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LEADERSHIP AND DIGITAL TRANSFORMATION IN THE CONSTRUCTION INDUSTRY: A QUALITATIVE EXPLORATION OF LEADERSHIP PRACTICES

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The construction industry's digital transformation renders consequences that are hard to predict and how new need for leadership evolve. Here, the construction management literature prescribes functionalistic views, while how managers cope with the technology-intense context in their leadership is missing. Exploring this problem, the paper focus managers everyday leadership in the practiced digitalisation of various construction operations. We conduct interviews with nine managers respectively during three years in the construction industry in Sweden, Preliminary findings from the initial two rounds of interviews (n=14) indicate that the Swedish culture gives rise to ineffective practices with 'nagging', 'ethical manipulation' and 'seeking consensus' in managers' attempts to lead digitalisation. This begins to reveal insights regarding contextual influence on everyday leadership practices associated with digital transformation in the construction industry.

Keywords: digital transformation; leadership; practice; context

INTRODUCTION

It is possible to note an abundant interest in how digital technologies might come to transform and disrupt the construction industry. While there exist lively debates on possible scales, forms, and durations of this envisioned transformation, most agree that it will span beyond merely improving current processes, to more radical reconfiguration of business logics and values chains altogether (Lavikka *et al.,* 2018; Klinc and Turk 2019; Sawheny *et al.,* 2020). Construction researchers have intensified the focus on the processes and organisational configurations related to new digital technologies and there are now calls to explore the role of leadership for the digital transformation (DT) in construction (Löwstedt and Sundquist 2022; Dumas *et al.,* 2022).The relevance of such calls can be discerned in the vast volumes of leadership studies pointing to leadership as one of the most (if not the most) prominent social practice for successful development and change, on group-, organisational-, and societal levels (Yukl 2008; Bolden *et al.,* 2011). While a growing number of construction scholars have started to pay an interest in leadership, Löwstedt *et al. (*2021) note a dominant tendency to favor ready-made leadership theories and recipes

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'invented elsewhere' over in-depth empirical explorations of how actual leadership practices unfold in a situated construction context. They conclude that a stronger leadership agenda in construction requires an understanding of how leadership relates to the various specific challenges facing the companies operating in the construction industry. DT in construction is expected to require transformative leadership due to the radical nature of the change. Such leadership suggests that leaders inspire, motivate and empower followers to engage in transformation (Bass and Avolio 1993; Bass and Riggio 2006; Antonakis 2012). It is, however, important to explore this locally since leadership styles have been proven unsuitable in specific contexts of the construction industry (Murphy *et al.,* 2023). This study therefore aims to investigate this further. Reporting on initial findings from an ongoing longitudinal interview study, this paper offers in-depth accounts of leadership practices used specifically for DT. This promotes our understanding of context as an important influence on everyday leadership practices.

To unpack the concept of context, this study revisits leadership as a practiced phenomenon and show how practice-driven institutionalism highlights the intricate interplay between individual practice and broader cultural norms (Lounsbury *et al.,* 2021; Smets *et al.,* 2017). The value of bringing in institutional explanations in practice research is that it allows for a broader analysis of context to include cultural factors such as norms and ideas about leadership. In this study, it becomes evident that a certain set of Swedish leadership practices are enacted as a reflection of taken-for-granted norms and ideas about leadership that is legitimate in the Swedish construction industry. We then continue to discuss which role, if any, they play in DT.

Leadership as Contextual Practice

Whether measured in media coverage, professional education, or the growing number of scientific publications (Korica *et al.,* 2017), it is apparent that our interest in 'leadership' permeate contemporary organisations and societies (Alvesson *et al.,* 2017). Underlying this interest is volumes of research studies that have established positive strong correlations between leadership and organisational performance (e.g., Wang *et al.,* 2011), not least in relation to organisational development and change (Yukl 2008); where successful leadership is reported to empower employees and "transform" work practices (Bass and Avolio 1993; Bass and Riggio 2006) along the lines of a collective organisational vision (Alvesson and Spicer 2014). It is also, however, possible to discern a growing critique of 'our' overreliance in leadership, especially in relation to our trust in and unreflexive use of fixed leadership frameworks and prescriptions (Alvesson 2020). This prioritisation of preconceived notions of leadership over the individual's own interpretation of their leadership experiences (Alvesson and Spicer 2014), has resulted in a disconnect between the individuals involved in these interpersonal relationships and the specific context in which they operate (Barker 2001). Following this, there is now a new dominant theme emerging in the leadership literature, pointing to the need to understand leadership as a processual social endeavour, involving leaders and followers that engage in continuous interaction of situated practices and dialogue (e.g., Bolden and Gosling 2006; Crevani *et al.,* 2010; Cunliffe and Eriksen 2011; Bolden *et al.,* 2011). A situated understanding of leadership processes has, however, not yet matured in construction research. Based on a recent review of leadership studies in the construction field, Löwstedt *et al. (*2021) found a heavy skewness towards studies that quantitatively test pre-established leadership models 'invented elsewhere' at the

expense of studies designed to foreground the context-specific aspects of leadership. Following this they call for more qualitative research on leadership that recognise that leadership is a social process that is imbued with meaning only when it is enacted in the specific context of construction. This study therefore answers this call and simultaneously joining the broader 'practice turn' in organisation research (Whittington, 2011). This 'turn' takes the philosophical perspective that activity forms the basis of all social reality (Schatzki *et al.,* 2001). However, rather than viewing activity as unfolding inside processes (Schatzki *et al.,* 2001), this study adopts a 'strong process ontology' which emphasizes that processes, practices, and actors are equally products of ongoing activity (i.e. process is activity) (Langley and Tsoukas 2010). Furthermore, leadership practices are recursively embedded in the context at hand - variously shaping it and being shaped by it (Crevani *et al.,* 2010). However, while leadership context is a principal methodological starting point of this paper, it is also firmly noted that 'context' is not just one thing. Zooming in on leadership practices related to DT, therefore calls for reflexivity and nuanced concerns as multiple contextual aspects are at play at once.

This perspective seeks to explore whether (why and to what extent) leadership related to digital transformation is different from leadership in constructon in general or in other contexts. That is, this research seeks to be particularly sensitive to the multiple different layers of context which might or might not shape leadership practices on the micro-level. To sensitise our analytical lens for these layered complexities, we draw from the overarching perspectives of a neo-institutional lens. Accordingly, leadership contexts can be understood as the multiple institutional logics (i.e. collective understandings influenced by e.g., broader cultural structures) at the field level (the construction industry, in our case) that are enacted and transformed through individuals' everyday activities (Jarzabkowski 2008; Lounsbury *et al.,* 2021). By bridging a practice perspective's focus on localised enactments and understandings of leadership with the contextual focus of institutional theory, explanations of organisational change and understanding of individual human agency in highly institutionalised fields can be achieved (Smets *et al.,* 2017). According to such a lens, context is often understood as preceding organisational practices. Moreover, leaders do not rationally choose from an infinite menu of possible leadership theories out there, they do what makes sense to them based on what is legitimate in their context (Biggart and Hamilton 1987). The strive for legitimacy rather than efficiency or effectiveness is an explanation for why leaders do certain practices. In this case, legitimacy is the product of the context including cultural beliefs, norms and attitudes. Leadership, although individual, is not coming from the individual, rather it is an enactment of a role built on the cultural norms associated with the role of leader. Credibility for individuals pertaining to this role is thus evaluated by how well the individual upholds these cultural norms (ibid).

METHOD

Our theoretical framing posits is grounded in an understanding of leadership as a social process that is shaped by multiple contextual layers. The specific layers influencing this process remain largely unexplored within the construction industry, particularly concerning DT. Therefore, the study was designed to inductively capture practices embedded in these processes rather than departing from a prescriptive model. To achieve this, we selected an interpretive interview approach, allowing participants to identify and discuss the contextual elements that most significantly impact their leadership practices. To capture the processual nature of both DT and

leadership, the study was designed longitudinally. This is a fruitful way to gain depth and closeness to the data while allowing to follow a process over time (Gioia and Chittipeddi, 1991). This paper reports findings from the initial two sessions, which are part of a series of 10 scheduled over three years. It encompasses 14 out of 18 interviews (of 60 minutes each) conducted with nine different managers from the Swedish construction industry. These managers were selected based on two sampling criteria: 1) their reputation for being "leaders of DT" amongst their industry peers 2) To represent a broad sample of the various companies operating in the construction ecosystem, including: architects (1), technical consultants (2), construction companies (2), start-ups (1), software companies (1), municipalities (1), real estate companies (1). Throughout the paper, the term "managers" rather than "leaders" is used to denote the interviewees. This is to reflect our theoretical framing of leadership as a unique social process, distinct from the official role of a designated manager (Alvesson *et al.,* 2017). That is, the managers might or might not practice leadership in relation to DT. We performed in-depth semi-structured interviews to collect 'thick descriptions' (Bell *et al.,* 2022) of the informants' own interpretations of leadership practices and contexts related to their ongoing attempts to lead DT in their respective companies. A possible alternative could be observations, although it would not have given us the informants' understanding, attitudes and depth as narratives of practice carry (Rouleau 2010). Through personalised interview guides, the interviewees were challenged to tell their stories in first person rather than the usual "we do", or "the company does" and the questions were framed to encourage answers with verbs. An emergent interest in context induced from the interviewees was developed and the interviewees were then prompted to reflect on to what extent and what type of context was relevant for them. Verbatim transcription and coding with an abductive nature allowed us to be iterative and flexible as themes emerged from the analysing process (Langley and Abdallah 2011). Inspired by Grounded theory (Glaser and Strauss, 1967) which focuses on generating theory from data, we labelled codes using the informants' words followed by axial coding to group the codes into more abstract categories of practices. The purpose of this analysis method was to discover what the informants do in practice in relation to leading DT. To strengthen the relevance and accuracy, all interviews were collected, analyzed, and discussed by all authors (Taylor *et al.,* 2010). The analysis While the original intention was to focus specifically on initiatives relating to DT (i.e. new "business logics" and "values streams"), it was clear early in the study that the attention of many of the respondents were more directed towards incrementally applying ICT-tools to improve current processes. While it is generally considered that "digital transformation" should be distinguished from both "digitisation" and "digitalisation" (Vial 2019) we use the term "digital transformation" in a broader sense to denote all organisational change initiatives related to digital tools. Another limitation is that the sample size includes only two of the planned ten rounds of interviews which makes it more difficult to generalise. However, the main findings are significative of many the informants whereas other findings are excluded.

FINDINGS

Leading Digital Transformation

The managers described their leadership approach as foregrounded by relational aspects and an overall focus on people rather than just tasks as necessary to bring about DT. Moreover, they used keywords such as "humble", "listening" and "responsive". When talking about decision making, many managers describe the method as participatory and including.

When they were asked how this approach is enacted in the context of a specific DT-initiative, some negative consequences emerge as they attempt to make sense of and respond to challenges associated with managing change. The fact that they have positioned and described themselves as responsive leaders (i.e. people-focused, good listeners etc.), means that they have been exposed to situations where they receive a lot of opinions, problems and obstacles from their co-workers. More specifically, they experience inertia to DT partly due to employees not wanting to change, partly because they have too much to do and, to some extent, have different levels of technical maturity. In addition, their co-workers seem to forget and misunderstand what needs to be done. A few of the managers seem to be struggling with inertia from their own managers as well. Top management is perceived as a "dysfunctional working group" by several of the interviewees.

Considering the above, it may come as no surprise that the managers have developed a set of practices to battle with these challenges without seeming overly assertive.

Practices to Drive Change

Nagging
An identified recurring practice is 'nagging'. This practice is a response to the inertia the managers encounter in their attempts to change people to adopt DT. This type of interpersonal communication is a form of repeated and continuous processing of individuals, often to complete previously discussed requests. The first set of quotes show how 'nagging' is directed "downwards" in the organisation often involving educational elements and an ambition to tire people out:

> "I tire people out, talk to people, educate people, dare to repeat myself enough even though they have so much to do that they don't have time to think. We'll get there but digital*isa*tion and sustainability are new things we must learn so every now and then you have to nag and nag until it sort of becomes completely natural." (Chief Digital Officer, Real estate company)

A similar form of 'nagging' is directed upwards in the organisation (i.e. top management). It is used to initiate a process of DT from the top and make the organisation move towards gradually accepting and sponsoring DT.

> "Getting there requires processing people in quite a few levels, from the top management to first say yes and then the managers below must join in and say yes and understand, and for each such level, it requires a certain process that includes understanding, will and ultimately becoming sponsors that stand behind this change." (Head of Operation Development, Construction company)

The next example is a description of how one of the managers are aware of how to approach the CEO:

> "So it's like an elevator pitch that he [the CEO] must first be able to say: - "Huh?! No!" To a couple of times" (Business Area Manager Innovation, Technical consultant)

Finally, 'nagging' contains elements of doings and sayings related to a more begging nature. When the managers repeatedly ask and urge them, their employees are reminded of and thus mentally prioritise the DT- initiative.

> "If they say no then I'll come back and beg them a few days later to test that thing." (Head of Operation Development, Construction company)

> "I need to urge them. It's a problem of today that everyday life interferes and then suddenly a month have passed […]so basically, I just make everyone mentally priorit*ise* it, right?" (Development Manager, Architect)

Ethical manipulation

Several of the interviewed managers said they use a more indirect and psychologically informed practice. 'ethical manipulation' is an overall practice that aims to influence other people's behaviour for the best for the organisation without harming the individuals. First, a few respondents explained that building relationships and eventually changing people requires an ability to read the room as well as people.

> "Seeing someone as a person is about reading the room, what kind of mood it is and so on, it's very difficult to explain but it's very much a feeling you have" (Property Manager, Municipality)

> "You also have to be a little careful when you approach someone, so you don't step on their toes, you can't just say: "- I notice that you don't understand this!"" (Head of Operation Development, Construction company)

This type of sensing abilities are prerequisites for the managers to be able to send messages in a well-designed but less direct manner. The overall goal is to influence a person's thoughts or decisions through subtle suggestions, indirect messages, and by creating associations that lead the person to believe that they came up with the idea or decision themselves.

> "They should get the feeling that they have been involved in making, producing and influencing it [a document] but how much that really is, is written in the stars" (Business Development Executive, Software company)

Relatedly, a few of the managers gave examples of how they hide their messages in different ways:

> "I dress message 1 in message 2's costume. The way to do this, is that as soon as he [CEO] says something that as much as breathes message 2, you say: "- Wow, so you mean that...?" and describe message 2. then: "That's a great idea! I'll go home and think about that." Then he receives a document and thinks it's his idea." (Business Area Manager Innovation, Technical consultant)

Lastly, an aspect of 'ethical manipulation' is to plant an idea or message in their recipients' minds. This form of inception is a way to avoid negotiations with others and make them argue for the incepted cause, resulting in the intended outcome that others stand behind.

> "Instead of taking the decision by myself, I plant my proposal in the management team and let them discuss pros and cons […] It is a form of nudging that takes longer time but make them stand behind it." (Head of Digital Services, Technical consultant)

Seeking consensus

Another recurring practice emphasized by the informants, especially when asked about decision making, is to seek consensus. They described that in various situations they want to include as many people as possible, both to make well informed decisions and to reach a broad acceptance. Some describe it as a way of refraining from directive practices such as authoritarian decision making and commanding others (pointing with the whole hand). However, when asked for clarification, it was expressed that they must step in and decide if 'seeking consensus' does not work.

> "I prefer not to have to get to the point of having to point with the whole hand, I might try the other methods first. But I think it's quite nice when my boss can say:"- We're going to do it this way" (Head of Operation Development, Construction company)

Next is an example from one of the managers' experiences of two subordinates disagreeing.

> ""- I understand that you think this way and you think this way, how do we come to a consensus then?" If I ask such questions, they must try to solve the problem themselves, and if that is not possible, I step in and decide." (Property Manager, Municipality)

Moreover, a slight negative (ironic?) attitude towards the widespread idea of consensus was expressed, as if they knew that it had bad consequences.

> "We can sit and knead something for as long as we want, if you notice that you're not making progress, then someone must step in and decide." (Development Manager, Architect)

Thus, some emphasized, also here, that it is more important to instil a feeling of participation, rather than actually including them.

DISCUSSION

The growing interest for leadership in the construction industry is based on its alleged potential for groundbreaking change on group-, organisational- and industry levels (Löwstedt *et al.,* 2021). Using open-ended interviews, this paper sought to explore how managers in the construction industry use leadership specifically to diffuse and implement various forms of digitalisation to transform organisational processes and logics. One clear finding is that the leadership practices described by the managers differ significantly from those outlined in some of the most recognised leadership theories and models. Maybe in particular regarding how successful leadership often is portrayed as skilled leaders who can inspire, motivate, and empower followers to collectively engage in transformation towards a future envisioned state (Bass and Avolio 1993; Bass and Riggio 2006; Antonakis 2012). Rather than a 'collective inspired force', the managers in our study experienced significant inertia in relation to DT, which they addressed with ongoing 'nagging' as well as what appeared to be a sort of symbolic and culturally mediated consensus practice. This makes us wonder if the observed leadership practices reflect an inability to adopt transformational styles or if these models are simply not suitable for this specific context.

A possible explanation of why the managers experience inertia could be that their view of leadership is associated with modern aspects such as humility, active listening, responsiveness, and relationship focus which, in turn, seem to lead to challenges uttered by their subordinates. It seems that the leaders' efforts to align with societal expectations of a good, modern leader means that they refrain from being in the center. In their efforts to avoid conflicts or being seen as overly directive, they inadvertently create situations where they must nag, manipulate and seek consensus.

These practices carry negative connotations, akin to when found in other aspects of life. The practice of 'nagging' is assuredly perceived as an indicator that something is not functioning optimally as its repetitive nature renders it ineffective as an interpersonal communication strategy. Similarly, manipulation carries negative connotations, (albeit less repetitive) as it to some degree involves deceiving other individuals in their organisations. So, while this modern leadership approach fosters strong relationships and inclusive decision-making, the resulting practices simultaneously risk eroding respect for leaders, and cause less direct and clear communication, leading to ineffective leadership overall. Thus, these practices seem to reflect legitimacy rather than effectiveness (Biggart and Hamilton 1987).

Regarding which contexts that shape leadership practices, it remains unclear to what extent digital transformation entails any definitive contextual nuances for leadership that differs from other kinds of organisational- and industry-level change and development. The only aspect mentioned was that different levels of technical

maturity of organisational members played a part in the inertia to change. It is equally unclear to what extent the construction industry per se poses any idiosyncratic context for leadership, compared to other industries. The previously established truth that the industry is particularly difficult to transform due to its characteristics (Dubois and Gadde 2002) does not seem to be of importance. Instead, the managers portrayed a picture of what could be described as universal challenges faced by leaders across various industries.

Their practices appear to be deeply embedded in the cultural environment, indicating that the cultural norms play a more crucial role as a contextual layer (Biggart and Hamilton 1987). Given the managers struggle to articulate the origins of their leadership ideas, it could be argued that they are taken-for-granted, pointing to an institutionalisation of the prevailing Swedish norms and individual practice. However, some of the informants were aware (and reflexive) enough to explain both their modern leadership ideas, and their practices as results of these Swedish cultural norms (Lounsbury *et al.,* 2021; Smets *et al.,* 2017). This could mean that awareness of the influence from the Swedish culture (and their critical stance towards it) could be a sign of a possible cultural shift. This would be interesting to investigate in the future as it points to the importance of understanding the recursive relationship between micro level practice and context (Biggart and Hamilton 1987). Not only to understand its relation to leadership in DT but also its relation to construction.

CONCLUSIONS

Novel, practices that reflects legitimacy but not necessarily effectiveness, have been described. The enactments of leadership practices and its connection to the macro context does not serve as an explanation of change (Smets *et al.,* 2017) it does, however, provide a better understanding of how context influence practice. We challenge the common notion that the construction industry often is described as particularly difficult to transform due to the characteristics of the industry (Dubois and Gadde 2002), instead the cultural norms play an even more important role as a context. This raises the question as to whether best practices in DT after all could be searched for in other industries. Future studies could therefore benefit from investigating how contexts shape practice and to what extent also practices shape contexts.

REFERENCES

Alvesson, M and Spicer, A (2014) *Critical Perspectives on Leadership in the Oxford Handbook of Leadership and Organisations*, New York: Oxford University Press, 40-56

Alvesson, M, Blom, M and Sveningsson S (2017) *Reflexive Leadership: Organising in an Imperfect World*, Thousand Oaks, CA: SAGE.

Alvesson, M (2020) Upbeat leadership: A recipe for-or against-successful leadership studies, *The Leadership Quarterly*, **31**(6), 101439.

Antonakis, J (2012) Transformational and charismatic leadership, *The Nature of Leadership*, London: Sage Publications, 256-288.

Appelbaum, S H, N St-Pierre and Glavas, W (1998) Strategic organisational change: The role of leadership, learning, motivation and productivity, *Management Decisions*, **36**(5) 289-301.

Bass, B M and Avolio, B J (1993) Transformational leadership and organisational culture, *Public Administration Quarterly*, **17**(1) 112-121.

Bass, B M and R E Riggio (2006) *Transformational Leadership*, East Sussex, UK: Psychology Press.

Bell, E, Harley, B and Bryman, A (2022) *Business Research Methods 6th Edition*, Oxford: Oxford University Press.

Biggart, N W and Hamilton, G G (1987) An institutional theory of leadership, *The Journal of Applied Behavioural Science*, **23**(4), 429-441.

Bolden, R, Hawkins, B, Gosling, J and Taylor, S (2011) *Exploring Leadership: Individual, Organisational and Societal Perspectives*, Oxford: Oxford University Press.

Chan, P W and Cooper, R (2010) *Constructing Futures: Industry Leaders and Futures Thinking in Construction*, New York: Wiley.

Dubois, A and Gadde, L-E (2002) The construction industry as a loosely coupled system: implications for productivity and innovation, *Construction Management and Economics*, **20**, 621-631.

Glaser, B G and Strauss, A (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Chicago, IL: Aldine.

Gioia, D A and Chittipeddi, K (1991) Sensemaking and sensegiving in strategic change initiation, *Strategic Management Journal*, **12**, 433-48.

Jarzabkowski, P (2008) Shaping strategy as a structuration process, *Academy of Management Journal*, **51**(4), 621-650.

Klinc, R and Turk, Ž (2019) Construction 4.0 - Digital transformation of one of the oldest industries, *Economic and Business Review*, **21**(3.

Langley, A and Abdallah, C (2011) templates and turns in qualitative studies of strategy and management, *In*: D D Bergh, and D J Ketchen (Eds.) *Building Methodological Bridges (Research Methodology in Strategy and Management, Volume 6*, Bingley, UK: Emerald Group Publishing Limited, 201-235.

Lavikka, R, Kallio, J, Casey, T and Airaksinen, M (2018) Digital disruption of the AEC industry: technology-oriented scenarios for possible future development paths, *Construction Management and Economics*, **36**(11), 635-650.

Lounsbury, M anderson, D and Spee, P (2021) On practice and institution, *In*: M Lounsbury, D Anderson and P Spee (Eds.) *On Practice and Institution: New Empirical Directions*, Bingley, UK: Emerald publishing.

Löwstedt, M, Fasth, J and Styhre, A (2021) Leadership under construction: A qualitative exploration of leadership processes in construction companies in Sweden, *Journal of Construction Engineering and Management*, **147**(12).

Löwstedt, M och Sundquist, V (2022) *Digitaliseringsdrivna Värden Och Affärsmodeller I Samhällsbyggnadssektorns Ekosystem: En Detaljerad Framtidsspaning*, Rapport: S-2021-1, Smart Built Environment.

Murphy, R, Concannon, R and Seriki, O (2023) Leadership for the future: Towards the challenge of understanding leadership in the AEC sector, *In*: Tutesigensi, A and Neilson, C J (Eds) *Proceedings of the 39th Annual ARCOM Conference*, 4-6 September 2023, University of Leeds, Leeds, UK, Association of Researchers in Construction Management, 406-415.

Raelin, J (2017) *Leadership-as-Practice: Theory and Application an Editor's Reflection*, *Leadership*, **13**(2), 215-221.

Rouleau, L (2010) Studying strategising through narratives of practice, *In*: D Golsorkhi, L Rouleau, D Seidl and E Vaara (Eds.) *Cambridge Handbook of Strategy as Practice*. Cambridge: Cambridge University Press, 258-270.

Sawhney, A, Riley, M, Irisarry, J and Riley, J (Eds.) (2020) *Construction 4.0*, Abingdon: Routledge.

Smets, M, Aristidou, A and Whittington, R (2017) Towards a practice-driven institutionalism, *In*: R Greenwood, C Oliver, T B Lawrence and R Meyer (Eds.) *The SAGE Handbook of Organisational Institutionalism*, Thousand Oaks, CA: Sage, 365-391.

Taylor, M (2010) A definition and valuation of the UK offsite construction sector, *Construction Management and Economics*, **28**(8), 885-896.

Yukl, G (2008) *Leadership in Organisations*, Upper Saddle River, NJ: Prentice Hall.

Vial, G (2021) Understanding digital transformation: A review and a research agenda, *The Journal of Strategic Information Systems*, **28**(2), 118-144.

Wang, G, Oh, I S, Courtright, S H and Colbert, A E (2011) Transformational leadership and performance across criteria and levels: A meta- analytic review of 25 years of research, *Group Organisation Management*, **36**(2) 223-270.