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Professionalism in digitally-mediated project work

Abstract

Fieldwork in a major construction programme is used to examine what is meant by professionalism where large integrated digital systems are used to design, deliver and maintain buildings and infrastructure. The increasing 'professionalization' of the client is found to change professional roles and interactions in project delivery. New technologies for approvals and workflow monitoring are associated with new occupational groups; new kinds of professional accountability; and a greater integration across professional roles. Further conflicts also arise, where occupational groups have different understandings of project deliverables and how they are competently achieved. The preliminary findings of the study are important for an increasing policy focus on shareable data, in order for building owners and operators to improve the cost, value, handover and operation of complex buildings and infrastructure. . However, it will also have an impact on wider public decision making processes, professional autonomy, expertise and interdependence. These findings are considered in relation to extant literatures, which problematize the idea of professionalism; and in light of this on-going shift from drawings to shareable data as deliverables. The implications for ethics in established professions and other occupational groups are discussed; directions are suggested for further scholarship on professionalism in digitally-mediated project work to improve practices which will better serve society.

Key words: accountability, building information modeling (BIM), client, construction team, data management, digital technologies, ethics, professionalism.

Introduction

The concept of professionalism is aspirational in many forms of knowledge-intensive work as it connotes competence. Evetts (2005; 2011) notes a growing discourse on professionalism as well as new forms of professionalism outside of the classic professions of medicine, architecture, engineering, law, etc. Such professions are traditionally distinguished from trades and other occupations, where the 'professional' has higher social status. Yet the term 'professional' also has other connotations as it is contrasted with 'amateur' (Freidson 1994: p. 108-9) and with 'unprofessional.' This paper considers professionalism broadly – across a range of roles outside and within the classic professions – in the context of new forms of digitally-mediated construction work. It contributes to recent and on-going discussion of the ethical underpinnings of professionalism (e.g. Farmer and Guy 2010).

A starting point is the wide range of knowledge-intensive roles involved in the design, production and operation of buildings and infrastructure. As an example of an established profession, architecture has substantial training and regulated membership, and is a role that requires judgement, and an ethical responsibility to act on behalf of society (Kostof 1977, Duffy and Rabenck 2013). Within architecture, which can be considered as the classic example of a built environment profession, there has been considerable discussion of ethical dilemmas (Spector 2001; Ray 2005; Fischer 2010); as well as of ideology (Styhre and Gluch 2009) and the rhetorical use of the architect's status as professional (Cohen 2005). Other professions and occupational groups are less well studied, but they become increasingly important as the need for improved sustainability entails greater interaction and knowledge flow across the life-cycle of buildings and infrastructure.

Evidence from fieldwork in a major construction programme is presented and used to examine what is meant by professionalism where large integrated digital systems are used to design, deliver and maintain buildings and infrastructure. The focus is on the changing professional roles and interactions in project delivery associated with an increasing 'professionalization' of the client through the use of approvals and workflow monitoring technologies. The next section characterises built environment clients and their technology use, and identifies the limitations of the literature examining relationships between professionalism, technologies and clients. The following section then describes the methods used in the data collection and analysis in this study. The subsequent section describes detailed findings on the 'professionalization' of the client. These data show the formation of new occupational groups, new kinds of professional accountability and integration across roles. They identify conflicts associated with the changing professional roles and interactions in project delivery. In the discussion section, these findings are contextualised within wider literatures that problematize the idea of professionalism. The conclusions discuss the implications for ethics in established professions and other occupational groups. New directions are suggested for further scholarship on professionalism in digitally-mediated project work.

Professionalism, technology and the client

Professionalism has been described variously, for example as an occupational value; an ideology; or a discourse (Evetts 2005: p.4). One definition is: *'a set of institutions which permit the members of an occupational group to make a living while controlling their own work.'* (Freidson 2001: p. 17). Professional practices discipline a knowledge base, and limit entry into an occupation by requiring professional status and organizing a market. In contrast

to corporate ethics, professional ethics are described as individual obligations. Accountability is hence a key aspect of professionalism. Professional ethical codes serve to create trust, as expert services cannot be easily judged by the client (Bowen, Pearl *et al.* 2007). In the production of the built environment, professional institutions provide plans of work that provide standard schema of what is expected of professionals at different stages in the delivery of projects (e.g. the UK's Royal Institution of British Architects (RIBA) plan of work). Professional institutions also enable high status, where the social status of the profession, and of individual professionals within it, are seen to develop through adherence to ethical codes (Abbott 1983). Built environment professionals have ethical obligations to protect society and the built environment by providing fair services, where these broader obligations at times require professionals to challenge or confront what the 'client' or the 'market' demand (Hill and Lorenz 2011, Hill et al 2013). Such ethical obligations of the built environment professional are multiple, and involve reflective judgements within the world rather than adherence to pre-existing rules (Till 2009; Farmer and Radford 2010).

Although there has been little consideration of relationships between digital technologies and professions within design, construction and operation of buildings and infrastructure, there is a growing body of literature on professionalism in the digital age in the medical profession (e.g. Rothman and Blumenthal 2010; Baer and Schwartz 2011; Mostaghimi and Crotty 2011). This literature examines changing divisions of labour (Zetka 2011); the use of electronic health records and health information technology ; the status of physicians and the relationships with their patients (Rothman and Blumenthal 2010). There is a particular focus on how social media blurs personal and work identities, and the consequent new challenges for medical professionalism in the information age. The organization of built environment professionals is different, with professionals embedded in professional service

firms; multi-disciplinary teams and projects. The concerns and experiences of design and construction practitioners confronted with new technology are hence expected to be different from, though perhaps resonant with those of medical professions. The lack of prior research is a motivation for this study.

Research has examined this introduction of integrated software systems in the delivery of the built environment (e.g. Fischer and Drogemuller 2009; Dossick and Neff 2010), but has not considered their impact on professionalism and ethics. On large projects, different kinds of software and content are integrated through repositories and standardised processes; which form a digital infrastructure for the project delivery (Whyte and Lobo 2010). A motivation for technology use is to provide owners and operators with high quality data for sustainable operation. Digitally-enabled mechanisms for data approval and sign-off have been introduced to ensure the quality of data in a project repository. The efficient use of such repositories requires project team members to prioritise the collective good over their own. This overcomes a reluctance to pass on and share information with others, as this may be associated with loss of power and additional time and effort (Kimmerle, Cress *et al.* 2007). Yet the broader ethical concerns associated with how professionalism is enacted in this context have not been sufficiently considered.

Clients in the construction sector have been characterised as having poor project and knowledge management systems and, consequently, limited ability to monitor the quality and functionality of buildings, to then account for their performance (Bordass 2003; Bordass and Leaman 2005). Progressive initiatives, 'Soft Landings' in particular, have investigated how to extend the commitment of the design and construction team beyond the point of handover for a building (Bordass and Leaman 2005; Centre for Infrastructure Management and Department for Communities and Local Government 2010). This reflects a transition from

the BAD old days (build and disappear) cited by Winch (2000) to renewed interest in the long-term performance and maintenance of capital assets (Meirer and Russell 2000; Preiser and Vischer 2005). In this transition, in outlook as well as practice, client organisations innovate in the bureaucratic procedures involved in the management of projects and in the ways that professional expertise is drawn on and is distributed throughout a project. While clients have always needed good project management systems to effectively manage project teams, in order to achieve the desired level of professional integration and collaboration in design, production and management; the organisational design of the project team and the distribution of expertise are becoming mediated, and to some degree structured, through information systems. Adjustments are made to project procedures, practices and protocols as new technologies are being used.

Research setting and methods

The presented research is interpretive and informed by grounded theory (Glaser and Strauss 1967; Strauss and Corbin 1998) in its aim to build understanding from empirical data. These data were collected in 2011 through sixteen interviews with managers, engineers and IT professionals working in a major construction programme. This programme was chosen because the client's extensive use of integrated software solutions for approval enables the study of new forms of digitally mediated work. Interviews were conducted at the completion stage, with key participants chosen as they were highly involved in the approval process and subsequent data handovers. As the team increasingly use these integrated software solutions to hand the data over to owners and operators, this became an interesting setting to investigate professionalism across the interfaces of digitally mediated project work. This paper focuses on a sub-set of the data collected in the interviews, which is on professional

interaction. The interview protocol had a starter question: *'How do digital ways of working affect the interaction with other professionals and the professional role?'* This question was, in the practical work of interviewing, adjusted to probe specific examples. All sixteen interviews were recorded and transcribed verbatim; and researchers also took extensive notes to inform their interpretation and analysis. The first author went through all of the interviews, listening to audio files and reading the transcripts, to identify any data relevant to the topic of professionalism in the broader discussion as well as in responses to the direct question about professional interactions.

Such interpretation is fundamental to qualitative research, as researchers have to make sense of collected data to describe a research setting, developing themes and categories about their meaning (Creswell 2003). Drawing on a grounded theory approach in this research means that conceptual frameworks or theories are shaped through inductive analysis from the data. Thus, the analytic categories are 'grounded' in the data. This method favours analysis over description and fresh categories over preconceived ideas. The analysis procedure follows that formulated by Glaser and Strauss (1967) by using: '*constant comparison'*, in which data are collected and analysed simultaneously, and '*theoretical sampling'* in which theory being developed determines which data to be collected next. During the late stages of data collection and during data analysis, data tables were used to organize the data thematically and the first two authors discussed preliminary codes and refined and developed broader themes. Later a qualitative software programme, NVivo, was used to help in organizing and coding the data. Initial categories were modified, with less relevant categories discarded or merged in an on-going interaction between the researcher and the data (Suddaby 2006). In building new theoretical understanding, the team continued to read the relevant literature, drawing on concepts used in previous studies, and compared

and contrasted their findings to these concepts (Eisenhardt 1989). After describing themes that emerged through this analysis in the next section, the discussion section in this paper considers them in the context of these wider literatures. In keeping with grounded theory logic and sequence, the data collected in this study has shaped our on-going research to further understanding of professions and technologies.

Tentative findings

The data suggest the use of approvals and workflow monitoring technologies is associated with new occupational groups; new kinds of professional accountability; and a greater integration across professional roles. The below sub-sections tease out these themes, which emerge from our on-going analyses of the data and also show how new conflicts arise as occupational groups have different understandings of project deliverables and how they are competently achieved.

New occupational groups

With the use of the approvals and workflow monitoring technologies there is closer collaboration between the established professions and 'document control'. 'Document control' is a new role that is needed to check and verify that all drawings and deliverables comply to standard formats. One interviewee explained that:

> *On this job because of the way the process ran, the document control is a very important part of making sure that the information flow then worked. So, yeah, I did spend more time than I would … than I did on my last job with document control people.*

Along with a professionalization of roles that deal with document control and integration of data, the role of document controllers becomes more central to the production process. Other roles also emerge where specialist skills are required that are not available in existing professions.

The data suggest these occupational groups exercise different standards of judgment in assessing the quality of work. These can come into conflict, for example in this interviewee's reflection on document control's approach to outputs:

Your drawings are OK. They say, 'Yeah but your reference number's not right.'

While the interviewee is concerned with the accuracy of the drawings, the document controller is more concerned with the filing of that drawing, so that it can be retrieved from a set of thousands of drawings should it be needed in operation and maintenance. Hence the job of document control is to send back drawings that do not use standard formats as well as those that do not contain appropriate information. To the interviewee quoted above, sending a drawing back because of errors in formats rather than content challenged their understanding of how their work should be evaluated.

An example of this is the emergence of another role in the context studied of a role for a 'professional technical author'. This is someone with a background in maintenance, responsible for writing the operational and maintenance (O&M) manuals and log books and asset schedules. Although there was not initially an intention to employ someone in this role in the delivery project, the writing skills became valued in helping to deliver data that would be useful throughout the asset life-cycle:

I think one of the key things, from my point of view, that helped the construction teams, is [that] a lot of them employed a professional technical author for the O&M

> *manuals and log books and asset schedules… And in fact all of them now have a technical author, whereas originally some of them said they weren't going to have one, now all of them have got one.*

Hence, through the introduction of the data management system new occupational groups were formed and, in the case of document controllers, began identifying themselves as professionals supporting the data-set through to its delivery to owners and operators.

New forms of professional accountability

The evidence suggests that the nature of accountability is changing with the electronic data trail becoming increasingly important. This is also enlarging the professional workload. Approvals and workflow management processes provide new mechanisms for control. These allow managers to have visibility on what has been done by all the different members of the project team. Subsequently, these records can be used to trace what has been changed, when and why the change had happened. While this direct interworking of different professionals was described by the system builders as efficient, interviewees expressed how this helped to organize, track and manage issues of professional liability and accountability:

> *If something falls down then you would go into our system to find out who signed off on one nut or bolt that was too short and then that person would be accountable and would be sued. So there is a complete reason to have this system. But a lot of people see it as more of a hindrance.*

The system is used to send information received from the contractor to all the engineers who will review, comment, agree or disagree. Then the drawing or document is marked-up and sent back and forth between the engineers and the contractors until they all agree and then

the construction begins, requiring professionals to significantly change their working practices.

Some of the professionals running the project rely on meetings and phone calls to work things out: they find it easier to deal with arising matters and provide richer information in these media than through the formal approval system. They also find the process of uploading files and commenting on them time wasting. The collected evidence suggests that such professionals see the formal systems of approval and workflow management as peripheral to their professional role. They do not see their professional work as reliant on them, but instead emphasize the significance of communication technologies such as emails. Email, rather than approvals, is described as changing what people do professionally. It is a: *'*a major cultural change*'* in the way professionals work together:

> *So professionally you do change because of email. I think email has been one of the biggest changes and it comes with very heavy risks.*

Like the formal approval systems but unlike meetings and calls, email also retains evidence of discussions and decisions. Interviewees note this becomes useful as a record of what happened. At the same time they pointed to the risks of email:

> *So, and the temptations are….I think people are more inclined to email someone than actually pick up the phone and talk to them. They hide behind a barrier of emails whereas perhaps before you would be more interactive and face to face or at least over the phone. Now whether that is because they see it as a 'Oh I can prove that's what I said' type of attitude rather than 'I should be making a phone call'.*

These quotes suggest that the extent of autonomy and control experienced within an email system is perceived as greater to that of a formal review system. There is discussion of the

problems of email, which include the rapid reply time that causes a growing sense of overburdening, and the potential for misinterpretation. The shifts in accountability and responses to these shifts are changing interactions between professions, and the processes through which professional expertise and judgment are exercised.

Integration across professional roles

New integrated digital systems ought to enable professionals to save time. Within such a system, digital files make available multiple layers of drawings and models:

> *Instead of a designer starting from scratch and designing the whole thing he will start from someone else's base layout. So the architect will do the base layout, a servicing engineer will then pick that main layout. That should have saved time…*

However as professionals work more closely together and new roles arise they face other challenges. New issues arise around standardization and transfer of the digital data from the range of design consultants who might be using different systems in their work. The use of the system for accountability may enlarge the workstream and also bring with it coordination costs.

Large digital systems can hence be perceived by professionals as interference, time consuming and sometimes unreliable, as they are not as flexible as people, relying more on standardised processes than judgement, requiring steps to be retraced if the correct route is not followed:

> *The system won't recognize the slight inadequacies, it'll say either it's black or white, I'm either accepting it or I'm rejecting it, whereas a person would say, 'OK I understand what he means by that, I'll change that to a '1' because he's obviously*

> *been sleeping on that day.' But once you've got it in the system and once it's a mechanical process, an electronic process then it's black and white and it's how flexible is the system to accept any changes.*

Despite these frustrations, professionals were accepting of the system. When asked about how the handover of digital data impacts on professional interactions, respondents highlight its benefits:

> *I guess the checking process was digital and I think that helped with the interaction, because it meant that within two minutes of somebody finishing their draft of the document, they could send it out to 20 checkers if they wanted to. And they could receive it back from those checkers, depending on how busy they are, on the same day or the next day. And I could see what other people were saying, so I wasn't really making the same comments and..., you know, misunderstanding things. I think that was helpful.*

This professional notes how digital systems make it faster to progress work through interactions with other professionals, accelerating the process of checking draft documents and enabling this work to be done by multiple checkers at the same time. The impacts of these systems are hence not simple or linear, but instead have complex interactions with professional identities and roles.

These systems allowed users to see what comments other people have made and enabled more integration across professional roles. One interviewee described it as:

> *So it's almost like being sat around the table talking about it without actually needing to be sat around the table because you can see what other people are saying, which I thought was quite good.*

Although these integrated digital systems require more integration across professional roles and are perceived as helpful in many ways, professionals are faced with new issues and challenges. Their professional judgment is still important as these systems are not as flexible as people.

Discussion

While the analyses discussed here are preliminary, this consideration of professionalism begins to reveal how the practices and interpretations of professionalism are enacted in ways that are not static but are rather shaped and evolved to new contexts; with the emergence of new occupational groups; new forms of accountability and greater integration across professional roles. These tentative findings are important, especially in the context of an increasing policy focus on shareable data, with government strategies to use the delivery of high-quality data to owners and operators to improve the sustainability of complex buildings and infrastructure. These findings are considered in the context of existing literatures that problematize the notion of professionalism; and in light of this on-going shift from drawings to shareable data as deliverables.

Problematizing professionalism

The research evidence suggests shifts in the understanding and practices of professional roles that take place around the introduction of new technologies. These findings are supported by previous research that examines how the institutionalization of professional roles is continually negotiated in organizational practice in contexts such as *architecture and design* (e.g. Jones 2010); *engineering* (Leonardi and Barley 2008), *manufacturing* (Wagner, Dainty *et al.* 2008; Eriksson-Zetterquist, Lindberg *et al.* 2009) and *medical environments* (Ferlie, Fitzgerald *et al.* 2005; Barrett, Oborn *et al.* 2011; Oborn, Barrett *et al.* 2012). New

conflicts also arise, as is well documented in professional situations where political work done by different occupational groups to dominate areas of expertise and work (Abbott 1988). However unlike the case in medicine, where data was integrated but general practitioners continue to work in a relatively individual manner, the technologies introduced into construction make explicit the requirement for more integrated working between different professions on particular projects.

By framing the discussion of this context in terms of professionalism, the authors have sought to examine the practices of a range of knowledge professionals within and outside of the classic professions. The interviewees themselves talked about identities as professionals; yet the context also has classical characteristics of bureaucracy. As in previous studies, notions of professionalism were mobilised within bureaucracies as part of managerialism and commercialism. This is as part of an organizational rather than occupational professionalism (Evetts 2011). In classic work on professions, the professional is seen as having a special skill, where:

> *Usually this was an abstract skill, one that required extensive training. It was not applied in a purely routine fashion, but required revised application case by case.* (Abbott 1988: p. 7).

As many tasks associated with the delivery of the built environment are routinised, one interpretation of the evidence might be that it is professionalism rather than professions that is important. This can be attributed to professionals becoming engaged in new and diverse roles across the built environment beyond the original disciplines within which they trained; and to knowledge about the built environment becoming held across both trade and professional occupations. New challenges arise as a result of this routinization of tasks,

particularly around how to deal with the unknown and unknowable when faced with systems in which one can only input what is known.

There are new challenges to the ethical underpinnings of professionalism in the context of these emerging forms of digitally-enabled work. With the introduction of large digital systems for managing data through the life-cycle of buildings and infrastructure, the work of professionals in delivering aspects of the programme becomes visible. Design professionals, for example, become accountable for the production of the design content for a project, and this is consequential as it is traceable through the formal systems of approval and workflow management. The approvals work of new occupational groups is also tracked, at the same time as increasing the client's ability to monitor project hand-over processes and demonstrate their compliance with expectations in major capital expenditure. There is hence a shift toward monitoring professional expertise and judgement through digital systems that not only collate the outputs of their work, but provide workflow processes that require timely delivery.

From drawings to shareable data

In the project studied, information is being held by the client or proxy for the client, with the aim to use this detailed information over the operation and maintenance of the building. This is a model that informs the current policy initiatives to integrate and use shareable data about the built environment to improve sustainable performance. In the UK, for example, the government has set out a strategy that envisions the implementation of Building Information Modelling (BIM) by 2016 in all government procurement (Cabinet Office 2011). This seeks to improve the delivery of the built environment in terms of cost, value and carbon (BIS/Industry Working Group 2010); where the implementation of this policy draws on international initiatives to improve data quality and handover (e.g. East

2007). This integration of data has profound effects, and as part of the UK initiative, professional plans of work are being integrated and revised to recognize and accommodate the new ways of working; with the integrated data-sets being seen as useful not only in the operation and maintenance of particular facilities but also in wider public policy decision-making about the built environment.

This research suggests that these changes have implications for professional work on projects, challenging understandings of professional jurisdiction and roles as well as underlying assumptions of professional autonomy. In built environment projects, especially large complex ones such as those explored through our data, professionals are highly interdependent. The degree of autonomy with which they operate is negotiated in the social setting of the project team. As these social contexts change, it becomes increasingly difficult to rely on institutionalized assumptions about who does what, whose view could override others, and who is responsible for what[1].

New questions arise about ethics and professionalism in the context of BIM and other forms of shareable digital data. The potential to move some of the integrated data generated in building and infrastructure projects into the public realm for the public good, through planning departments, building control and public bodies, changes the professional responsibilities. How should the existing and potential uses of shareable data affect professional consideration of ethics? How are professional responsibilities and judgements mediated by the technologies of sense-making and decision-making as the built environment is formed and reformed? Are there practical limits to electronic connectivity that need to be understood so that these professionals can work effectively and engage ethically? The

[1] We thank an anonymous reviewer for these insights

conflict suggested by the question of focus on drawing numbers versus drawings is suggestive of the difficulty of professionals ensuring both high-quality digital data and a high-quality of built environment. As more work becomes conducted digitally, it may also become difficult for professionals to assess whether the realities described in integrated software correspond to the physical realities of the built environment, a dilemma that is only touched upon in this study but that the authors expect this to be a major issue in professional work in this context.

Conclusions and Implications

This interpretation sees data management as a skill set that is growing within clients, against the background of downsizing and out-sourcing trends in the public sector (Bordass 2003) and private sector (Bon and Luck 1999). It reflects the sophistication of some construction clients in their integration of activities along the supply chain and whole-life asset management concerns (Manley 2006; Aritua, Male *et al.* 2009). With such professionalization of the client organisation, the presented research suggests new understandings of emerging forms of professional work in four areas:

- New occupational groups are forming and identifying themselves as professional. These new roles entail managing the data transfer between clients, owners and operators as well as address the increasing information- and knowledge– intensive nature of a life cycle approach to buildings and infrastructure.
- The desire for professional accountability across the interfaces is a motivation for the use of the approvals and workflow management systems (which enable and constrict knowledge and information flow across time and space).

- The use of such integrated digital systems requires a greater integration of practices across professional roles.
- Professionals are developing new strategies, for example that continue to use meetings and emails as well as more formal workflow management systems, to accomplish project delivery.

These findings have implications for ethics in established professions and other occupational groups. Within the integrated multi-professional contexts associated with digital delivery, professionals face new challenges. These include maintaining their professional independence and expertise. They include sustaining a strong sense of their responsibilities to society, as well as the client, to be better able to deliver sustainable buildings and infrastructure. This paper informs professionals and their institutions in debating and challenging the competences they need to have, and the ethical basis of what they are doing in the context of digitally-mediated project work.

This discussion also suggests directions for further scholarship and practitioner inquiry into professionalism in digitally-mediated project work. This may seek to challenge debates that are mobilised in a narrow self-serving manner within established professions and seek to reframe the discussion of professionalism in ways that can improve practices of the industry to better serve society. The shifts in processes of delivery, as technologies such as BIM become used to integrate data, and the emphasis on data for operations and maintenance suggest the emergence of new knowledge-intensive roles and kinds of professional identity throughout the process of delivering and operating buildings and infrastructure. Further research is needed to understand how practices and interpretations of professionalism are shaped and evolved to these new contexts of digitally-mediated and inter-dependent project work, with the emergence of new occupational groups; new forms of accountability and

greater integration across professional roles. Professionalization can, for example, be observed in occupations previously seen as trades, such as for example the facility managers that will come to use the digital data handed over by the project delivery team; as well as new roles such as the document manager discussed here. Research is also needed to understand how the increasing professionalization of the client, observed in this study, will change the industry's ability to deliver sustainable buildings and infrastructure. It suggests wider shifts in power, with routinized digital processes that challenge the autonomy of professionals; but with information also becoming available outside the professions. Will these changes enable professionals and others to synthesise ideas, exercise their creativity and judgement and contribute to informed debates about the value of built infrastructure? Will it enable society to hold clients and professionals to account? Or will the focus be too narrowly on delivery procedure and adherence to predefined rules? Future research on professionalism and ethics will need to explore these issues across the boundaries of occupational groups as the sustainable delivery of built infrastructure requires new forms of interdependence and synthesis of knowledge across trades, professions and other occupational groups. This study indicates the importance of such further research to explore professionalism and ethics broadly, not only in judgements taken within the client in digitally-enabled project work, but more broadly to further societal interests about sustainable development through appropriate methods of delivery.

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