SUPPLY CHAIN PARTNERSHIP IN CONSTRUCTION A FIELD STUDY ON PROJECT TEAM LEVEL FACTORS

Koolwijk, J.S.J.[1], Oel, van, C.J.[2] , and Wamelink, J.W.F.[3]

Abstract:

People and their relationship are at the heart of supply chain partnerships, however there is a lack of qualitative studies focusing on how integrated relationships may be developed. Therefore, the purpose of this study was to conduct field research to deepen our understanding of team level variables that might help or inhibit a project team to perform in a SCP setting. To guide us in our study, we used a team effectiveness framework. Taking the role as a team coach, the first author conducted field research in four different project teams that were working in a SCP setting for the first time. These teams worked on housing refurbishment projects (2-12M construction costs) initiated by housing associations. All four were delivered through a strategic partnership. We found that SCP project teams are structured differently than conventional project teams. When we look at team level factors, we see that team members need time to understand their role and responsibilities within the project team and to build a shared mental model. The smallest problems in regard of team inputs (i.e. resources) can harm the team's performance. Trust and psychological safety are important mediators between the input-output relation. Our main conclusion is, if we want supply chain partnerships to work, much more attention should be given to team level variables instead of merely relying on tools and techniques.

1. INTRODUCTION

The construction industry (CI) is often blamed for its poor learning environment which in turn leads to its poor performance. To overcome these problems, supply chain partnership (SCP) is often promoted as means of improving performance by establishing close relationships and integrating activities between supply chain actors (O'Brien et al., 2008). While the application of supply chain partnerships (SCP) seems like a logical step forward for the construction industry (CI), this industry is having problems in managing these partnerships and obtaining the intended improvements (Briscoe & Dainty, 2005). A reason for this could be hidden in the top down approach on how to build a successful partnership in CI. Many different studies approach SCP as a technical-managerial problem, mainly involving the application of appropriate tools and techniques (Venselaar et al., 2015). By implementing these tools, it is thought that professionals will start to perform in line with the intended strategies. However, various studies have shown how

---

[1] Department of Management in the Built Environment, Faculty Architecture and The Built Environment, Delft University of Technology, The Netherlands. Email: j.s.j.koolwijk@tudelft.nl
[2] Department of Management in the Built Environment, Faculty Architecture and The Built Environment, Delft University of Technology, The Netherlands. Email: c.j.vanoel@tudelft nl
[3] Department of Management in the Built Environment, Faculty Architecture and The Built Environment, Delft University of Technology, The Netherlands. Email: j.w.f.wamelink@tudelft.nl

strategies may be translated and transformed by people, artefacts and events when they are implemented in the various levels of an organisation (i.e. Sage, 2012). In addition, we know that if the human factor is ignored the impact of tools that are intended to motivate people to work together might be compromised (Rose & Manley, 2010). Some researchers have taken a more bottom up approach and looked at team level phenomena that influence the performance of a construction project team. However, almost none of these studies really took a look at the actual workfloor were SCP principles are applied (Venselaar et al., 2015). Hence, this study aims in getting a better understanding of team level factors that help or inhibit a construction project team to perform in a SCP setting.

To capture this dynamic, time sensitive and complex nature of a construction project team that works in a supply chain partnership, we conducted participative observation research. The first author of this paper participated in four different project teams as an independent team coach. This role gave the researcher the opportunity to get real close to the project teams and individual team members. As a result, not only their behaviour in the team could be observed, but also their thoughts, feelings and problems could discussed in telephone conversations, e-mails and informal talks outside the team meetings.
Four Dutch housing associations that are implementing SCP as a key strategy in their asset management served as the cases in our study. This paper is structured as follows. In the next section, a theoretical framework is developed, based on general team-effectiveness and SCP literature. Then the observation research approach, including four case studies, is described. After that, empirical findings from the case study projects are presented. At the end, conclusions are drawn.

2. THEORETICAL FRAMEWORK

Construction involves cross-functional project teams. They comprise different specialists from different divisions or organizations, who have been brought together to form a temporary organization aimed at delivering a project. Because team members come from different organisations, this team has an inter-organisational context. This poses relational and performance risks (Das and Teng, 2001). Relational risk encompasses problems that occur when a partner firm does not commit itself to the partnership in the desired manner. Performance risks encompass factors such as a lack of competence on the partner's part. When we take a look at the team level, we see that a team needs a specification of its overall purpose (Hackman et al., 2000). Without clear goals the team won't be able to see were to aim for. Clear, measurable, challenging, but reachable goals are critical to energize the team (Hackman et al., 2000; Robbins and Coulter, 2012, P.359). It has been found that when the client's goals shift regularly this has a detrimental impact on the team spirit and has a positive impact on interpersonal conflicts (Liu et al., 2011). Several studies have shown that project team's success depends on the acquisition of sufficient and relevant resources (Carbonell and Rodriguez-Escudero, 2009). These resources need to be retained while other projects compete for these same scarce resources at the same time (Ancona and Caldwell, 1992). Team stability is an important factor that is related

positively to team learning (Sivassubramaniam et al., 2012); team's innovativeness (Gibson and Gibbs, 2006) and, interpersonal trust (Zheng et al., 2008). Additionally, teams characterized by a lack of group longevity experience greater difficulty recognizing and integrating their knowledge for efficient task completion (Liang, Moreland, & Argote, 1995). High level of functional diversity within a team should lead to beneficial effects on team performance, because team members with differences in the functional backgrounds should spur more creative outputs (Van Knippenberg & Schippers, 2007); search for new information more broadly (Jackson & Joshi, 2011); are more effective in handling non-routine problems (Van Knippenberg & Schippers, 2007). However, team members that have diverse knowledge, abilities and experiences can have a different view on how specific tasks should be handled. As a result, diversity appears to increase group conflict in cross functional teams (Pelled et al., 1999). Mental models are perceived as internal representations of (aspects of) the environment that provide a conceptual framework for describing, explaining and predicting future system states (Rouse and Morris, 1986). In other words, a mental model is a person's understanding of 'how something works'. A team communicating about its goals, tasks, artefacts, (distributed) cognitions, working relationships and situations, on how the different team members understand them, will built a shared mental model (Mathieu et al., 2000). Shared team mental models help team members to predict what their teammates are going to do and are going to need, and facilitate coordinating actions between team mates (Harbers et al., 2012). Probably all types of knowledge about tasks, working relations and so on need to be shared and understood adequately in order for teams to become effective (Mohammed and Dumville, 2001). What helps a team to develop its collective knowledge and understanding of 'how something works' is team learning behaviour. Examples of such behaviour have to do with speaking up, communicating openly about concerns and errors, evaluating different opinions and views, openly discussing opinions, adjusting processes in on team members behaviours (Edmondson, 2004). Before people are willing to perform such learning behaviours, requires an environment in which this behaviour is accepted by the team and where people feel psychologically safe to really speak up (Edmondson, 2004). Psychological safety is defined as a shared belief that the team is safe for interpersonal risk taking (Edmondson and Lei, 2014). Chandrasekaran and Mishra (2012) found that an increase in psychological safety lowered team turnover and improved performance. Furthermore, psychological safety has been found to moderate between team diversity and team innovation and performance (Bradley et al., 2012). A closely related construct to psychological safety is interpersonal trust. Inter personal trust is "the willingness to take risk in a relationship" (Schoorman et al., 2007) or put in other words "the willingness of a party to be vulnerable" to another party (Mayer et al., 1995). Inter personal trust is a multidimensional construct with both cognitive and affective foundations. Cognition based trust is based on an individual thinking about and having confidence in the other based on good reasons as evidence of trustworthiness (Renzi, 2006). Higher levels of trust increases an individuals' willingness to share knowledge or to take risks in a relationship (Mayer et al., 1995; Schoorman et al., 2007). Interpersonal trust also reduces the need to monitor each other's' behaviour (Robbins and Judge, 2013). Luhmann (1979) argues that trust involves learning and that such learning processes are only complete when the person to be trusted has had the

opportunity to betray trust, but not taken it. In a project team, trust or distrust between the different team members can exist from the beginning of a project when the team members already know each other and had a prior collaboration experience on which they could ground their expectations and predictions (Gulati, 1995). However, in a construction project setting, partners often lack this collaboration experience with each other. Therefore, the confidence in each other needs to grow with experience. Leadership has been identified as one of the most important ways of directing and steering a team successfully and efficiently through the process. The behaviour of a leader can have a large effect on the team members, on how they relate both to the leader as well as to each other (Bass, 1990). At the moment, there is a debate going on in the academic leadership community about the conceptual definitions of different leadership styles and how dimensions are selected for inclusion or exclusion (Van Knippenberg and Sitkin, 2013).

3. METHOD

The purpose of this study is to analyse processes within a construction project team that is working in a SCP setting. We want to study these processes while they are actually occurring in their natural context. Therefore, we've taken an participative observation approach in which the researcher (1st author) became part of the project team. As a participative observer you collect data by participating in the daily life of those he or she is studying for a considerable period of time (Bryman, 2008). Because the observer is so closely involved, it 'permits the investigator to experience and observe the group's norms, values, conflicts and pressures, which (over a long period) cannot be hidden from someone playing an in-group role.' (Hargreaves and Hargreaves, 2006, p. 139). There are various ways of characterising participant observation (Kawulich, 2005). In our cases the researcher took the role of team coach who works for a consultancy firm. Together with one of the directors of this firm, he coached the strategic partnership. The director coached the management team and the researcher coached the project and construction team. Through his role the researcher became a full and active member of the project team. To guide us in our study, we used the theoretical framework as presented in the previous chapter. We used the concepts from this framework as sensitizing concepts to provide a starting point for this study.

Case selection and description

We were able to participate in four projects (see table 1 on next page) that are delivered through four different strategic partnerships which are setup by Dutch housing associations (HA). These HA's are implementing SCP as a key strategy in their asset management. In our cases, SCP means that a housing association will partner with multiple (specialty) contractors to perform refurbishment projects. This HA has the intention to cooperate with these partners for two or more projects; involve multiple (specialty) contractors in an earlier stage in the (design) process; set up a new (project) organisation to integrate multiple hierarchy levels of each organisation (from higher management to blue collar workers); apply open book accounting and measure

performance. For more information about the level of integration in each of these cases, we would like to refer to Koolwijk et al. (2015).

4. DATA COLLECTION

The researcher (first author) was an active member of the project team. Every team meeting the researcher was present. As a member of the team, the researcher received the project team e-mails and had access to the documents on the projects' websites. Therefore, the researcher was able to follow the project and the project team on a daily basis. The researcher spent a considerate amount of time with the team members to gain their trust. This position gave the researcher the opportunity to get their reflection on observations and to gain insight in their real ideas, thoughts and intentions. The researcher made field notes of the team meetings, personal insights that were discussed in personal talks, and also all project data (e-mails, et cetera) was collected. Together with another (professional) coach, the researcher gave workshops, did evaluations and executed specific interventions to help the project team to develop mutual goals, team spirit and a joint process. It also gave us a deeper understanding about the meaning people give to situations and behaviours of people, and it gave the opportunity to deepen our understanding of several concepts. One example of such an intervention are the evaluations that have been done with the project teams after every design phase. By evaluating the process, it became clear that team members would structure the design process differently in a follow up project based on their experiences. Both the discussions and the outcomes (new process design) of these interventions have been documented.

Data analysis

To analyse our findings, we first categorised the findings using the theoretical framework. After this we started to look for events that occurred in more than one project or events that are rare to be recorded and are noteworthy to be mentioned. One of the latter is noted in this paper (see relational risks).We also tried to see if we could find (possible) cause and effect relations in the data. Based on this analysis we've selected the major lessons for this paper.

Table 1 Project description

	Project A	Project B	Project C	Project D
Size of HA / location in NL	8.500 houses North/East	10.500 houses South	32.700 houses North/West	27.500 houses South/West
Type of houses	row houses	row houses	apartments	row houses
Year or constr.	1920's	1965	1940's	1940's
Project size	26	100	189	79
Year project	2012	2012	2013/2014	2014/2015
Constr. work	Insulation of facades, new roofs, restoration of window frames and window shutters, specialist re-pointing and brick restoration, new chimneys and new glazing.	Abatement of asbestos, renovation of chimneys, roofing, new insulating glass with ventilation grilles, insulation of floors, painting of windows and doors. Tenants could choose for new bathrooms, kitchens and/or toilets.	Insulation of facades, new aluminium window frames, new roof finishing, PV-cells, restoration of concrete balconies, new mechanical ventilation and central heating. Tenants could choose for a new kitchen and/or bathroom. Layout of the apartment could be changed.	Chimneys, roofing, new window frames with ventilation grilles, insulating glass, new doors, new mechanical ventilation and central heating, impregnation and insulation of facades. Tenants could choose for new bathrooms, kitchens and toilets. Layout of the houses could be changed.
Remark	Monumental		Regarded as monumental	
Delivery method	Strategic partnering	Strategic partnering	Strategic partnering	Strategic partnering

5. EMPIRICAL FINDINGS

Team structure

Before we go into the team level factors, it needs to be noted that the structure of the SCP project teams that we've encountered in project A-D is different from the conventional structure one would normally encounter in housing refurbishment projects (see table 2). One of the main differences is the involvement of a general contractor and several specialty contractors in design development. Consequently, we see that the role of engineers is diminished and that the role of architects has become much less central; design development is a task of the project team with the architect or a drawing office integrating all the information into the drawings and specifications.

Table 2 Project team structure in project A-D

	Project A	Project B	Project C	Project D	Conventional
Project team structure	Design and construction: C-PM, C-BS, C-PrM, T-R_client, T-R_tenant GC, SC-P/G/W, SC-M, Mun-M partially involved: ECO, Cost, D-O	Design and construction: C-PM, C-BS, C-PrM, GC, SC-E, SC-HVAC, SC-P, SC-R, SC-A/D partially involved: ECO, Cost, D-O	Design and construction: C-PM, C-BS, C-PrM, A, BIM, E-bs, E-s, GC, SC-E, SC-HVAC, SC-P, SC-A/D partially involved: ECO, Cost, T-R_b	Design and construction: C-PM, C-PrM, T-R_tenant and b, GC, SC-E, SC-HVAC, SC-P, SC-P/G/W partially involved: SC-A/D, Cost, A, D-O, E-BS	Design: C-PM, C-BS, A or D-O, E-bs, E-s, ECO, Cost Construction: GC

Abbreviations: C-PM: client project managers, C-BS: client building supervisor, C-PrM: client property manager, T-R_client: tenant representative client (i.e. Tenant consul), T-R_tenant: tenant that lives in one the houses, T-R_b: tenant representative board, A: architect, D-O: drawing office, BIM: bim consultant, ECO: ecologist, Cost: Cost consultant, E-bs: engineer building services; E-S: structural engineer, GC: general contractor, SC-E: specialty contractor electrical, SC-HVAC: spec. contr. HVAC, SC-P: spec. contr. Plumbing, SC-P/G/W: spec. contr. painting/ glazing/ and window frame renewal, SC-T: spec. contr. tiling, SC-R: spec. contr. roofing, SC-M: spec. contr. Masonry, SC-A/D: spec. contr. Asbestos abatement and demolitioner. Mun-M: inspector monuments, Mun-BR: inspector building regulations.

The choice for a particular project team members is mainly determined on the type of (specialists) works that need to be performed and the expert knowledge that is required to make the design or to identify and manage potential risks. We see in our cases that contractors are selected by the client based on past experiences in earlier projects. The selection of specialty contractors is often a combination of the past experience of the client and the general contractor together.

Overstretching resources is common in this new setting

In all cases we've seen examples of team's having problems due to team members that were not capable of performing their tasks or that were overstretched at certain moments in the project. In a SCP team members are confronted with a lot of changes: a different team setting, new tasks, new (team) norms, new tools et cetera. In this setting, some team members take on too much work, because they simply do not see what's coming. Eventually this can lead to team members that are overstretched which eventually can lead to underperformance of the whole team. In project D for instance we saw a general site manager that took on too many tasks and thought he could handle it (even when he was warned multiple times by the team coach). When is manager did not back him up when things went wrong, the project got into trouble due to a lack of resources.

Building a shared mental model and team learning behaviour

We see in our cases that most specialty contractors are not used to work in a design team from a very early phase. In this new setting, it takes time for (specialty) contractors to see their own role and tasks, and to get to know the other team members personally and their capabilities. Additionally, we found that it takes time for contractors, who mainly focus

on technical issues, to really start to understand the priorities of a client who is mainly concerned with the value-in-use of their houses and the satisfaction of their tenants. We found that tools and interventions can help the team in developing this shared mental model faster. Setting clear project team goals, planning the design phases together as a team, discussing what needs to get done and why, discussing who can do what best are activities that help the team in building a shared mental model. Team learning behaviour can help the team to explore its capabilities and to structure the work faster and to come up with new ideas and smart design solutions. Project leaders that foster this team learning behaviour, encouraging team members to speak up and to be open about their ideas and problems, help the team to excel. Project leaders also need to look after the team values, shielding the team from team members that show disrespectful behaviour or do not deliver on time. We found that team members in all projects would structure the team's tasks differently in a follow up project based on their experience in this first pilot project. From this we can infer that building a shared mental model takes experience and that having experience in traditional projects is not enough to do it right the first time in a SCP setting.

Feeling safe to speak up

Most team members are also not used to work with a client and (in some cases) a tenant in a design team. In all projects we found that some team members did not feel comfortable in this setting; they don't feel safe and to speak up while the general contractor, client and/or a tenant are present. In project A and D for instance, the presence of a tenant in the design team led to situations where other team members did not participate in certain discussions because they did not feel safe to share their sensitive knowledge on particular issues with a tenant.

Trust

Cognition based trust is an important aspect for project teams to perform. We've seen in multiple cases that having trust in the competence and trustworthiness of the partner leads to less buffer time in the project planning, because the other partners are more confident that this partner will deliver his (design) products on time. In projects where the team members where less familiar with each other, we see that it takes time for the team members to build trust in each other. Interventions like building prototypes can help the team to build trust in each other's capabilities.

Breaking with old behaviour

Specialty contractors are not used to share their knowledge with a client or a general contractor. Furthermore, in traditional projects keeping particular knowledge to themselves can be beneficial (for instance in claiming additional work). It looks like this past experience conditioned specialty contractors in this behaviour. We found that project leaders can help in breaking this behaviour by asking open questions and making it clear that they will only remain a partner when they bring their knowledge to the design table. Other team members that show the right behaviour, i.e. being open about problems and raising questions, can also act as an example to the other team members.

Relational risk

In one case we've seen a relational risk come to light. One of the general contractors tried to abuse its position as a partner by making backdoor dealings with some of the other partners. The general contractor tried to raise its turnover by putting more men on the job than needed. To conceal his actions, the contractor also forced some of the other partners, who could do the same tasks, not to raise any questions about this in the project team. Eventually his misconduct was detected by the open book accountant and because one of the other partners broke the silence. This relational risks is present in every partnership were turnover and even (extra) profit can be hidden in the direct costs and (external) control is lacking.

6. CONCLUSION

Many different studies approach SCP as a technical-managerial problem, mainly involving the application of appropriate tools and techniques (Venselaar et al., 2015). By implementing these tools, it is thought that professionals will start to perform in line with the intended strategies. In our cases we've found that much more attention should be given to the project team; to the people that have to work together in a new setting. There are many different team related variables can hinder a project team in reaching its goals.

7. LIMITATIONS

The participative observation approach has some drawbacks. First of all the observations are done in four different project teams which form social groups on their own which have their own characteristics. Also, the context in which these teams have to work might look similar (housing associations, renovation projects) but when you look close there are many differences. Second, these teams are being guided by a group of consultants in a multi-site supply chain partnering program. This program puts the team members in a new organisational setting, requires team members to get early involved in the design, guides the team members on their interpersonal skills, and helps to structure the process by using several tools (i.e. value stream mapping). This program is rather unique in its holistic approach. It is therefore difficult to generalise the findings of this research to other project teams that are working in a supply chain partnership setting. However, some findings might be applicable to construction project teams that are working in a similar setting.

Another limitation is the researcher himself. In participative observation the researcher is the main instrument to record what is going on and finally to analyse all findings. To be a participative researcher, the researcher must fit in with the people being studied. He must also be able to communicate with group members on their level and terms. It also takes experience to sense what is going on in the group. If the researchers is not able to sense what is going on, there is a big chance he will miss interesting lessons. For instance he will not ask a team member is he feels comfortable with tenant sitting on the design table if he misses the nonverbal communication of this team member. In this case the

researcher has more than 12 years of experience in working in design teams as a project manager and as a project team coach.

8. REFERENCES

- ANCONA, Deborah G.; CALDWELL, David F. Bridging the boundary: External activity and performance in organizational teams. Administrative science quarterly, 1992, 634-665.
- BASS, Bernard M. Theory of transformational leadership redux. The Leadership Quarterly, 1996, 6.4: 463-478.
- BRADLEY, Bret H., et al. Reaping the benefits of task conflict in teams: the critical role of team psychological safety climate. Journal of Applied Psychology, 2012, 97.1: 151.
- BRISCOE, Geoffrey; DAINTY, Andrew. Construction supply chain integration: an elusive goal?. Supply chain management: an international journal, 2005, 10.4: 319-326.
- BRYMAN, Alan. Of methods and methodology. Qualitative Research in Organizations and Management: An International Journal, 2008, 3.2: 159-168.
- CARBONELL, Pilar; RODRÍGUEZ-ESCUDERO, Ana I. Relationships among team's organizational context, innovation speed, and technological uncertainty: An empirical analysis. Journal of Engineering and Technology Management, 2009, 26.1: 28-45.
- CHANDRASEKARAN, Aravind; MISHRA, Anant. Task design, team context, and psychological safety: An empirical analysis of R&D projects in high technology organizations. Production and Operations Management, 2012, 21.6: 977-996.
- DAS, Tushar Kanti; TENG, Bing-Sheng. Trust, control, and risk in strategic alliances: An integrated framework. Organization studies, 2001, 22.2: 251-283.
- DEWICK, Paul; MIOZZO, Marcela. Networks and innovation: sustainable technologies in Scottish social housing. R&D Management, 2004, 34.3: 323-333.
- EDMONDSON, Amy C. Learning from failure in health care: frequent opportunities, pervasive barriers. Quality and safety in Health Care, 2004, 13.suppl 2: ii3-ii9.
- EDMONDSON, Amy C.; LEI, Zhike. Psychological safety: The history, renaissance, and future of an interpersonal construct. Annu. Rev. Organ. Psychol. Organ. Behav., 2014, 1.1: 23-43.
- GIBSON, Cristina B.; GIBBS, Jennifer L. Unpacking the concept of virtuality: The effects of geographic dispersion, electronic dependence, dynamic structure, and national diversity on team innovation. Administrative Science Quarterly, 2006, 51.3: 451-495.
- GULATI, Ranjay. Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. Academy of management journal, 1995, 38.1: 85-112
- HACKMAN, J. Richard, et al. Team effectiveness in theory and practice.Industrial and organizational psychology: Theory and practice, 2000.
- HARBERS, Maaike; RIEMSDIJK, MB van; JONKER, C. M. Measuring sharedness of mental models and its relation to team performance. In:Proceedings 14th International Workshop on Coordination, Organisations, Institutions and Norms. 2012. p. 106-120.
- HARGREAVES, David H.; HARGREAVES, David. Social relations in a secondary school. Routledge, 2006.
- JACKSON, Susan E.; JOSHI, Aparna. Work team diversity. 2011.
- KAWULICH, Barbara B. Participant Observation as a Data Collection Method. Forum: Qualitative Social Research, 2005, 6.2.
- KOOLWIJK, Jelle S. J.; VAN OEL, Clarine J.; WAMELINK, Johannes W.F.; VRIJHOEF, Ruben. Partnering in construction, a field study to further develop the framework of supply chain integration. Proceedings of the 31st annual ARCOM conference, 2015.
- LIANG, Diane Wei; MORELAND, Richard; ARGOTE, Linda. Group versus individual training and group performance: The mediating role of transactive memory. Personality and Social Psychology Bulletin, 1995, 21.4: 384-393.

- LIU, Julie Yu-Chih, et al. Relationships among interpersonal conflict, requirements uncertainty, and software project performance. International Journal of Project Management, 2011, 29.5: 547-556.
- LUHMANN, Niklas. Trust and power Chichester. United Kingdom: John Wiley and Sons, Inc, 1979.
- MATHIEU, John, et al. Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. Journal of Management, 2008, 34.3: 410-476.
- MAYER, Roger C.; DAVIS, James H.; SCHOORMAN, F. David. An integrative model of organizational trust. Academy of management review, 1995, 20.3: 709-734.
- MOHAMMED, Susan; DUMVILLE, Brad C. Team mental models in a team knowledge framework: Expanding theory and measurement across disciplinary boundaries. Journal of organizational Behavior, 2001, 22.2: 89-106.
- O'BRIEN, William J., et al. (ed.). Construction supply chain management handbook. CRC press, 2008O
- PELLED, Lisa Hope; EISENHARDT, Kathleen M.; XIN, Katherine R. Exploring the black box: An analysis of work group diversity, conflict and performance.Administrative science quarterly, 1999, 44.1: 1-28.
- ROBBINS, Stephen, et al. Organisational behaviour. Pearson Higher Education AU, 2013.
- ROSE, Timothy; MANLEY, Karen. Motivational misalignment on an iconic infrastructure project. Building Research & Information, 2010, 38.2: 144-156.
- ROUSE, William B.; MORRIS, Nancy M. On looking into the black box: Prospects and limits in the search for mental models. Psychological bulletin, 1986, 100.3: 349.
- SAGE, Daniel; DAINTY, Andrew; BROOKES, Naomi. A 'Strategy-as-Practice'exploration of lean construction strategizing. Building Research & Information, 2012, 40.2: 221-230.
- SCHOORMAN, F. David; MAYER, Roger C.; DAVIS, James H. An integrative model of organizational trust: Past, present, and future. Academy of Management review, 2007, 32.2: 344-354.
- SIVASUBRAMANIAM, Nagaraj; LIEBOWITZ, S. Jay; LACKMAN, Conway L. Determinants of New Product Development Team Performance: A Meta-analytic Review. Journal of Product Innovation Management, 2012, 29.5: 803-820.
- VAN KNIPPENBERG, Daan; SCHIPPERS, Michaela C. Work group diversity.Annu. Rev. Psychol., 2007, 58: 515-541.
- VAN KNIPPENBERG, Daan; SITKIN, Sim B. A critical assessment of charismatic—Transformational leadership research: Back to the drawing board?. The Academy of Management Annals, 2013, 7.1: 1-60.
- VENSELAAR, Marieke; GRUIS, Vincent; VERHOEVEN, Fenne. Implementing supply chain partnering in the construction industry: Work floor experiences within a Dutch housing association. Journal of Purchasing and Supply Management, 2015, 21.1: 1-8.
- ZHENG, Yanfeng. Unlocking founding team prior shared experience: A transactive memory system perspective. Journal of Business Venturing, 2012, 27.5: 577-591.