THE EMBEDDING OF THE CONSTRUCTION CLIENT ROLE IN DUTCH MUNICIPALITIES AND ITS EFFECTS ON PROFESSIONALISM AND ORGANISATIONAL LEARNING

Marleen Hermans¹, Hanneke Veldhuis, Denise Huizing and Simone Rots

Faculty of Architecture and the Built Environment, Management in the Built Environment, Delft University of Technology, Julianalaan 134, 2628 BL Delft, The Netherlands

Municipalities account for a considerable share in the total production of construction work in the Netherlands. Through their commissioning role, public entities can act as a 'launching customer' for innovation. New procurement schemes have been and are being installed to improve quality and productivity, reduce risks and enhance sustainability within the industry. The effective application of these schemes requires a professional commissioning organisation, able to consistently adopt and further develop these new schemes. A clear organisational structure and aligned working processes are prerequisite to establish efficiency, effectivity, knowledge management and organisational learning. A qualitative research project investigated the governance structure and embedding of the commissioning role in Dutch municipalities. 18 municipalities were investigated through structured interviews and additional document analysis. The research elucidates the shattering of the commissioning role over the municipal organisation, with limited alignment of processes between entities involved and hybrid organisation structure and governance issued by municipalities show substantial variation and hybridity within the municipal organisations. The allocation of administrative responsibility for complex is not clear-cut, varying with the distribution of political responsibility for related policy areas between various aldermen. Although differences exist between larger and smaller municipalities, overall findings are similar. The fragmentation level found, can be expected to hamper possibilities for organisational learning and improving professionalism. To improve these possibilities, preconditions for knowledge management and organisational learning should be strengthened, starting with stimulating the awareness of the relevance of commissioning role.

Keywords: procurement, public administration, governance, organisational learning

INTRODUCTION

The construction sector has a significant impact on living standards, the capability of a society to produce goods and services, and its capability to trade effectively (Manseau and Seaden 2001). Due to their large share of total construction output, public organisations have a substantial influence on the quality of the built environment and the construction process itself (Vennstrom 2008, Winch 2010).

¹ m.h.hermans@tudelft.nl

Hermans, M, Veldhuis, H, Huizing, D and Rots, S (2019) The Embedding of the Construction Client Role in Dutch Municipalities and Its Effects on Professionalism and Organisational Learning *In:* Gorse, C and Neilson, C J (Eds) *Proceedings of the 35th Annual ARCOM Conference*, 2-4 September 2019, Leeds, UK, Association of Researchers in Construction Management, 720-729.

In the Dutch construction industry, municipalities account for the majority of public tendering activity (Stichting Aanbestedingsinstituut, 2015). From a social responsibility viewpoint, public clients are expected to actively contribute to innovation and improvement of this sector and work as effectively and efficiently as possible (Beck Jørgensen 1999, Boyd and Chinyio 2006, Manley 2006, Ye et al., 2014, Hermans et al., 2018). Over the last twenty years, new public-private arrangements, often performance based, rapidly evolved, as a part of construction sector reform and boosted by societal challenges such as sustainability, citizen participation, and the need for cost and risk reduction. A still developing kaleidoscope of project delivery models being one of the results. In order to keep up with the changes and enable adequate implementation of all these new arrangements, public organisations, such as municipalities, need to be able to adapt and learn. Finger (1999), however, indicates that learning within public organisations is more difficult than in private organisations due to the complexity of the environment in which public organisations operate. Furthermore, Volker (2018) argues that in a project-oriented context, such as the construction domain, organisational learning is even more difficult. Nevertheless, Hermans et al., (2016) underlines the importance of a coherent approach towards commissioning as new types of collaboration require adapted governance structures, competences, knowledge and instrumentation. Municipal organisations currently often lack this coherent approach (Hermans and Eisma 2015).

Compared to other public organisations, the municipal construction practice encompasses a wide range of segments: real estate (offices, schools, sports accommodations), infrastructure (roads, waterways, energy networks), and public space. The commissioning role within municipalities is multifaceted, possibly impeding a consistent approach. Expectations are that learning in the construction sector might be even more challenging for municipalities than for other public entities.

RESEARCH OBJECTIVE

Although the importance of public organisations in the construction industry and their responsibility in commissioning has been recognized in literature, the understanding of the actual nature and configuration of public commissioning is limited and data collection remains fragmented (Hermans *et al.*, 2016). To increase the professionalism of construction clients and enable them to change, strengthening their learning capacities is prerequisite. To effectively and efficiently build, collect, secure and implement new knowledge attached to new ways of commissioning, insight in where and how tasks attached to the commissioning role are embedded within the organisation is prerequisite, as a starting point, to facilitate future change. Patrucco *et al.*, (2018), however, draws attention to the lack of research into the organisational aspects of public procurement, and claims that this field is still relatively new and lags behind private procurement literature.

Therefore, a research project was started to gain insight in the current positioning of the commissioning role and the related tasks in Dutch municipalities, answering two research questions: How is the commissioning role embedded and governed in Dutch municipal organisations? And how do these structures influence the possibilities for professionalizing the commissioning role?

Theoretical Background

Each construction activity within the public domain requires outsourcing, whether it be consultants, architects, engineers, contractors or other parties within the supply chain. Commissioning work is a common part of construction activity of any public organisation (Hermans 2014, Winch 2010). The positioning of the commissioning role can be expected to be related to the organisational structure used for the municipality as a whole.

The commissioning role and the municipal organisation structure

Johnston (2015) gives a well-recognized description of a public administration, changing from a traditional practice, with a clear separation between political and administrative powers under the influence of New Public Management (NPM), towards a more service oriented organisation based on performance thinking, and, inspired by NPM, towards a network organisation type where enlarging public value becomes the main objective (Johnston 2015, Meyer and Leixnering 2015).

Aardema and Korsten (2009) present a typology of organisation structures applied within the Dutch municipalities, closely resembling these international developments. Their typology contains a secretary model, representing the traditional model, a sector and a service model. Within the secretary model, primarily applied in the 80s, policy making, and execution are separated, and supporting functions (such as finance and control) are centralised. Due to competition between the secretary role (strategy and standardization) and the execution (operating core), municipalities shifted towards the sector model. In the sector model policy making and execution are combined and supporting functions are decentralised in departments focusing on specific policy areas ('sectors'). Dissatisfaction regarding compartmentalisation caused yet another shift to be made towards the service model. In this model both policy making, execution and supporting functions are organised in departments, and more focus is put on output rather than policy areas. Additionally, executive work was increasingly transferred to the private sector (Aardema 2005), a process also depicted by (Johnston 2015). A fourth model is an optimised form which can be recognised as the network model and is closely related to Mintzberg's (1989) 'adhocracy', where mutual adjustment is key (Aardema 2005).

Commissioning and Sectors Within the Municipal Context

Johnston (2015) and Meyer and Leixnering (2015) also describe the internal consequences of the change due to NPM, noting the separation of distinctive functions such as policy making, regulatory tasks, supervision, commercial tasks and operational services, and portray an increased outsourcing of service provision. Mintzberg (1989) states that an organisation can be defined by the interplay of five interdependent parts: the strategic apex, the operating core, the 'middle line' in between this strategic and operational part, a 'techno structure' focusing on standardization of the primary operational processes, and a supporting staff for all secondary functions.

In a municipal context, owning and developing assets is an enabler in policy processes, rather than a prime goal. The way municipalities organise and embed the asset management role, depends on and will be a derivative of the municipality's main structure, but will also depend on the way the municipality looks upon its role in the different segments of construction.

Using Mintzberg's view on organisational structures, the commissioning role could be positioned in various ways within a municipality: if real estate is viewed upon as an accommodation facility, it may be seen as part of the supporting staff. On the other hand, providing infrastructure and public space is appreciated as a prime task of municipality, and thus related commissioning activity will be seen as a part of the operating core. However, from the viewpoint of commissioning as a procurement function, it may also be seen as a part of the organisation's techno-structure, as a standardized supporting function, or a part of the supporting staff if standardization is not a key issue.

From these different viewpoints, the commissioning role can be positioned in various places within the municipal organisation. The embedding of the commissioning role might also alter between sectors, when ideas on the role of real estate might differ from those of infrastructure or public space within the policy making process.

Activities Within the Commissioning Role

Murray (2009) describes the commissioning cycle with a continuous flow of tasks consisting of strategic needs assessment, deciding priorities and outcomes, planning and designing services, options appraisal, sourcing, delivery, and monitoring and review. He identifies purchasing as the process of choosing and selecting suppliers, covered in the 'sourcing' phase in his cycle and suggests procurement encompasses purchasing but also the more strategic pre-purchasing 'make or buy' decision (Murray 2009: 199).

As defined by Bang (2017: 14), in line with the commissioning cycle drawn by Murray, commissioning refers to "the way an organisation, in relation to its responsibilities in the built environment, shapes and implements its interaction with the supply market both externally and internally. Commissioning covers all activities relating to programming, selecting appropriate project delivery methods, setting the brief, procuring and contracting and contract management related to new construction, and managing the existing stock." This definition incorporates all activities a construction client would do in fulfilling his role, which by Boyd and Chinyio (2006) is defined as being "the initiator of projects and those that contract with other parties for the supply of construction goods and services".

Related to this commissioning role, Hermans (2014) distinguishes the external role for any public construction client that relates to the actual transaction with the supply market, and the internal role, within the client organisation itself, that relates to how the demand to the market is being prepared and processed.

In construction commissioning activities are closely intertwined with project management activity, as project management encompasses a continuous flow of commissioning actions, to consultants, architects, engineers, contractors, suppliers or service providers in each phase of a project or asset management activity. In Murray's cycle this part of commissioning activity would fit within his 'planning and designing' phase (Murray 2009).

At an organisational level, other types of commissioning activity can be recognised, in the organisation's overall sourcing and procurement policy, in producing overall spend analyses, etcetera. The commissioning role therefore consists of a multitude of activities on both an organisational and project level.

Depending on an organisation's sourcing policy and project delivery models chosen, the contents of the given activities will change, and some will even be outsourced

completely. In a mature client organisation, all interrelated tasks are aligned to fit these choices (Hermans *et al.*, 2016). In terms of Murray's cycle: the cycle should be closed and aligned.

RESEARCH METHOD

The study, executed in 2016 and 2017, consisted of a number of qualitative structured interviews among key persons of municipalities. Nationwide, 18 municipalities were selected in three different regions (West, South and North-East). To ensure that the municipalities investigated had a sufficient commissioning portfolio, both in investment as well as in asset management activity, all municipalities counted more than 25.000 inhabitants, in four categories: small-sized (less than 50.000 inhabitants), medium-sized (between 50.000 and 100.000 inhabitants), large-sized (between 100.001 and 250.000 inhabitants) and very large-sized (more than 250.000 inhabitants) (see Figure 1).

Size	Region North		Region West		Region South	
	Municipality	Inhabitants	Municipality	Inhabitants	Municipality	Inhabitants
Very large			Den Haag (3x)	519988		
			Rotterdam (1x)	629.606		
Large	Groningen (1x)	200.952	Leiden (1x)	122.561	Eindhoven (1x)	224.755
	Leeuwarden (1x)	107.897	Delft (1x)	101.034	Tilburg (2x)	212.941
	Zwolle (2x)	124.896				
	Enschede (2x)	158.351				
Middle	Assen (2x)	67.061			Helmond (1x)	90.127
	Hoogeveen –	55.240			Sittard - Geleen (1x)	93.555
	De Wolden (1x)				Roermond (1x)	57.010
Small			Maasluis (1x)	32.292	Middelburg (1x)	47.873
			Krimpen aan den IJssel (1x)	29.054		

Figure 1 Municipalities that were part of the research project in 2016 and 2017

The total number of Dutch municipalities being 380, the research in this stage did not aim for a representative picture of the municipalities within each group, but for a first impression of the embedding of the commissioning role and indications of possible differences between the different size categories.

Respondents were chosen on expected overview of municipal commissioning activity. A combination of both political as well as administrative managers was made, including both aldermen as well as directors and department managers. 24 interviews were held, some with a combination of respondents, with a gross total of 29 respondents. The interview protocol covered questions related to the type and quantity of construction-related activity; the political administrative and civil embedding of the commissioning role and governance structures used and; elements for further professionalization of the commissioning role. This paper primarily focusses on the results of the second group of questions.

To ensure reliability of the data all interviews were audiotaped, fully transcribed, checked by the respondent sending them a summary of the conversation, and thematic theoretical coding is applied in Atlas.ti to indicate statements regarding issues such as the positioning of the administrative and political responsibilities, organisational structure, interaction and networking and professionalism. In addition to the interview result, relevant documents describing the municipal organisation and the governance structure of commissioning activities were analysed.

ANALYSIS/RESULTS

Domain of Work

An inventory was made of the extent to which the municipality was involved in either investment projects and/or maintenance and (asset) management activity in different segments of the construction domain. The inventory indicated that all municipalities

execute commissioning work in 'dry' infrastructure (roads, bridges etc.) and in public space. Some have significant investment activities in non-residential building (social property such as schools, community centres), 'wet' infrastructure (water works), utilities and sports and recreation. Some also maintain and manage utility buildings, housing, wet infrastructure and sports and recreational facilities.

One of the remarkable results is that hardly any of the respondents had an overall view of the quantity and nature of commissioning activity in the sum total of sectors mentioned. Given the managerial level of the respondents, this is an indicator for fragmentation in the governance of total commissioning activity.

Functions and Tasks Related to Public Commissioning

Table 1 gives an overview of activities related to the commissioning task. Interviewees were asked whether or not their organisation outsources these activities and where in the municipal organisation the activities are being carried out. The interviews show that even today most municipalities still execute most tasks related to their commissioning role in house, sometimes strengthened, for instance to increase flexibility, by insourcing (see Table 1).

Table 1 Sourcing strategy for commissioning tasks

Task	Sourcing
Commissioning cycle	
Strategy and policy making	Mainly own organisation
Specifying maintenance programs and briefs	Mainly own organisation
Business cases and financial assessments	Partly own organisation, partly outsourced
Budgeting and calculating	Partly own organisation, partly outsourced
Purchasing	Mainly own organisation
Tendering	Mainly own organisation
Project management	Mainly own organisation
Engineering and specialist technical advice	Mainly own organisation
Contract management	Mainly own organisation
Inspection and auditing	Partly own organisation, partly outsourced
Accounting and reporting	Mainly own organisation
Project related activities (construction process specific)	
Application for permits	Mainly own organisation
Real estate transactions	Mainly own organisation
Land transactions	Mainly own organisation
Preparing technical specs	Mainly outsourced
Design Work	Partly own organisation, partly outsourced
Work preparation	Partly own organisation, partly outsourced
Execution (construction / maintenance work)	Mainly outsourced
Site supervision and management	Partly own organisation, partly outsourced

Generally speaking, for large scale projects and specialist activity, municipalities are outsourcing tasks particularly for integrated contracts. Specialist tasks that are outsourced relate to engineering, business cases, preparing specifications and calculating. For most municipalities the share of integrated contracts used was still fairly limited, with design-bid-build still being the prime choice.

The Organisation of Commissioning in Municipalities

Role allocation within the municipal organisation

The municipal council, the mayor and aldermen are the political clients for construction work, bearing the ultimate political responsibility for policy programs and budgets. Deviations from these programs and budgets must always be accounted for in the council. In large municipalities, a number of aldermen is involved, with separate aldermen for urban development and asset management. Real estate typically is organised in yet another department and either appointed to one specific alderman

and a centralised (staff) unit or is allocated to the policy area's (sectors) served; e.g. asset management related to schools to education; sports accommodation and theatres to the sports and culture sectors respectively. Sustainability and other specific policy programmes are often the domain of a dedicated aldermen, as well are large urban planning projects. Large projects often have a supervising alderman, that can be different from the sector.

The administrative top of the municipality is responsible for the implementation of policy programmes in the civil service organisation. Directors or department heads Real Estate, Spatial Planning or Urban development, Urban Management are responsible for managing the real estate portfolio, public space or urban planning. These directors deploy the policy programmes as projects or activities within their departments to their coordinators and project managers. act as

The implementation of projects or management activities is entrusted to project managers. The project managers, depending on their mandate, fulfil the role of external client to the market. The larger, more complex or politically sensitive the project, the higher responsibility is placed within the municipal organisation. Some municipalities have expertise centres such as a project management office or an engineering office. Large and very large municipalities all have these, whereas the smaller ones sometimes collaborate with other municipalities or outsource these tasks.

In the execution of their work project managers closely collaborate with the engineers within the municipalities and with the procurement department. In large municipalities the central procurement departments have a policy making and advisory role to the operating core. In smaller municipalities these departments often have a more operational role.

Smaller municipalities often have simpler structures, with aldermen and heads of department taking care of plural policy areas. Governance structures therefore are much clearer, but combined responsibility requests combined skills and competencies in a limited number of administrators. Furthermore, in smaller municipalities the political top appears to directly interfere more with project execution than the aldermen in large municipalities, who tend to focus more on the overall programmes and very large projects.

Municipal organisational model

The positioning of the commissioning role depends on the organisational model. The analysis of the organisational models and the interviews show that there are many differences between the municipalities. Most municipalities do not have a pure model; most models appear to be hybrid models, combining features of each model mentioned before. Large municipalities use a service, a sector or network model. In very large municipalities, the sector or service model is used most often (see Table 2). More often than not, for some segments the 'services' model is being used, for instance for urban planning and management, while for others, for instance real estate, a sector model is being applied for specific real estate such as schools and sports facilities, while for municipal offices tasks related to real estate are appointed to a part of the supporting staff, for instance facilities management department.

Middle-size and small sized municipalities use a service or a sector model. Both political as well as administrative governance structures are simpler, with only a very limited number of aldermen and combined responsibilities in the administrative top. Different from the large municipalities, these municipalities mention the role of a

procurement department (staff position) more often. Also, project management departments are sometimes shared internally with the social domain. Both the role and positioning of the procurement department differs centralized, decentralized of a combination. And different sectors within one municipality sometimes each have their own solution. The same is true for the project management and engineering offices. A number of medium-sized and small municipalities share an executive organisation for projects or for purchasing.

Table 2 Organisation structure of municipalities with the typology of organisation models of Aardema and Korsten (2009)

Municipality	Size	Organisational structure	Pure model?	Engineering office	Project management office
Groningen	Large	Sector model	Yes	Yes	No
Enschede	Large	Services model	No	No	No
Tilburg	Large	Sector model	No	Yes	No
Zwolle	Large	Sector model	?	?	No
Delft	Large	Network model	Yes	No	No
Leeuwarden	Large	Services model	Yes	No	Yes
Eindhoven	Large	Network model	No	?	No
Leiden	Large	Services model	Yes	No	Yes
Krimpen aan den IJssel	Small	Services model	Yes	Yes	No
Middelburg	Small	Sector model	Yes	Yes	No
Maassluis	Small	Services model	Yes	No	No
Assen	Mid-size	Sector model	No	Yes	No
Helmond	Mid-size	Sector model	?	?	?
Hoogeveen - de Wolden	Mid-size	Sector model	No	?	?
Roermond	Mid-size	Services model	Yes	Yes	No
Sittard-Geleen	Mid-size	Network model	Yes	No	No
Den Haag	Very Large	Services model	Yes	Yes	No
Rotterdam	Very Large	Services model	Yes	Yes	No

The position of the engineering department, project management, procurement or real estate departments and their responsibilities cannot easily be predicted on the basis of the main municipal organisational model. Interviewees working in a municipality with a network model generally have a better picture of the embedding of the commissioning role than those who work in municipalities operating according to a service or sector model. In a municipality with a network model. responsibilities appear to be clearer cut, due to reduced compartmentalisation at departmental level and a clear assigning of roles to a fixed group of people. This eases organisation-wide programmatic management. Commissioning appears to be clear, transparent and strongly embedded in these organisations.

CONCLUSIONS

The organisational model was expected to be an important indicator for the positioning and embedding of commissioning tasks. This assumption proved false for the positioning of the commissioning role within Dutch municipalities. Today, however, municipalities in the Netherlands, appear to be in a transition state and show hybrid organisational structures, combining characteristics of different types of models for different parts of their organisation. As most municipalities use a sector or services model, the commissioning role is decentralised to departments, often per sector, service area or policy domain. Governance structures often differ accordingly.

Fragmentation is very clear in internal commissioning, with a multi-headed political and administrative governance structure. In external commissioning (project and activity related), commissioning tasks are often assigned to project management or engineering departments. For infrastructure and public space, responsibilities are usually clearly assigned to dedicated departments. For real estate, this situation is

quite different: some municipalities have centralized real estate departments, others decentralised entities. The commissioning role does not (yet) appear to be a clearly defined and governed role within municipalities. The found level of fragmentation, combined with this poor definition, and therefore awareness, of the commissioning role, may impede learning processes. Therefore, improving the learning capacity and professionalism regarding the commissioning role in municipal organisations would necessitate a better insight in the specific positioning of this role in a particular municipality. Also, a learning strategy would need to be designed to overcome the current level of fragmentation.

DISCUSSION

Academic theory on the embedding and governance structures of the commissioning role in municipalities is largely missing. This research project has tried to add to this knowledge gap. Its findings, indicating a fragmented structure for the commissioning role, matches the findings of (Christensen 2010: 7) and (Johnston 2015: 9) that public organisations are becoming increasingly complex and hybrid, in their attempts to combine numerous and conflicting structures while trying to implement different generations of public reform. As research on organisational structure in the area of commissioning is limited, further analysis is necessary, particularly in possibilities to improve the current situation or how to effectively organise commissioning given the current hybrid situation within overall municipal governance.

REFERENCES

- Aardema, H (2005) Het directiemodel overheids, Management, 1, 12-15.
- Aardema, H and Korsten, A F A (2009) Gemeentelijke organisatiemodellen Hoe integraler het moet, hoe minder je het ziet, *In: A* Bekke, C Breed and P de Jong (Eds.) Naar een collegiaal en samenhangend overheidsbestuur Sdu Uitgevers.
- Bang, H L, Hermans, M, Simonsen R and Mogendorff K (2017) The merits of client organisations, *In:* K Haugbølle and D Boyd (Eds.) *Clients and Users in Construction: Agency, Governance and Innovation.* New York: Routledge.
- Beck Jørgensen, T (1999) The public sector in an in-between time: Searching for new public values, *Public Administration*, 77(3), 565-584.
- Boyd, D and Chinyio, E (2006) Understanding the Construction Client. Oxford: Blackwell.
- Christensen, T and Lægreid, P (2010) Complexity and hybrid public administration-theoretical and empirical challenges, *Public Organisation Review*, 11(4), 407-423.
- Finger, M and Brand, S B (1999) The concept of the 'Learning Organisation' applied in the transformation of the public sector: Conceptual contributions for theory development in organisational learning and the learning organisation *In*: M Easterby-Smith, L Araujo and J Burgoyne (Eds.) *Developments in Theory and Practice*. London: Sage.
- Hermans, M (2014) Is a Little More Alright? Netherlands: Delft University of Technology.
- Hermans, M and Eisma, P (2015) Behind the scenes of public construction clients Collecting data on commissioning activities and organisational Approach, *Procedia Economics and Finance*, 21, 391-398.
- Hermans, M, van Zoest, S and Volker, L (2016) Assessing the Maturity of Public Construction Client Organisations. *In:* Chan, P W and Neilson, C J (Eds.) *Proceedings of the 32nd Annual ARCOM Conference*, 5-7 September 2016, Manchester UK. Association of Researchers in Construction Management, 155-163.

- Hermans, M, Veldhuis, H and Huizing D (2018) *Inbedding Van De Opdrachtgevende Rol in Gemeentelijke Organisaties*. Netherlands: Delft University of Technology. Available from https://repository.tudelft.nl/islandora/object/uuid:84ef5c77-fb0f-4b93-9928-c123db899710?collection=research [Accessed 19/07/2019]
- Johnston, J (2015) Public administration: Organisational aspects, *In:* J.D Wright (Ed.) *International Encyclopaedia of the Social and Behavioural Science*. Oxford: Elsevier.
- Manley, K (2006) The innovation competence of repeat public sector clients in the Australian construction industry, *Construction Management and Economics*, 24(12), 1295-1304.
- Manseau, A and Seaden, G (Eds.) (2001) *Innovation in Construction an International Review of Public Policies*. London: Routledge.
- Meyer, R E and Leixnering, S (2015) Public sector organisations, *In:* J D Wright (Ed.) *International Encyclopaedia of the Social and Behavioural.* Science Oxford: Elsevier.
- Mintzberg, H (1989) *Mintzberg on Management: Inside Our Strange World of Organisations*. New York: Simon and Schuster.
- Murray, J G (2009) Towards a common understanding of the differences between purchasing, procurement and commissioning in the UK public sector, *Journal of Purchasing and Supply Management*, 15(3), 198-202.
- Patrucco, A S, Walker, H, Luzzini, D and Ronchi, S (2018) Which shape fits best? Designing the organisational form of local government procurement, *Journal of Purchasing and Supply Management*, 25(3), 100504.
- Stichting Aanbestedingsinstituut Bouw and Infra (2015) Veilig Verder, Resultaten Aanbestedingsanalyse 2014. Available from www.aanbestedingsinstituut.nl
- Vennström, A (2008) *The Construction Client as a Change Agent: Contextual Support and Obstacles.* PhD Thesis, Luleå University of Technology, Sweden.
- Volker, L, Willems, T, Kuitert, L, Van Marrewijk, A and Hermans, M (2018) Cutting and Binding the ties Understanding the influence of project autonomy on project-based learning and innovation, *In: EGOS 2018 34th EGOS Colloquium 2018*, 2 July 2018, Tallinn, Estonia.
- Winch, G (2010) Managing Construction Projects: An Information Processing Approach 2nd Edition. Oxford: Wiley-Blackwell.
- Ye, K, Shen, L, Xia, B and Li, B (2014) Key attributes underpinning different mark-up decision between public and private projects: A China study, *International Journal of Project Management*, 32(3), 461-472.