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DEVELOPING CONSTRUCTION MANAGEMENT RESEARCH: A BALANCE OF PERSPECTIVES

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Research development for construction management has recently received considerable attention by academia and major industry sponsors. A major motivation for these efforts include ensuring that research does not just achieve any outcomes, but also produces relevant outputs that can benefit all the interested parties associated with the research community. In particular, concerns expressed about the traditional quantitative orientation of construction management research has provoked a debate on the methodological issues within the field. As a result, the discipline is gradually witnessing a polarisation of research orientation into rational and interpretive schools of thought. This paper is an attempt to reconcile this current division in research orientation. It utilises an anecdotal approach to argue that the entrenched positions on research perspectives is not adequate for enhancing the development of the field of construction management. It presents an option where both perspectives complement each other to produce a more balanced outcome for academic research. It concludes by posing the question, Is it time to define the boundaries of construction management so that its research development can be appropriately addressed?.

Keywords: Construction management, Qualitative, Quantitative, Research

INTRODUCTION

The current attention to methodology and research quality which is taking place within the domain of construction management can only be described as a relevant activity. The various debates and academic deliberations should ensure a greater awareness of the importance of these aspects of research, which should eventually lead to obvious benefits in research quality. The role played by the ARCOM community in facilitating such awareness is very significant. First, it brings together 'budding' and 'seasoned' academics and researchers in its annual conferences and occasional workshops. The interactions at these for a contribute to a more balanced perspective for researchers within construction management. Additionally, it exposes to the community of construction management other ways of researching particular issues to augment its currently accepted views of how research is to be undertaken. This role played by ARCOM is very important, as the methodological debate, which is gaining momentum, is not as old as in other subject areas such as economics, sociology and psychology. A debate of that nature should help shape the way research in construction management develops into the future in order that more

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relevant outcomes can be achieved from its investigations. The contribution of Seymour and Rooke (1995) in getting such a debate underway is duly recognised, albeit at the cost of *stepping in the hornet's nest*. However, much as they focus on issues of methodology, their suggestions only recast the same problem in a different shade of light. As such, whilst their suggestion addressed the symptoms by advocating a balance of the conventional rational approaches with more interpretive approaches, it fails to tackle the fundamental issues of attaining research quality. It is in the light of this debate that this paper derives its relevance. The paper is an attempt to arrest and reconcile the current division in research orientation. It utilises an anecdotal approach to argue that the entrenched positions on research perspectives are not adequate for enhancing the development of construction management. It argues that an option where all the perspectives which can complement the construction management field should be encouraged in order to produce a more balanced outcome for academic research. It concludes by posing the question, Is it time to define the boundaries of construction management so that its research development can be appropriately addressed?.

ISSUES RESEARCHED IN CM

The issues researched in construction management tend to reflect the changing trends of the economy and society. Modern society is on the one hand highly organised, but on the other hand highly uncontrolled and therefore may be described as unpredictable. It is also extremely changeable. The survival of the construction enterprises and the effectiveness with which their policy makers can manage activities of their industry rests upon the ability to anticipate, respond to, and where possible manage change. The ability to predict, forecast or foretell future events then play a crucial role, as much as a clear understanding of the import of various factors that impinge and interplay in the industry's activities. Thus the quality of the management actions will depend on the quality of information available upon which decisions are based.

Two components are embodied in the activities required by management which research in construction address: providing better understanding of processes and organisational phenomena; and providing better mechanisms for more efficient projections which can assist managerial decisions and actions. It is important to recognise that every managerial act or decision rests upon the assumptions generated by the understanding and the developed mechanisms of projection.

One thing common to all the managerial assumptions is its relationship to the behaviour, beliefs, attitudes and opinion of people. The factors that these assumptions relate to can be grouped into two categories: those factors over which management can exercise very little or no control (although its influence on the industry and organisations is often very remarkable), examples include interest rates, economic growth; and those other factors over which management can exercise total or considerable control. The second category represents processes and activities involving identifiable interest groups that interact with the construction organisation. Table 1 presents a list of some interest groups within the construction industry. Establishing the right relationships with each of these groups is crucial to the efficient performance of the construction company. The nature of relationships that emerge between the company and these interest groups is affected by the actions of the organisation. Research therefore, enables the organisation and its management to ascertain how to effectively interact with these various interest groups.

Construction management research has frequently given attention to the roles, influences and relationships of these interest groups within the industry. Its focus also covers the processes and technology by which the organisation achieves its means for economic survival. Raftery et al (1997) describing how research investigations on the above interest groups reflect in construction management, outlined the field as including the organisation and management of projects, construction companies, professional practices engaged in the construction process, as well as the management of existing buildings and constructed facilities.

Table 1: List of example interest groups in construction industry

Clients
Consultants
Employees
Suppliers
Contractors (Subcontractors)
Shareholders
Central and local government
Regulatory bodies
Pressure groups
Professional bodies
Academic and research establishments
The general public

Traditionally, researchers in the construction management field have undertaken investigations of various phenomena relating to the above interest groups by surveys. Surveys are methods of data collection in which information is gathered through questioning. This is usually achieved by employing oral or written methods. Simister (1993) recognising the prevalence of these methods within construction management, provided an outline of how such surveys can be effectively conducted in construction management and analysed with computer assisted options. The domination of statistics in the application of such surveys within construction may have contributed to the motivation of the argument put forward by Seymour and Rooke (1995).

THE EVOLVING POLARISATION

Concerns expressed about the traditional quantitative orientation of construction management research is what has provoked the current healthy debate on the quality of research for the field. This has led to suggestions that construction management research is more effective if it is undertaken from an interpretive standpoint. The argument is that the quantitative approach is based on a rational outlook for the issues investigated in construction management research, and often suffers on two major counts. Only limited data is employed in the aggregation which underlie their techniques, and therefore, do not permit in-depth appreciation of all relevant information that can be associated with the research. Of equal importance is the loss of the contextual significance for data as this normally plays a lesser role in quantitative research. The interpretive perspective on the other hand, which has been suggested as an alternative to replace the quantitative option, assumes that construction management research embodies only the elicitation of views from individuals. Whereas this may in one sense reflect several of the research in our area, it does not cover the entire issues which can be investigated within construction management. The construction management community is thus, gradually witnessing a polarisation of research orientation into rational or positivist against interpretive schools of thought. However, it has to be emphasised that within construction

management, there is room for both perspectives to co-exist, in fact complement each other.

IS CONSTRUCTION MANAGEMENT DIFFERENT?

In one respect, it is possible to argue that management within construction may be described as distinct, in the sense that the industry is unique much as other industries such as agriculture and manufacturing are distinct. The activities of the industry are driven predominantly by its project-oriented nature of business. However, the management of these projects do not any appreciably differ from the management of projects in other sectors, such as shipbuilding. As such the principles employed in managing other sectors can be adapted and applied to construction and vice versa. Similarly, the approaches adopted for research in these other disciplines that bear relevance to construction can be employed to achieve useful research outcomes. Such a lesson can be learnt from the general management stream, with which construction management shares a lot of common grounds. Perhaps in learning from the social sciences one of the things the field may have may have acquired as well is the bane of methodological controversy. In this regard, construction management is not any different to any other field of management. In particular, the general management stream has had to in the past, and is currently still grappling with the issues of methodology which construction is presently starting to face. The economics domain has also had to live with a similar situation over the years (Dunn and Maddala, 1996)

Research approaches and methodologies that are applied in management are normally taken directly from the social sciences. These particularly draw heavily from the areas of sociology and psychology. Easterby-Smith et al. (1991) argued that management research has certain peculiar features, though not exclusive, which make the wholesale adoption of the social methods rather inappropriate. They identify these distinguishing features as pertaining to the eclectic nature of management, the greater drive for commercial value, and the a hyper demand for action-oriented outcomes. The implications of each of these factors are considered below.

The point that management practice is largely eclectic implies that its practitioners draw on and employ information, techniques and other knowledge which reflect a diverse background. Such background knowledge will include material from the discipline of sociology and economics, areas with which management naturally shares membership. However, it will also encompass other disciplines such as statistics and mathematics. According to Easterby-Smith et al. (1991), the dilemma facing management research is whether to investigate all the various phenomena that it researches from the standpoint of only one discipline. This will ensure that it attains greater academic acceptance. The alternative will be to adopt a cross-disciplinary approach to deliver the practitioner's interests for which outcomes will be seen as more relevant. It is against this background that Edum-Fotwe et al. (1996), and more recently, Runeson (1997) and Raftery et al.(1997) have all made a strong supplication for a multi-paradigm approach to research. The development of construction management research ought to integrate useful material from all the different and relevant disciplines that interplay in management within the construction industry.

Management usually sees all its activities as ventures of commercial interest. This will also include their participation in research either as beneficiaries or sponsors. Their concern with research will therefore, relate not only to the adopted approaches and the detail and content of the investigation, but also the outcomes realised. This

commercial drive has two main implications for research. First, the time taken up by research of managerial attention is valued in terms of the returns likely to accrue to the organisation within both tactical and strategic dimensions. Secondly, because of this concern, the information and access to it may often be subjected to the conditions of confidentiality. This often limits the extent desired detail which the research may achieve. The outcome of the research may therefore, be restricted by the possibilities attainable as dictated by access and expediency rather than the theoretical requirements of a particular discipline. The construction industry is perhaps more reflective of this commercial imperative. Competition within the industry is very intense due to the low level of entry barriers. This is further exacerbated by the growth in the number of informed clients as exemplified by the formation of the British Property Federation. Margins on projects, and hence, profit levels for the organisations are very tight. This leaves very little or no room for management time to be devoted to activities which are of no immediate profit-generating potential.

To realise the commercial imperative, managers expect the outcomes of research to be in a form such that it can be readily implemented by their organisations. Such exploitable outcomes are often realised by applied research. The need to reflect the practical consequences of the industry situation with research solutions become paramount. The importance of an aggregated or representative outcome on which future policy can be based or projected from, also bears considerable significance in this regard.

In the past most research projects were publicly sponsored and therefore, reflected the demands of central government policy and academic requirements alone. The current climate for the research community has altered significantly in terms of research finance (Bakens, 1997). This was attributed to the drive by many central governments to ensure that research outcomes, and particularly applied and strategic ones, are in an obvious way, relevant to the beneficiaries of such developments in order to achieve a more efficient use of limited public funds. There is therefore an evolving situation whereby research in construction management has to rely on the partnership with industry not only for its relevance, but also for part or all of its funding. Bakens (1997) argues that within such a climate, methodologies that support the development and effective utilisation for the beneficiaries of construction management research assume great importance.

The various issues discussed in this section are not exclusive to the construction domain alone but has its reflections in other industries as well as academic disciplines. Advocating that all these issues should be addressed with only a single methodological paradigm perhaps reflects a closed perspective which can at best be illustrated by the anecdote in the next section.

HOW RIGHT OR WRONG CAN WE BE: THE ANECDOTE

This anecdote outlines various perspectives presented by different visually impaired people of the elephant. Parallels from the story to the current situation would mean that the elephant is methodology, and the blind men the various research interest groups. The first two verses of the story, which was originally rendered in poetical form, is reproduced below.

*'Twas six men of Hindustan
To learning much inclined
Who went to see the elephant
Though all of them were blind*

*That each by observation
Can satisfy the mind*

*The first approached the elephant
And happening to fall
Against its strong and sturdy side
Cried out,
Oh my! the elephant
Is very like a wall*

....

Anon.

The second touched one leg, and identified the elephant as a tree. The third approached the elephant and made contact with the tail, and exclaimed that the elephant was like a rope. The fourth touched the tusk and described the elephant as a sword. The story goes on to talk about the experience and reactions of the other fifth and sixth blind men. The six blind men of Hindustan turned back to go to their village after this encounter with the elephant. On the way, they argued very loudly among themselves, each trying to establish that his viewpoint was right, and refusing to accept the views and experiences of the other five. After all how much closer can you get to the truth and reality than the direct and physical contact experienced by each of these men. However, the story closes by stating that:

*Though each was partly in the right
And all were in the wrong.*

They were partly in the right because each of the men had a real encounter with a part of the elephant which aptly reflected their isolated experiences. Their perspective of the elephant correctly reflected only the small part of the animal which they touched or fell against. However, they were completely in the wrong because the elephant is not at all like a wall, although it may have a strong and sturdy side. Neither is it like a tree, a rope or sword. The elephant is only like the elephant. They were in the wrong because they did not explore any further beyond their first and brief encounter with the elephant. The men were in the wrong not only because they had impaired vision, but also because their minds were closed to other experiences. By putting their experiences together, they could have arrived at a much better picture of the elephant. Perhaps this story will be reminiscent of the polarised situation which is evolving in construction management regarding research quality and methodology if it is allowed to fester any further. Perhaps methodology is such an elephant, and that some different interest groups interact only with a small part of it, and therefore end up seeing every other aspect of it from their small perspective. The efforts of the community should be directed at establishing not which school of methodology is right or superior, but rather how it all comes together.

ACHIEVING THE BALANCE

Achieving a balance in methodological perspectives for construction management forms part of attaining quality in the development of research for the field. To maintain its relevance, the research orientation of construction management must be able to adapt to changing conditions both within and outside its discipline. At the heart of sustaining such relevance is the important criterion of research quality. This expresses not just the theoretical underpinnings of research investigations, but equally, the outcomes. In order to address the issues of quality, research development has to reflect a new culture of improvement which addresses the root causes in addition to

the more obvious symptoms. Any evidence of apparent imbalance is likely to be intricately entangled with a host of other issues as underlying causes. These issues have to be uncovered and addressed with appropriate corrective measures in order to remove any imbalances. Such corrective measures can be achieved by examining the fundamental norms, practices, standard procedures, structures and processes involved in research within construction management. It is equally vital that in addressing the current relevance of research, a culture of continuous improvement in quality is sustained. The role of ARCOM in promoting these out which stagnation begins and organic systems ultimately fail to achieve their purpose.

LESSONS FOR THE CM RESEARCH COMMUNITY

Much of the current debate on methodology only provides a strong evidence of the need for a greater consideration of the epistemological underpinnings of research in construction management. Shifting the focus to such underlying issues should help in developing for the field regarding what should constitute meaningful innovation in its knowledge-base, and how such innovation should be achieved and validated.

Unfortunately, the debate has as yet not captured these issues but rather descended into a choice of whether research in construction management ought to proceed by adopting rational approaches or interpretivist options. As a result, the essential element advocated by Seymour and Rooke (1995) of opening up a discussion on the way forward for methodological issues is yet to be comprehensively achieved, and stands in danger of being overlooked or completely lost altogether. Some prefer that methodological issues be seen as *sacred cows* which must not be touched, particularly by researchers in construction management. However, the authors of this paper share the view that effective progress can only be achieved through such a debate, controversial as it may seem. It will therefore, be unfortunate if a situation where any perspective is overlooked because it does not satisfy the personal preferences of a particular research interest group. It will in itself defeat the essence of research.

One very useful achievement of this debate is the greater awareness about the need to strengthen methodological issues in research training. Having attained some of its original intentions, the debate needs to move on to address the whole issue of research quality in *construction management*. Perhaps the way to proceed will be to define what really constitutes construction management in order to avoid a situation similar to that of the six blind men of Hindustan. The role of ARCOM in promoting such a discussion can contribute to taking the debate forward. One way to establish this debate will be to start an electronic discussion group, where participation will not be limited by time or the need to travel.

CONCLUSION

The paper has addressed various issues related to the current methodological debate. It has advocated for a pluralistic approach which can integrate lessons from the different perspectives of rational and interpretive options. The important lesson to be gained from adopting social methodologies for construction management research should surely include the avoidance of a similar kind of their controversy. The paper has outlined some issues that influence management research and are likely to drive its future. It also argued that although management research shares common grounds with areas such as sociology, it nevertheless has distinctive features. Recognising these distinctions and the changing demands on research is very vital. The need for

the debate to move on to address research quality in general is emphasised. Other fundamental issues including what should be part of construction management are raised as a way of moving the discussion on.

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