

SOCIOLOGY AND CONSTRUCTION MANAGEMENT RESEARCH: ISSUES, APPROACHES AND IMPLICATIONS

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Construction management research (CMR) tends to be dominated by positivistic and instrumentally oriented thinking, where underlying causes are sought to explain the 'nature' of the workings of the construction sector. But CMR is increasingly oriented towards understanding how people interact around multiple institutions, such as organisations, projects and professional bodies, and how they enact complex activities. Such research is, in fact, often underpinned by ideas from sociology. However, there is often a lack of explicit engagement with the sociological theories and methodologies from which such ideas are drawn. The problems with CMR's positivistic hegemony have been voiced before (e.g. Bresnen & Marshall, 2001; Seymour *et al.*, 1997a). Rather than add to this critique, this paper is an attempt to open up discussion around sociological theory and its implications for CMR. It does so by outlining two important debates within the social sciences; that between homo-sociologicus and homo-economicus, drawing on the work of Max Weber, and that between structure and agency, drawing on Anthony Giddens' notion of structuration. For both of these, the methodological and theoretical implications of mobilising them are discussed. Following this, both are used to discuss the role of the researcher when conducting and disseminating research, through the concepts of *verstehen*, reflexivity and the double hermeneutic. The conclusions argue that more engagement with sociological literature and approaches can only have positive effects for CMR. It would contribute in both continuing to extend the breadth of the CM literature, and further help to situate CM within the wider terrains of sociological and social science research.

Keywords: methodology, research, sociology, theory.

INTRODUCTION

Construction management is, in comparison with other areas, a relatively new field of academic inquiry. Although Construction Management and Economics' recent 25 year anniversary might suggest a good innings, and certainly represents a considerable body of research conducted over that time, it looks less temporally impressive when held up against the much longer histories of other disciplines within the natural or social sciences. To date, construction management research (CMR) has tended to be dominated by one particular model of research and theory development. This model, which might be termed positivistic, instrumental, objective or rational in orientation, has looked to reveal underlying causes which explain the 'nature' of the workings of the construction sector. It has based its methodological rigour on accepted scientific practices of deductive and quantitative empirical research.

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However, increasingly research within construction management looks very similar to the social science oriented research occurring in other areas – it is interested in what people do, how they interact and organise, and in the interplay between individuals, organisations and wider societal institutions. Issues such as the culture of the industry, the contribution the built environment makes to society more widely, and how to change the practices of the individuals, organisations and institutions that constitute the sector, are of paramount interest. But when looking at these sorts of issues, concerned with the subjective and multifarious ideas and actions of people, this dominant approach does not tell us everything. Quantitative approaches can inform our understanding of what the sector does, but is less able to contribute to our understanding of why it does it, or how to change it.

There are two caveats that are important in positioning this paper. The first is that the potential problems and implications of CMR's instrumental and quantitative hegemony have been usefully expounded before, within construction (e.g. Bresnen and Marshall, 2001; Seymour et al 1997a; 1997b) and within related disciplines such as project management (Smythe and Morris, 2007). This paper is not intended to add to or replicate this critique, nor to denigrate past and current work within the field.

Secondly, it is important to acknowledge that there are increasing numbers of people mobilising non-positivistic theoretical and methodological approaches to understanding construction, both within and without the CMR community, often in response to the limitations of instrumental concepts and methods. These include using ethnographic and ethnomethodological approaches (Rooke & Clarke, 2005), practice based perspectives (Bresnen, 2007) and concepts from the organisational learning literature (Styhre, 2004), to understand in qualitative detail what it is that construction practitioners actually do. The need for a range of theoretical and methodological approaches, rather than the replacement of one monolithic bloc with another, is also recognised (Koskela 2008).

So this paper does not aim to criticise or homogenise the methodological and theoretical developments occurring within the field of CMR. It is more modestly intended as an introductory discussion of what might be gained by engaging with sociology, using some well accepted theoretical and methodological concepts as examples. Initially, the paper uses some cursory data on the content of ARCOM papers, to look for connections between research on construction practice and culture and theoretical and methodological debates. Following this, two sociological approaches are outlined; the concepts of alternative forms of rationality as expressed by Weber and Giddens' notion of the duality of structure and agency. To rehearse the utility of these approaches, the example of investigating 'culture' is discussed, in terms how it might be positioned within these approaches, how the study of culture might be mobilised in CMR and an indication of the insights these approaches can generate. In addition, the concept of reflexivity or the implications of researchers' own impacts on the research they conduct is also discussed. The conclusions are simple; there are many alternative approaches that might be mobilised when doing CMR, and more engagement with them can bring novel and useful insights into understanding the construction sector and its constitution.

SOCIAL ISSUES IN CMR

In order to position the relative extent of engagement with sociological concepts within CMR, some very 'quick and dirty' searches were conducted into the titles, keywords, abstracts and references of previous ARCOM papers. They show some

interesting trends. 'Practitioner' appears in 64 abstracts; this indicates that CMR is very interested in what people actually do within the construction sector. But within that sample, 'theory', 'method' or 'methodology' do not appear at all. This supports the view that much CMR is oriented towards making contributions to the sector, which is of course no bad thing. It also suggests if not a lack of engagement with discussions about alternative theories and methods, then perhaps a hegemonic acceptance of particular approaches which therefore require little discussion or defending. 'Culture' appears as a keyword in 48 papers, and appears 78 times within abstracts showing its popularity within CMR, but only two papers among the sample also mention 'theory', 'method' or 'methodology' and none mention 'subjectivity'. 'Sociology' appears only once as a keyword and twice within abstracts, and 'society' is not cited as a keyword at all. So, these searches indicate that although there is considerable interest in social phenomena within CMR, there seems to be much less engagement with underpinning sociological concepts. It is to some of these that we now turn.

HOMO-ECONOMICUS VERSUS HOMO-SOCIOLOGICUS

Rationalistic or instrumental approaches to understanding construction activity tend to position individuals, whether explicitly or implicitly, as 'homo-economicus'. This idea basically states that individuals are essentially self-interested and act in accordance to rational decisions. Put simply, people do things because it is in their own best interests. Homo-sociologicus, in contrast, is a more finely-grained beast. As Hirsch puts it:

"The most basic difference between economics and sociology concerns their assumptions about human nature. The famous homo-economicus is a rational, self interested, instrumental maximizer with fixed preferences. Homo-sociologicus, by contrast, is much harder to define... actions follows culturally given values, not just some pure (culture-free) calculation of individual self interest" (Hirsch, 1990: 42)

The theoretical simplicity of homo-economicus allows economists and others to model large scale systems based on each atomistic component acting in fixed and predictable ways. The more rational and instrumental forms of CMR (and, of course, lots of other areas of research) reproduce these assumptions, seeing the individual as something that can be counted upon to act in specific ways. Work on topics such as incentivisation can follow this model; to get people to do what you want them to, make the ends worth their while to do so.

This approach perhaps retains its popularity due to a combination of the continuing strength of economics as a discipline, and its resonance with objectified and deductive methods borrowed from the natural sciences. Over the course of several centuries, the natural sciences have developed objective research methods similarly based on predicting behaviour. This is achieved by hypothesising how different phenomena behave, using this to deduce what other phenomena might do in response, and then conducting experiments to see if this actually occurs. So if we subscribe to homo-economicus, we can predict their behaviour, and therefore deduce what other phenomena are doing in interaction with them. We hypothesise what might be happening, and then logically work out whether we are actually observing this. Throughout the process, the researcher maintains objective distance from the research, acting merely as an observer and having no influence on the experiment.

But homo-sociologicus suggests that there is more to people than just self maximising behaviour. There are more rationalities than just instrumentally calculating self-interest, which complicates this model. To explore what these might look like, we'll now turn to the work of Max Weber.

Weber wrote extensively on how different sorts of ethics (or rationalities) are realized. For him, the cornerstone of society was the beliefs, ideas and actions of individuals; it is only through individuals interacting that society more widely is constituted. This argument was central to Weber's methodological position; there could be no generalizations of the empirical world because "in their concreteness, the most general laws... are devoid of content, and also the least valuable" (Weber, 1949: 80). Weber positioned himself against nomothetic accounts of interaction based on causal laws, and ideographic positions where nothing other than specific and contingent events and actions are important. Although empirically he adopted the latter, he also developed the idea of the 'ideal type'; a heuristic device which, although not intended to capture the full richness of empirical reality, did embody the most salient features and which could be compared across different domains. But it is important to note that the ideal type was intended to further understanding, not to produce generalized accounts of the real world.

The ability of researchers to produce these ideal types is a function of the subject matter of sociological enquiry. Weber argued that social researchers, themselves being part of the social world, are able to understand social phenomena in a way not possible for natural scientists studying non-human phenomena such as sub-atomic particles or chemical compounds. In his native German, the term Weber employed was 'verstehen', in English this translates imperfectly to 'understanding'. Verstehen is not just intuition on the part of the researcher, although the concept has been criticised as being just that. It is rather the foundation of systematic and rigorous attempts to understand the empirical world, both at the level of the subjective states of individuals, and the subjective aspects of large-scale social systems.

In order to better understand how societies come to look like, or be organized, as they are, Weber developed a typology of the kinds of action which form the basis of social interaction. These describe the 'subjective states' of individuals and so allow some broad understanding of what informs social conduct. He identified four 'ideal types' which in reality are not mutually exclusive but overlap and intersect in complex ways. But fundamentally, they suggest that homo-sociologicus is more subtle and elaborate than a pure self maximizer.

The first type is traditional social action. This is underpinned by custom, habit or long-standing convention. It is largely automatic and unreflexive. The second is affectual social action. Such conduct arises from or expresses emotions or feelings. The third is instrumentally rational action. This is action with an essentially practical purpose, calculating the required means to get to a desired end. This also represents the self maximizing homo-economicus. The fourth and final type is value rational action. Here, conduct is determined by a conscious belief in the value for its own sake independently of its prospects for success. It is action guided by beliefs about how things ought to be.

The intersections between these forms of action have been the subject of intensive debate, as has interpreting the precise meanings Weber attributes to them. This is especially pertinent in the ways that Weber moves from understanding individuals influences to understanding wider societal forms and formation. However, outlined

simply they demonstrate other forms of rationality which influence human actors beyond those attributed to homo-economicus.

Of course it should not be forgotten that Weber had particular political interests in the concepts and methods he developed. He was highly critical of the ways that modern industrial society was developing (he was writing during the late 19th and early 20th centuries). He positioned this critique as the increasing domination of instrumental forms of rationality that were excluding or colonising other forms. Instrumental rationality was dominating social life at the expense of other, more subjective (and for Weber equally important) rationalities, leading to disenchantment, (*entzauberung der Welt*) the reduction of human subjectivity to instrumental – rational process. Or, in other words, homo-sociologicus being reduced to homo-economicus. This is a theme which continues to dominate social and political theory, most notably in the ways that new social movements (such as environmental, nuclear disarmament and human rights groups) are positioned as attempts of subjective concerns to push back the colonising dominance of instrumental forms of action.

MOBILISING HOMO-SOCIOLOGICUS IN CMR

Coming back to CMR, Weber's work, and its continued importance shows that the assumptions about both homo-economicus and scientific, rational method do not capture everything about social interaction. So what is to be gained from using ideas about alternative rationalities to frame research, and how can these concepts of alternative rationalities be mobilised in practice? A Weberian-oriented analysis would conceptualise, for example, the 'culture' of a construction organisation by reference to the individuals involved, and their various beliefs, meanings and intentions – their particular 'states'. Culture has no existence beyond these individual beliefs and meanings. Any extra-individual phenomena, whether 'culture', organisational forms, routines or practices, emerge from these individual actions; the result of shared intentions and consensus or emerging from tensions between different individuals.

It is certainly the case that much CMR asks questions about how individuals interact; within and across organisations, across projects, and across disciplines. By grounding these questions in individual meanings and beliefs, and how individuals act in accordance with them, a clear methodological focus becomes apparent; the interrogation of these individual meanings and beliefs, and the analysis of how these characteristics are acted upon. The assumptions inherent in adopting homo-economicus do not really allow for questioning individuals' subjectivities and how they influence these interactions. Doing this signifies a move away from measuring what is happening, to a more qualitative denouement of why those particular activities occur, through understanding individuals' motivation behind their actions, motivation which might be positioned in terms of interplay between Weber's four 'ideal types' of rationality. Detailed and qualitative engagement with actors is required to do this, through techniques such as interviewing or observation and informal interaction.

Furthermore, this approach is also valuable in pointing towards the existence of multiple, and potentially contrasting 'cultures' within construction work. Project-based working experiences, organisationally-based employment histories and disciplinary-based education and training can each be seen as producing different, intersecting ideas about what it is to be an architect or engineer, an employee of firm X or firm Y, a worker on project A or project B. One particular area where this might be a fruitful approach is in investigating why traditional cultures and ways of interacting (and hence well-established sets of beliefs and expectations) remain so

strong within the construction sector in the face of attempts to change them. The methodological challenge of exploring this would be in unravelling and making sense of these overlapping sets of ideas and beliefs.

STRUCTURE VERSUS AGENCY

Another broad debate which can be seen as characterising much sociological theory is that over the interplay between agency and structure. This has its roots in the work of some of the ‘founding fathers’ of the discipline, most noticeably an opposition between Karl Marx and Max Weber. Marx wrote about the ways that specific ex-ante economic conditions structure individual action, for instance the ways that the particular configurations of capitalism he saw in the mid 19th century determined the shape of industrial society in terms of class structure and individuals’ identities. Rather than attributing primacy to structural phenomenon, Weber, as we have seen, argued that it was the specific actions and beliefs of individuals which gave rise to large scale social and economic arrangements, such as capitalism. Where Marx concentrated on the workings of economic causal factors, Weber was much more pre-occupied with elucidating the various ways individuals act, and on what influenced those actions.

These two theorists are still regularly held up as examples of the opposition between attributing the shape of society and social interactions to either extra-individual causal forces, or intra and inter-individual phenomena. This has been characterised as the debate between structure and agency. Of course, these two positions are something of an over-simplification and better seen as opposite ends of a long continuum. Few would argue that only structure or only agency characterise interaction. What does become a central question, however, is the balance between these two – how much of what we might see empirically is derived from structural influence rather than from individual agency? This question is crucial in considering what it is we are trying to find out when we do research. Looking for extra-individual causal factors is a different challenge from trying to understand the influences on individual agency and action.

We can turn to the work of Anthony Giddens to further think about agency – structure debates. Giddens’ work has had a huge influence across numerous disciplines, and is readily deployed as a theoretical tool in work on organisational analysis (e.g. Whittington 1992; Orlikowsky 2000), and information systems research (e.g. Rose et al 2005). It has also been suggested as a potentially useful approach with which to understand construction activity and as a tonic to more rationalistic accounts (e.g. Fernie *et al.*, 2006), but has not, as yet, been substantively used as a conceptual framework within CMR. One of the reasons Giddens has had such an impact is his particular positioning regarding this structure – agency debate. His theory of ‘structuration’ (Giddens 1984), which largely emerged from his analysis of the work of Marx, Weber and Emile Durkheim, is an attempt to move away from arguments over structure or agency. The core of structuration is that agency and structure are ‘two sides of the same coin’.

It is important to note that this is not another enunciation of a balancing act between two extremes, but actually argues that structure and agency are aspects of the same process – this is the ‘duality of structure and agency’. Individuals have agency; they are able to act under their own volition and to choose their actions in given situations. But whenever individuals do anything, they do it according to sets of rules and conventions which they hold within them, and which are learned through and shaped

by previous interactions. In other words, individuals are knowing agents, who can reflect on, monitor and justify why they do things, according to internalised rules and codes of conduct (the notion of reflexivity is picked up again later). These rules are, for Giddens, what structure is. It does not exist separately from or above the individual or from the practices of social interaction; structure / agency is

“a ‘virtual order’ of transformative relations... that exists... only in its instantiations in practices and as memory traces originating in the conduct of knowledgeable human agents” (Giddens, 1984: 17)

The transformative bit is important; practices do reproduce structures (alongside and simultaneously with, agency) but also reshapes and changes them. Structures are not monolithic and fixed; neither are agencies. They each condition, and are conditioned through, interaction.

MOBILISING STRUCTURATION IN CMR

What we are interested in here are consequences of thinking about structural constraints and agential capacities as coterminous processes, and the insights this might provide. Again, using the example of investigating culture in construction, we ask how culture would be conceptualised from this perspective, and how it might be mobilised in our research. A structuration approach would see construction as systems or patterns of recurring practices. Culture from this perspective is a structural feature, but maintaining the notion of duality, one that does not exist beyond actors and their interactions. Rather it is (re)produced and shaped as individuals interact, whilst also shaping those interactions. So the researcher would look to reveal the shared codes, rules, norms and conventions which are mobilised through interaction within the organisation.

Again, multiple and overlapping cultural structures might be revealed, across individuals, disciplines, projects and organisations. But this is a somewhat different approach from the more individualist Weberian conception outlined above. Similar methodological techniques might be used – interviews and ethnographically oriented observation involving substantial engagement with empirical contexts. But the emphasis is less on the meanings and beliefs held within discrete individuals, and more on how shared meaning and practices are created and sustained through interaction, and how these give rise to, shape, and are shaped by structural phenomena like cultures or particular organisational routines. It is this interplay between actors’ interaction and wider structural constraints that is the focus of the researcher’s analysis.

Revealing the shared interpretive schemes which delineate the norms and rules of interaction, or particular cultural perspectives, are central; what patterns or regularities exist in on-going interactions between different actors within a project? How do individual actors draw on these schemes in interaction? What sanctions and controls are mobilised, for instance in setting the conditions for interaction between disciplines and functions on a specific project, or between project-based and organisation managers, or between clients and project actors? Through analysing these patterns and norms, a picture of how structure and agency are mutually constituted and reproduced can be developed. Particular cultural features – common interpretive schemes or norms and patterns - can be delineated.

Another useful aspect of the structuration approach is the consideration of how material resources are implemented within interactions. Such resources are described

as ‘material levers’ by Giddens. Individuals have more or less control over mobilising specific resources; money, technology, even the production and shaping of processes and protocols which inform organisational and project based working practices. These can also be used to enforce various sanctions on conduct (Tucker, 1998: 82) as well as constitute meaning at the level of individuals. So a structuration perspective can be usefully employed to not only examine the shared meanings and conditions underpinning interaction, but also the ways that material resources are mobilised within these interactions.

This also leads to another important aspect; an analysis of inequality across interactions and of how power is distributed across actors and structures, something which is missing from more instrumental accounts. How can we explain power differences, in terms of some individuals being able to achieve outcomes at the expense of others? This might be attributed to the norms and conventions which structure interactions, but also to the ways that material resources are mobilised.

OBJECTIVITY VERSUS REFLEXIVITY

The final foray into sociological theory concerns the role of the researcher within empirical contexts, and the effects they might have when conducting research (see Seymour *et al.*, 1997b for an alternative discussion). This intersects with both Weber and Giddens’ work. Scientific method extracts the researcher from the context of research to more clearly observe the specific phenomena under investigation. The researcher maintains an objective position, merely observing and recording. However, Weber’s notion of *verstehen* orients sociological research somewhat differently. The ability to understand the actions of individuals at a level not possible with respect to natural phenomena allows the researcher the privilege of a form of if not enhanced access, certainly something different to that of hard science. This means that the methodology used is different from that of the natural sciences; the researcher does not stand back as separate from the object of study, but employs *verstehen* to interpret what is seen or experienced empirically.

This is the key concept – interpretation. Weber was not interested in producing objective and generalisable accounts – he saw these as too abstracted from reality to be useful within the social sciences – but was interested in the rigorous application of interpretive and heuristic methods to produce ideal types which could then be compared with various empirical situations. *Verstehen* signifies a subjective, rather than objective approach to understanding social interaction, whether within construction domains or elsewhere.

Giddens work on reflexivity and the double hermeneutic takes things further. For him, *verstehen* involves finding and describing publicly accessible meanings, articulated in language and embodied in tacit rules or structures. Social science research is necessarily interpretive, as it studies people who are concept-bearing and concept-inventing agents. So self-understanding, as well as interpreting how others construct meaning, is central to all forms of interaction. This is the core of reflexivity; the notion that individuals knowingly reflect on and refer to their own roles in specific situations. Reflexivity is as much a part of relations and interactions between researchers and research participants, as it is between those participants.

Reflexivity is one of the main distinguishing features Giddens draws between the social and natural sciences when he discusses the double hermeneutic. The social researcher investigates and interprets a social reality rich in meaning. The insights

generated can in turn become available within those contexts, which can come to reflexively alter it. Findings circulate in and out of the social world shaping ideas, structures and interactions. Examples of this double hermeneutic include concepts such as citizenship and sovereignty, which are grounded in the work of Enlightenment political theorists but became common terms within society. Another such example is the term ‘culture’, which has entered everyday life and has permeated academic research across a multiplicity of disciplines including construction management. But as the term has moved from the social sciences into society more generally, and into CMR (as well as other places), it seems to have become largely stripped of its associations with subjectivity, and from particular theoretical accounts of social interaction. It has perhaps been appropriated in ways which might not reflect its original constitution as subjective, multiple and reflexive.

The upshot of reflexivity and the double hermeneutic is the inability of the researcher to divorce themselves from the contexts or situations that they are studying. They are inextricably implicated in the research process, and the assumptions they make and insights they draw are constituted through their own reflexivities. This means that the papers we write as researchers which describe, assess or explain interactions between construction actors draw upon our own reflexive and subjective resources, as well as those of the people we study. Objectified and rationalised accounts become problematic, as they exclude both the grounding of particular contexts and the contributions of our research participants’ and our own reflexivity.

But it is important not to position reflexivity as a problem, somehow obscuring the objective reality we are trying to understand. Rather it emphasises the ways that CMR can make a contribution to the empirical contexts and practitioners we engage with. We do not leave the empirical world exactly as we find it, and the ways that we interact with and describe it can in turn become part of that world, and change it. This can be as simple as making practitioners think differently about their day-to-day activities as a result of discussions with them, or as influential introducing terms and concepts which begin to permeate and shape these contexts more widely.

CONCLUSIONS

The aim of this paper has been to outline very broadly some sociological concepts, and some of their theoretical and methodological implications for CMR. As examples, the alternative forms of rationality taken from Weber, and Giddens’ concept of the duality of structure and agency offer ways of positioning research that engages directly with the ways individuals interact, and offers something different than and perhaps complementary to, other more instrumental approaches. By doing so, it has also attempted to reveal something of the different assumptions and implications all theories bring with them. Consideration of these is important in terms of matching up theoretical positions with methodological approaches, and in positioning empirical material and research findings within and through explanatory and conceptual frameworks.

But this should not be seen as a call for ‘theoretical shoe-gazing’, nor for a rejection of more quantitative and instrumental approaches to research. Moreover, the role of CMR in engaging with and supporting the world of construction practice is a crucial one, upon which the ‘health’ of the field depends. But it is important to consider issues such as the potential difficulties of seeing the researcher as objective and distinct from the subjects of research. When understanding people is a central concern, acknowledging the role and impact of being a researcher and conducting empirical

research is an important part of understanding the data produced through the research process, and in considering the on-going relationship between CMR and the construction sector.

Sociology offers a rich and broad canvas of theories and approaches when we are thinking about the way people act when performing construction work. Although engaging with these can be challenging, the outcomes of doing so can only add to the breadth of construction management research.

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