really terrifying. You go into a room of people who you don't feel that you're on their level. You see them as being on a pedestal or above you and you don't really know what to talk to them about and things like that and it's really kind of nerve wracking.</i>
	normalisation	From stabilisation to stability	<i>But just through going again and again and seeing the same people, those kind of barriers break down and then it feels more</i>
	Harmony	From stability to coordination	<i>... now I enjoy going to those events because I feel like I'm going to see all my friends, you know, I'm going to see my photographic buddies and they're people that I might not see in a more social situation but in that situation it is very sociable and you might talk a little bit about TV, you might talk about other things as well and so, yeah, it depends what you want to get out of it.</i>
Possible times	Past	Early start	<i>.. I feel intimidated now to tell him things I value about my work. Had he shown an attitude of sharing his experience with us, I'd have loved discussing many important topics in genetic research...It's just.. it's just not fair! Yeah..”.</i>
	Present	Participant immersion in network	<i>Then being immersed in a world of people having those conversations allows you to enhance your knowledge and I would hope for [NW] ... I almost had an argument with him after the last meeting when we went to the pub</i>
	Future	Possible benefits	<i>you have to do it every 2 weeks and if you want a really kind of benefit from it. I am not usually attending this kind. I think also they want one of each profession.</i>

This links with the second research question which is: what is the relationship between temporality and reciprocity? We argue that the relationship between the two is substantial. Thus, the relationship can be understood by disabling our dealing with time as a linear timeline, and rather deal with it as a qualitative phenomenon that can be described and interpreted by qualitative means (Heirich, 1964, Middleton et al., 2011). This allows us, for example, to perceive the relationship between temporality and reciprocity as a multivariate relationship. This, therefore, leaves behind the causal relationship between time and reciprocity which dictates that this relationship is linear and consequently a matter of “ahead or behind time”; i.e. two-dimensional (2D) time. Findings indicate that qualities of time are more than those two dimensions; however, we have chosen to call them perspectives rather than dimensions to be consistent with the qualitative approach of the research. The perspectives that we identified are illustrated in the following subsections.

#### 4.1 First perspective: Emergent networks

Emergence is a dynamic quality of a network (Gulati and Gargiulo, 1999) that can be understood in a time framework. For a network to emerge, it has to appear and exist and then evolve over a period of time, however, this does not mean that the network holds emergent properties (Elder-Vass, 2010). That said, the emergent network may not hold the same power held by its members. The network may atrophy after a short period of its emergence because members were not collectively able to sustain it. Network participants, despite having the qualities and power to make a network, may not have experienced the reciprocal exchange that was necessary to maintain the existence of the network. We should be more specific when we discuss reciprocal exchange by adding the sense of temporality. This is possible when we question the phase where reciprocal exchange “really” matters. For this, we have to make a distinction between emergence and evolution from a temporal perspective. For some network members, it was important to know the current stage of the network. For example, this is an extract from a network member (PL):

*To be honest, I tend to know what kind of network it is. And.. that's important. You don't want to put your effort into a new baby network. So I do a bit of Google homework on the network and see if it avails...the problem is that with less time*

*and much work, I wouldn't waste my time and of course my family time going to networks on weekends that will not add to my skills.*

PL, who was a network member of "Network B", rejects the opportunity to join emergent networks. What does emergent network mean to PL? This will pause the answer (deliberately) until we interpret his rejection of the opportunity to join, because we believe the rejection could be seen differently if we know what PL meant by emergent network from a temporal perspective. He stressed the importance of the network to be a well-established network in order for it to benefit members. From a linear time point of view, Network B was not emergent as it was established in 2008 (4 years ago then). Taking the dichotomy of direct and indirect reciprocity perspectives, PL had a thirst for establishing good connections with network members in order to be able to advance his knowledge and experience. In other words, he expected the return of his contribution so soon that he could no longer wait for it and consequently left the network. What was emergent was engagement with the network and not the network itself. He explains this as follows:

*It is not a matter of whether I like or dislike the folk. [but] I felt the knowledge and my experience stories that I shared with the group is.. are going nowhere. I invested quite a sufficient amount of time in the network...but.. [Everyone] looked like they're waiting for me to spell knowledge out. You can't do that, right?.... if this was an established network, professionals, and you know... this network would not dig a hole to Australia. .. erm professionals would dig it right.*

PL was part of the network for 4 weeks before he left. His interpretation of the time was that it was not sufficient to judge that the network was useless to him. The network was established in 2008; 4 years before PL joined. It is noticed as such that PL's consciousness of time provoked him to leave the network because the 4 weeks' time was not sufficient for "direct reciprocity" to enact its rules. Goyal (2012), in an effort to explain what it means to exist temporally, argued that time-consciousness predominantly relates to the ways meanings are constructed over periods of time. PL's engagement with the network was calculative. He could not wait until a genuine relationship was established. PL joined two different networks in the past but he turned them down as they were "meaningless" to him.

In contrast to PL, we find the extract from another network member (Network B) (ZK):

*This network is a rich one and it looks similar to one I was a member of in Turkey. I joined this network from the early stages of its establishment.... [!] know most of its members.. even those who came for a few times then disappeared. I remember three contracts I had as a result of this network. It's just one needs to be emotionally connected to the network, something that binds you to the network. It's not just as "in brackets" one day stand...and erm one day that guy, its so funny.. he joined the network and started to mechanically distribute his business cards to almost everyone... this is not natural. When you put your emotions and senses into the network, certainly you gonna get the best of it.. it does not mean it's a swap.. but the kinda thing that when you give something away , you find an angel one day gives you something you one day wanted the most..*

ZK owns a small business specialising in promoting ethical business. Contrary to PL, she was more connected to the network and arranged some events for the network. Reciprocity for ZK is an indirect benefit as she appreciates investing sufficient time in the network. However, this "sufficiently" differs from that of PL. Time consciousness for ZK was different to that for PL. When ZK was asked how long it took her to fully engage with the network and start benefiting from it, she said "it [took] 5 months" taking into consideration the network meets on a fortnightly basis. In this, there was a "sufficient" difference between PL and ZK. While it is natural for people to differ in their perception and consciousness of time, implications of this are reflected upon when organisations encourage employees to join learning networks either inside or outside organisational boundaries. Extant literature (For example, Phelps, 2012, Nowak and Sigmund, 2005) on direct and indirect reciprocity always suggested that the difference between the two notions is dependent on time. Social perception of time (temporal perspectives in Bergsonian philosophy) as two lenses to look at reciprocity, therefore unfold new dimensions that help to understand direct and indirect reciprocity.

(BS), who is a network member of Network A, talked about his experience with the network and what reciprocity meant to him as follows:

*I'm very much a believer in ... learning just doesn't take place within a time and space. I'm very much [of the opinion] that the stimulus can take place in its time and space but the experiences afterwards augment that experience. So, for example, individuals may have a teaching session in the classroom and again a lot of material from that classroom, they take a lot things into the knowledge in that area but then afterwards it's what they do subsequently afterwards, engage with other people to talk about subjects and materials to make a deeper understanding about what it means, etc, and the learning ...*

BS implied that learning from other members does not take place in time and space only but what is important is what a network member does afterwards. He represented his perception of indirect reciprocity taking place outside of the time and space of the network. As such, one could argue that the network extends its time beyond that of the duration of the network session and transcends the space as well. The theoretical underpinning of indirect reciprocity stresses that it occurs through a different party than the one being reciprocated to. For this to occur, time must be a dimension. In such case, which time is this? The objective or the subjective one?

Direct reciprocity tends to occur easily and it is easy to predict its occurrence, based on a time frame, as an emergent incident, However, indirect reciprocity is taken by time to occur in the evolutionary phase of networking (Phelps, 2012). What happens if we employ temporality instead of time in the preceding argument? If we look at indirect reciprocity from a temporal lens, indirect reciprocity may take place during the emergence or evolution of a network because from a temporal perspective, the distinction between emergence and evolution is socially embedded (Goyal, 2012). Temporality therefore became an actor in determining whether reciprocity was direct or indirect. It is important to stress that the relationship is not causal; i.e. reciprocity is not a consequence of temporality, as a causal power, for direct or indirect reciprocity to take place but on the other hand, it is indicative of reciprocity.

#### 4.2 Second perspective: Discursive practices

Organisational discourse can be defined as “the structured collections of texts embodied in the practices of talking and writing ... that bring organizationally related objects into being as those texts are produced, disseminated” (Wassmer, 2010). What

we mean by discursive practices is how discourse through language (Min and Zhou, 2002) is produced, reproduced and circulated in relation to its context (Nagurney, 2010). They describe the relationship between individuals, language, and society (Bellamy and Basole, 2012). In networks, member and non-member participants communicate either verbally or non-verbally to exchange knowledge. For example, in Network A, participant (AL) describes his participation and how it developed over time as follows:

*I remember when I first started going to them, I found them really terrifying. You go into a room of people who you don't feel that you're on their level. You see them as being on a pedestal or above you and you don't really know what to talk to them about and things like that and it's really kind of nerve wracking. But just through going again and again and seeing the same people, those kind of barriers break down and then it feels more ... now I enjoy going to those events because I feel like I'm going to see all my friends, you know, I'm going to see my photographic buddies and they're people that I might not see in a more social situation but in that situation it is very sociable and you might talk a little bit about TV, you might talk about other things as well and so, yeah, it depends what you want to get out of it.*

AL described his participation as being incremental over time. If we split his narrative into phases over time, AL's story can be seen through three successive phases: disharmony, normalisation and harmony as shown in Figure 1. We apply a temporal perspective to elaborate on those phases.

In the first phase, AL did not like the network and he felt “*terrified*” because he distanced himself hierarchically and socially from participants (at this stage, one might not recognise who is a member and who is not) whom he thought were senior to him and stood on a “pedestal”. It could possibly be that the audience were responsible for that distance, and not him. In either case, the social distance was there and the time for it to fade out is yet to be thought of. Perception of time for network participants at this phase is important as for some, it could be too long to cross and consequently they might leave the network, while for others it could be short and a must-go-through period. It is in this phase, that many network participants turn down the network and quit for reasons such as that of AL, free riders; those who take but do not give, and

hypocritical cooperation (Heckathorn, 1989). Network sustainability is highly dependent on member commitment (Chan and Chan, 2010), especially during the first phase.

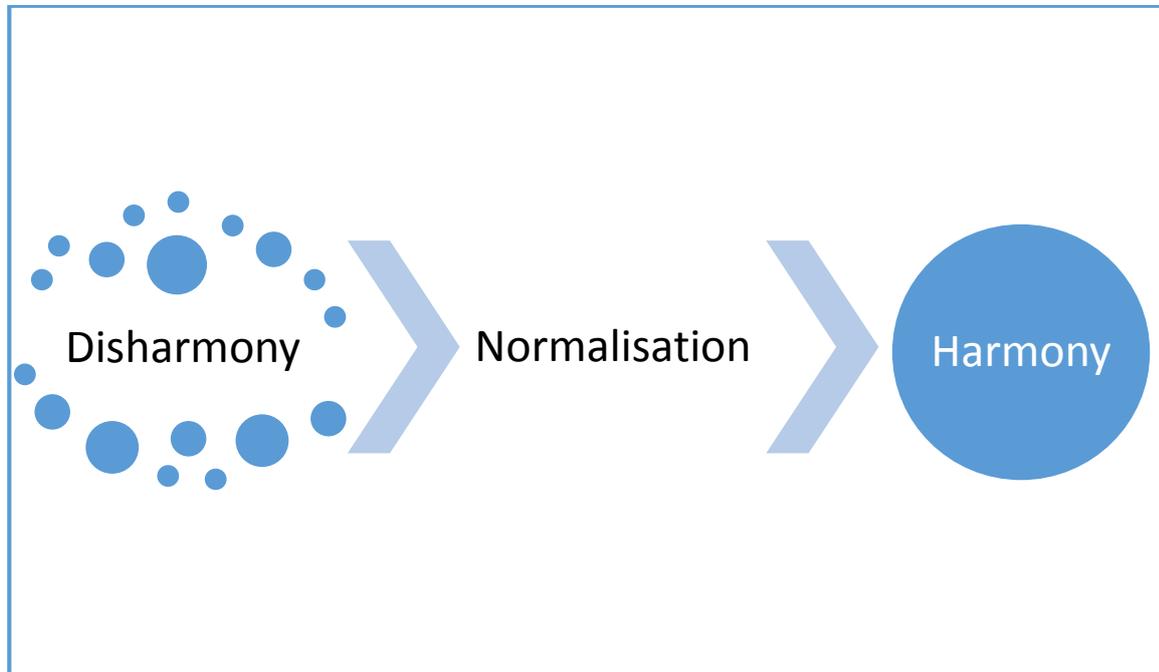


Figure 1: Discursive practices in a network

The second phase was when AL tried to normalise himself with the network by talking and reflecting on what others talked about in the network. In this phase, AL's perception changed through reciprocal interaction. It is important to notice that reciprocal interaction takes time to reach a level that sustains a network. In the first phase, AL perceived going regularly to the network and meeting the same people as a "kind of barrier". After a *while*, he found the network enjoyable and considered people in the network as "buddies". That "*while*" is important, as it was not a piece of time chopped off from the time stream, but a temporal scene within which AL's emotions and perceptions were configured to the network. From a temporal perspective, we give less importance to how long this change takes but on the other hand, we give more importance to what things changed and how. Drawing upon the social theory, the social system is fundamentally based on the social interaction between two people; "Ego" and "Alter" (Parsons et al., 1951). This interaction takes place recursively on the grounds that acts of ego depend primarily on the ego's expectations of the acts, intentions or expectations of alter. Parsons et al. (1951) portray this interaction as being

necessary for the stability of the social system and consider this interaction as a reciprocity or complementarity.

The third phase represents the harmony that is built between the network and the participant (AL in this case). In this phase, AL described the relationship between himself and other network participants as “*like I’m going to see all my friends*”. AL did not call network participants friends but “like friends” as the relationship was spatially confined to the boundaries of the network. He has made friendships with one participant only that extended beyond the network socially and spatially. This harmony is important, as the third phase could also be as risky as the first phase, especially as the network participant may feel bored or reluctant to commit to the network or their network ties may become so strong that the network brings no benefit to them (Granovetter, 1973, Krackhardt, 1992) and as a consequence the network “may atrophy” (Chan and Chan, 2010) or cease to exist. AL has also explained what the third phase means to him and others when he provided examples of the harmony, such as sharing talks on subjects other than photography (the main subject of the network). The dichotomy of network subjects is interesting as it implies that those networks that managed to sustain themselves are those which not only focused mechanically on the network’s fundamental subject, but extended to other subjects, which kept the fabric of the network harmony similar to that of organisational discourse (Wassmer, 2010).

AL described his engagement with the network through three phases with a temporal taste. He never mentioned time in the extract, but constructed the meaning of reciprocity and temporality so eloquently that the reader of his extract can see and feel his lived experience going through time and a temporal dimension together. Bergson’s philosophy of time is centred around change and movement (Kadefors, 2004). In this, social change such as AL’s change from hate to engagement can be better understood through thorough reflection on “pure duration”; i.e. a change from time dimension into temporal dimension.

When reciprocal exchanges are discursive practices, this implies they are experienced repetitively by network participants in a manner split into three phases. This stretches the possibility to argue that reciprocity can therefore be predicted. The ability to forecast reciprocal exchanges can open the way for reciprocators to recognise the

anticipated results in the future. This has two implications. First, it enables networked organisations to realise the importance of reciprocity as a *norm* (Gouldner, 1960) that facilitates the development of mutual visions and actions in networks in addition to recognising that networks are more than a place that combines more than one organisation. Second, it enables them to recognise the importance of reciprocity as a *practice* (Gouldner, 1960) that facilitates predictability of network benefits and the management of both practices and their resulting benefits.

#### 4.3 Third perspective: Possible times

In narrative literature, temporal trajectories map the complex relationship between clock time and story time (Bayliss et al., 2004), where clock time is a linear trajectory and story time is a non-linear trajectory. This dichotomy demonstrates how a lived experience could have two different representations depending on the views of individuals. In clock time, time is quantitatively measured by objective measures such as seconds, minutes, hours and days. On the other hand, story time adds a qualitative dimension to time that creates and is created by time-consciousness (Jiang et al., 2013). Temporality which is socially constructed (Alojairi and Safayeni, 2012) has therefore gone beyond linear time and included other properties of time such as “*norms, rules, and conventions*” (Ayas, 1996). This qualifies us to question whether there is a time that is appropriate for reciprocity and another which is inappropriate. Most of the research on reciprocity has placed reciprocity within a positive frame (Brandts and Solà, 2001, Mitchell and Ambrose, 2007), which has meant that the discussion of any negative consequences of reciprocity were almost off the research agenda. It is worth mentioning that by negative consequences of reciprocity, we do not mean “negative reciprocity”. In such case, looking at the reciprocity from the temporal dimension is not only beneficial in identifying its qualitative properties, but also serves to re-question the feasibility of reciprocity in general and why we should always assume that it is “a prescribed recipe”.

The following is an extract from (MK), who was an active member and participant of Network A, explaining his perception of reciprocity:

*I don't really, to be honest. I reward them by doing a good job for them. I have never felt the need to have to send them gifts or anything else like that. I did*

*recently take [JV] and another client on a boating trip I had organized because one I was getting it cheap and two they brought me a lot of work and if I had a place I would invite them along, but I have never actually felt the need to incentivize or reward my clients. I have never needed to, they come to me anyways. So you know it is in me changing the future work, but we shall see.*

MK is an active member of the network, and therefore his views consent to his network position. From our casual observations of network sessions, MK raised questions after a talk because no one stood to ask the presenter questions, as he mentioned during the interview. It could be possibly that MK wanted to save the presenter's face or network's status as an engaging network. In either case, he rewarded the network indirectly and practically. MK does not seem to believe in direct and immediate rewards. MK then explained why he indirectly rewarded two clients of from his network namely because the reward was cheap and because those specific clients brought him "a lot of work". However, he then stresses his belief in reciprocity in which he rejects "incentivising" his clients and argues that the two clients come back to him anyway, i.e. with or without reward.

On the other hand, (AD) joined network B to participate in the production of genetic research based product. She said:

*"Yeah, I like the network as we .. we produced different product which I see is great.. We have huge demand and sales increased beyond levels... (Laughing) Ladies loving our products. .... But was particularly concerned as one of our team member was that type of silent guys. He does not share what he has under his head skin.. He listens carefully but never spoke to me or.. I feel intimidated now to tell him things I value about my work. Had he shown an attitude of sharing his experience with us, I'd have loved discussing many important topics in genetic research...It's just.. it's just not fair! Yeah.."*

AD joined the network to share knowledge that would help to improve the product but she was confronted by a participant who showed no sign of willingness to reciprocate, which she has seen as being detrimental to the network. AD clarified that she is a person who is bound by the norm of reciprocity and explained that she joins networks to share her knowledge and experience with others in the first place. On the contrary,

her colleague was the opposite to what AD described. Her colleague “*listens carefully but never spoke...*”. This situation polarises two types of participants of a network; one who engages from the first session and another who never engages. Between those two poles lie other types of participants. We can classify network participants into four types: (1) engaging: those who engage from early admittance to the network, (2) willing to engage: those who engage later after making sure others would exchange knowledge, (3) free riders (Heckathorn, 1989): those who join to get what they want and leave without nurturing anything in the network, and (4) unwilling to engage: those who join the network to learn but do not share what they know with others.

Drawing upon the work of Jiang et al. (2013), network participants have necessarily temporal perspectives, which marks the temporal trajectory on three sites; the past, the present, and the future. For Heidegger, those three temporal sites are indicative of ekstatic temporality, namely: (1) the past as “thrownness”; (2) the present as “immersion”; and (3) the future as the “possible”. The last one is important as it guides us in how to predict reciprocity in a network setting. Jiang et al. (2013) stated “*we are creatures of the ‘possible’*”. That being said, network participants own the future of the network. They can predict when to reciprocate and when not to. For some, this seems to be difficult; i.e. who can predict human reciprocity!

## **5 Conclusion**

Prominent research methods relied on “clock time” to study networks, reciprocity, and other streams of organisational studies. This included quantifying the time necessary, for example, to plan, function, control, change, and so on with the dissatisfaction with objective time perspective because it is decontextualised and standardised. This article sought to present a new perspective of how to study reciprocity in networks through a temporal perspective with the aim to provide fresh explanations for network practices and network antecedents. The data analysis revealed that our theoretical framing intersects at different points with Bergson’s philosophy of time. The analysis specifically advanced three fresh perspectives of time.

The first is emergent network, which showed that employing a temporal perspective to reciprocity positioned the dichotomy of direct and indirect reciprocity away from the

traditional static explanations. The traditional dichotomy of reciprocity is assumed indirectly to take place in durations longer than that of direct reciprocity. Temporal perspective suggests that time is a subjective instrument and therefore, benefits expected from indirect reciprocity could be garnered earlier than expected. This signals to organisations that encourage their employees to attend or form informal learning networks to plan how and when such network benefits are received.

The second perspective is discursive practices, which elaborated on network development from disharmony to harmony, passing through the normalisation phase. Conceptualising network engagement as a three-phase process provides fresh insights into how networks function and how reciprocity represents the building blocks of a network. Practical implications again include the ability of organisations to plan better for network engagement.

Lastly, the perspective of possible times explained how subsequent network benefits could be variable and dynamic because the future (the possible) is continuously reproduced. This perspective indicates the network's ability to predict future benefits, as those benefits are continuously evolving. Network participants are able to socially construct the future of network through discourse and narratives.

Direct and indirect reciprocity emerge, evolve and may be sustained over different time frames (e.g. short or long term). In either case, reciprocal exchanges attempt to build up the network. Examining reciprocity from a temporal dimension may inform decision makers on how networks are fruitful for their organisations and how they may benefit from existing networks. The contribution of this research is believed to open the door for more research to study networks and how organisations learn across their organisations, employing the perspectives of a temporal dimension.

## **6 References**

- Adler, P. S. 2001. Market, hierarchy, and trust: the knowledge economy and the future of capitalism. *Organization Science*, 215-234.
- Ahuja, G. 2000. Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative Science Quarterly*, 45, 425-455.

- Ajmal, M. M. & Koskinen, K. U. 2008. Knowledge transfer in project-based organizations: An organizational culture perspective. *Project Management Journal*, 39, 7-15.
- Alexander, R. D. 1987. *The biology of moral systems*, Aldine de Gruyter.
- Alojaiiri, A. & Safayeni, F. 2012. The dynamics of inter-node coordination in social networks: a theoretical perspective and empirical evidence. *International Journal of Project Management*, 30, 15-26.
- Arya, B. & Lin, Z. 2007. Understanding Collaboration Outcomes From an Extended Resource-Based View Perspective: The Roles of Organizational Characteristics, Partner Attributes, and Network Structures. *Journal of Management*, 33, 697-723.
- Ayas, K. 1996. Professional project management: a shift towards learning and a knowledge creating structure. *International Journal of Project Management*, 14, 131-136.
- Bayliss, R., Cheung, S.-O., Suen, H. C. & Wong, S.-P. 2004. Effective partnering tools in construction: a case study on MTRC TKE contract 604 in Hong Kong. *International Journal of Project Management*, 22, 253-263.
- Beeby, M. & Booth, C. 2000. Networks and inter-organizational learning: a critical review. *The Learning Organization*, 7, 75-88.
- Bellamy, M. A. & Basole, R. C. 2012. Network analysis of supply chain systems: A systematic review and future research. *Systems Engineering*.
- Bergholtz, C. & Waldstrøm, C. 2011. Inter-Organizational Network Studies—A Literature Review. *Industry and Innovation*, 18, 539-562.
- Bhaskar, R. 1998. Critical realism and dialectic. *Critical realism: Essential readings*, 575-640.
- Blindenbach-Driessen, F. & van den Ende, J. 2006. Innovation in project-based firms: The context dependency of success factors. *Research Policy*, 35, 545-561.
- Borgatti, S. P. & Foster, P. C. 2003. The network paradigm in organizational research: A review and typology. *Journal of Management*, 29, 991-1013.
- Boyd, R. & Richerson, P. J. 1989. The evolution of indirect reciprocity. *Social networks*, 11, 213-236.
- Brandts, J. & Solà, C. 2001. Reference points and negative reciprocity in simple sequential games. *Games and Economic Behavior*, 36, 138-157.
- Brass, D. J., Galaskiewicz, J. & Greve, H. R. 2004. Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47, 795-817.
- Brass, D. J. & Krackhardt, D. M. 2012. Power, Politics, and Social Networks in Organizations. *Politics in Organizations: Theory and Research Considerations*, 355.
- Burt, R. S. 1982. Toward a structural theory of action: network models of social Structure, Perception, and Action.
- Carney, M. 1998. The competitiveness of networked production: the role of trust and asset specificity. *Journal of Management Studies*, 35, 457-479.
- Castells, M. 2011. *The rise of the network society: The information age: Economy, society, and culture*, Wiley-Blackwell.
- Chan, H. K. & Chan, F. T. 2010. A review of coordination studies in the context of supply chain dynamics. *International Journal of Production Research*, 48, 2793-2819.
- Elder-Vass, D. 2010. *The causal power of social structures: emergence, structure and agency*, Cambridge University Press.

- Flynn, T. 2009. *Existentialism*, Sterling.
- Goodman, L. A. 1961. Snowball sampling. *The annals of mathematical statistics*, 148-170.
- Gouldner, A. W. 1960. The norm of reciprocity: A preliminary statement. *American Sociological Review*, 161-178.
- Goyal, S. 2012. *Connections: an introduction to the economics of networks*, Princeton University Press.
- Granovetter, M. S. 1973. The strength of weak ties. *American Journal of Sociology*, 1360-1380.
- Grant, R. M. 1996. Prospering in Dynamically-Competitive Environments: Organizational Capability as Knowledge Integration. *Organization Science*, 7, 375-387.
- Gulati, R. & Gargiulo, M. 1999. Where Do Interorganizational Networks Come From? *American Journal of Sociology*, 104, 1439-1493.
- Hallpike, C. 1975. Two types of reciprocity. *Comparative Studies in Society and History*, 17, 113-119.
- Heckathorn, D. D. 1989. Collective action and the second-order free-rider problem. *Rationality and Society*, 1, 78-100.
- Heirich, M. 1964. The Use of Time in the Study of Social Change. *American Sociological Review*, 29, 386-397.
- Huggins, R. 2010. Network resources and knowledge alliances: Sociological perspectives on inter-firm networks as innovation facilitators. *International Journal of Sociology and Social Policy*, 30, 515-531.
- Ibarra, H. 1993. Personal networks of women and minorities in management: A conceptual framework. *Academy of management Review*, 18, 56-87.
- Jiang, X., Li, M., Gao, S., Bao, Y. & Jiang, F. 2013. Managing knowledge leakage in strategic alliances: The effects of trust and formal contracts. *Industrial Marketing Management*.
- Kadefors, A. 2004. Trust in project relationships—inside the black box. *International Journal of Project Management*, 22, 175-182.
- Krackhardt, D. 1992. The strength of strong ties: The importance of philos in organizations. *Networks and organizations: Structure, form, and action*, 216, 239.
- Krasnow, M. M., Delton, A. W., Tooby, J. & Cosmides, L. 2013. Meeting now suggests we will meet again: Implications for debates on the evolution of cooperation. *Scientific reports*, 3.
- Levi, M. 1996. Social and unsocial capital: A review essay of Robert Putnam's *Making Democracy Work*. *Politics & Society*, 24, 45-55.
- Lopez, K. A. & Willis, D. G. 2004. Descriptive versus interpretive phenomenology: Their contributions to nursing knowledge. *Qualitative Health Research*, 14, 726-735.
- Marin, A. & Wellman, B. 2011. Social network analysis: An introduction. *The Sage Handbook of Social Network Analysis*, London, Sage, 11-25.
- Middleton, S., Liesch, P. W. & Steen, J. 2011. Organizing time: Internationalization narratives of executive managers. *International Business Review*, 20, 136-150.
- Miles, M. B. & Huberman, A. M. 1994. *Qualitative Data Analysis*, London, Sage.
- Min, H. & Zhou, G. 2002. Supply chain modeling: past, present and future. *Computers & Industrial Engineering*, 43, 231-249.

- Mitchell, M. S. & Ambrose, M. L. 2007. Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *Journal of Applied Psychology*, 92, 1159.
- Molm, L. D., Schaefer, D. R. & Collett, J. L. 2007. The value of reciprocity. *Social Psychology Quarterly*, 70, 199-217.
- Nagurney, A. 2010. Optimal supply chain network design and redesign at minimal total cost and with demand satisfaction. *International Journal of Production Economics*, 128, 200-208.
- Nowak, M. & Sigmund, K. 1998. The dynamics of indirect reciprocity. *Journal of theoretical biology*, 194, 561.
- Nowak, M. A. 2006. Five rules for the evolution of cooperation. *science*, 314, 1560-1563.
- Nowak, M. A. & Sigmund, K. 2005. Evolution of indirect reciprocity. *Nature*, 437, 1291-1298.
- Ospina, S. M. & Saz-Carranza, A. 2010. Paradox and collaboration in network management. *Administration & society*, 42, 404-440.
- Panchanathan, K. & Boyd, R. 2004. Indirect reciprocity can stabilize cooperation without the second-order free rider problem. *Nature*, 432, 499-502.
- Parsons, T., Shils, E. & Smelser, N. J. 1951. *Toward a general theory of action: Theoretical foundations for the social sciences*, Transaction Pub.
- Pemsel, S. & Wiewiora, A. 2013. Project management office a knowledge broker in project-based organisations. *International Journal of Project Management*, 31, 31-42.
- Perry-Smith, J. E. 2006. Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management Journal*, 49, 85-101.
- Perugini, M., Gallucci, M., Presaghi, F. & Ercolani, A. P. 2003. The personal norm of reciprocity. *European Journal of Personality*, 17, 251-283.
- Phelps, S. 2012. Emergence of social networks via direct and indirect reciprocity.
- Pilbeam, C., Lloyd-Jones, G. & Denyer, D. 2012. Leveraging value in doctoral student networks through social capital. *Studies in Higher Education*, 1-18.
- Plickert, G., Côté, R. R. & Wellman, B. 2007. It's not who you know, it's how you know them: Who exchanges what with whom? *Social networks*, 29, 405-429.
- Powell, W. W. 1991. Neither market nor hierarchy: Network forms of organization. *Markets, Hierarchies and Networks: The Coordination of Social Life*. London: Sage.
- Powell, W. W. 2003. Neither market nor hierarchy. *The sociology of organizations: classic, contemporary, and critical readings*, 315.
- Raab, J., Mannak, R. S. & Cambré, B. 2013. Combining Structure, Governance, and Context: A Configurational Approach to Network Effectiveness. *Journal of Public Administration Research and Theory*.
- Roberts, E. 2008. Time and work–life balance: the roles of ‘temporal customization’ and ‘life temporality’. *Gender, Work & Organization*, 15, 430-453.
- Saldaña, J. 2012. *The coding manual for qualitative researchers*, Sage.
- Schoonhoven, C. B. & Jelinek, M. 1990. Dynamic tension in innovative, high technology firms: Managing rapid technological change through organizational structure. *Managing complexity in high technology organizations*, 90-118.
- Sennett, R. 1998. *The corrosion of character: The personal consequences of work in the new capitalism*, WW Norton & Company.
- Solomon, R. C. 1987. *From Hegel to existentialism*, Oxford University Press.

- Swan, J., Scarbrough, H. & Newell, S. 2010. Why don't (or do) organizations learn from projects? *Management Learning*, 41, 325-344.
- Tsai, W. & Ghoshal, S. 1998. Social capital and value creation: The role of intrafirm networks. *Academy of management Journal*, 41, 464-476.
- Uehara, E. S. 1995. Reciprocity reconsidered: Gouldner's moral norm of reciprocity and social support. *Journal of Social and Personal Relationships*, 12, 483-502.
- van den Ende, J., van de Kaa, G., den Uijl, S. & de Vries, H. J. 2012. The Paradox of Standard Flexibility: The Effects of Co-evolution between Standard and Interorganizational Network. *Organization Studies*, 33, 705-736.
- van Dijk, J. 2012. *The Network Society*, SAGE Publications.
- van Dijk, P. T. A. 1997. *Discourse as Structure and Process*, SAGE Publications.
- Van Wijk, R., Van Den Bosch, F. A. J. & Volberda, H. W. 2011. Organizing Knowledge in Social Alliance, and Organizational Networks. In: EASTERBY-SMITH, M. & LYLES, M. A. (eds.) *Handbook of organizational learning and knowledge management*. Oxford: Wiley.
- Vásquez, C. & Cooren, F. 2013. Spacing Practices: The Communicative Configuration of Organizing Through Space-Times. *Communication Theory*, 23, 25-47.
- Wassmer, U. 2010. Alliance portfolios: A review and research agenda. *Journal of Management*, 36, 141-171.