

Forum

The industry ‘formerly known as construction’: an industry view of the Fairclough Review

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Introduction

This paper is written from the viewpoint of the Chairman of the Reading Construction Forum (RCF), a think tank of clients, consultants, contractors, specialists and academics formed in 1995 after Sir Michael Latham’s Review. The RCF introduced partnering to the UK, contributed centrally to Sir John Egan’s Report (1998) and assisted Sir John Fairclough’s *Rethinking Construction Innovation and Research: A Review of Government R&D Policies and Practices* (2000) by convening key industry R&D directors to meet him. A vision for transforming the construction industry is presented. In this context, Fairclough’s Review is assessed for its potential to fulfil the industry’s emerging agenda.

Vision for construction

The Review hinges around Fairclough’s criticism that the UK construction industry lacks a vision for itself commensurate with its actual role and potential. This absence of vision undermines its attempts to improve, weakens its recruitment of talent and confuses government attempts to sponsor the industry and support relevant research. The Review suggests that construction should:

be seen as central to a better quality of life for everyone, and concerned with a sustainable future. It needs to develop its vision, get widespread buy-in and communicate it to all stakeholders. The research agenda needs to support this vision, and government should facilitate it as part of its sponsorship role. (p. 28, para. 11.2)

The RCF has been working on a vision for the industry for some time, spurred by the realization that the marketing function in construction and consultancy businesses has been perfunctory. The industry knows little of how it adds value to customers or society and has taken a supply-led view of what it should offer. Marketeers from other industries have found it a demotivating experience to join construction.

Our work on the vision climaxed in February 2002 with a conference, ‘Designing the Future’, held in Rugby, UK. Our entry point for structuring the vision was the European Foundation for Quality Management Excellence Model, which measures satisfaction in four ‘stakeholder’ areas: customers, society, people and the business itself. The model is based on the concept that sustainable success must be built on satisfying all four stake-

holder areas. Neglect of one will hamper the others. This ‘business sustainability’ quadruple bottom line compares with the triple bottom line of the global sustainability movement. This latter rests on satisfaction of the economy, the environment and social equity (the three ‘e’s). The Excellence Model is the more relevant one as it embraces society issues (environment and equity) whilst discriminating between the customer’s and suppliers’ interests and those of the people in the business who are not only members of society, but also have personal motivations.

Studying integrated vision, concerning all the stakeholder agendas, reveals how limited is the construction industry’s grasp of value issues and how incomplete is the definition of the industry in terms of the factors which lead to satisfaction of customers and society.

Customers’ goals vary hugely, but almost all of them do not include demand for the services of design or construction *per se*. Customers need the use of facilities only to meet their organizational objectives or as investment products. For the occupier customers, the task of obtaining and managing real estate and facilities is non-core business, often done inexpertly. Value flows from the

customers' customer, receiving the commercial or public service delivered by the facility customer, back through the facility operation, construction and design processes to the financing and the making of the business case for the facility.

The Royal Academy of Engineering (Evans *et al.*, 1998) suggested that the generic ratio of costs in building lifetimes was 1:5:200; one for first construction costs, five for 20 years of operation and 200 for 20 years of business staff costs. In net present value terms that is a less dramatic 1:1.5:60. This figure still puts initial costs into a secondary role when compared with operating costs. Both initial and operating costs are put in perspective against the potential to add value to the performance of the occupier's business. Does the new hospital send patients home sooner and fitter? Does the new school help its pupils achieve more? Does the laboratory make more breakthroughs? Does the new town centre exceed its targets? Value equals benefit divided by costs. Construction has been obsessive about cost, and first cost at that, whilst scarcely aware of benefit to occupiers or how it could be enhanced.

Society's agenda for construction is immense. This largest single depleter of materials and fuel, largest emitter of waste and carbon dioxide and notorious neighbour has to be transformed to become a good neighbour and a trustee of nature and the built environment. The development process has to increase social equity and quality of life. The economic performance of the sector, at the same time, must increase to contribute to productivity and deal with the reduced supply of people in the West to work in the industry.

People are no longer joining the industry in sufficient numbers. Neither graduates nor potential trades' people are enthused by the construction business. Fairclough quotes SPRU (The Science and Technology Policy Research Unit, University of Sussex, Falmer) that the last civil engineering undergraduate would start his/her course in 2009 if present trends continue. The average tower crane driver is reported to be 56. Construction rapidly has to become collaborative, creative and caring, changing its antisocial lifestyle and workstyle to compete with more civilized sectors. It has to offer better pay and security too.

Businesses in UK construction are generally low-profit by the standards of other industries. They are exposed to a magnified business cycle and to relatively high financial risk. The equity market does not like investment in construction sector firms as they cannot promise consistent growth in profits. In addition, long-term stagnation of construction demand presents the industry with a declining share of gross domestic product (GDP) in mature economies. Yet, it is still a huge sector; business needs a new strategic model.

This litany of underachievement in stakeholder terms has to be reversed into success by an interlocking set of changes in the five Excellence Model enablers: Leadership, Strategy, Resources, and People policies and Process. R&D will help with understanding and capability development, but most of the changes will come from leadership vision as well as resources and process integration. Good 'people policies' will drive thinking on how things are to be done. The key to the set, in our view, is to create and capture far more customer value, thus providing the resources for all other improvements.

A value-centred industry, which works for all its stakeholders, will transcend the limits of construction as currently defined. The combined nexus of property, construction and facility management industries is what provides commercial and social value over the whole life cycle. The boundaries have indeed begun to crumble between property, construction and facilities sectors over the last decade. Property businesses like Slough Estates and Stanhope (both founders of the RCF) and Canary Wharf are expert providers of design and construction. Contractors like Jarvis and Amey and consultants like Atkins have moved into facility management of infrastructure and buildings. Bovis Lend Lease combines finance, construction and operational services as a 'Real Estate Solution Provider'. The UK Private Finance Initiative has energized this confluence of sectors toward Integrated Solutions (IS).

The concept of IS is currently under study by SPRU and the Centre for Research in Innovation Management (CENTRIM) (Davies *et al.*, 2002). IS is defined as the provision of goods and services in combination to meet a performance requirement. Across many industries (other than construction), this trend is accelerating, making nonsense of

industrial classifications. SPRU/CENTRIM describe the stages of IS development:

- 'System integration' comes first, designing the solution to be offered and bringing together all inputs to it.
- Lifetime operational services follow, allowing the customer the use of the solution without involvement or risk and providing the supplier team with valuable knowledge of what works and does not work.
- Third, solution providers are expected to finance the provision, enabling the customer to buy it in the way they choose to do so.
- Finally, customers need high-powered business consultancy to define their need in terms of a provision to be supplied. They have used independent consultants for this, but fully integrated solution providers have this expertise to offer as well as to refine their ability to compete and succeed.

IS thrive in an environment where the field is complex and where buyers from the public and private sector are minded to outsource non-core activity. They work to enhance customer performance whilst greatly increasing the scale of business available compared with the mere provision of the hardware element for sale.

The vision of the RCF is of a Built Environment Solutions industry. It enfolds the property, construction and facilities sectors and is inherently long-termist. Thus, it has the context to be responsive to society and people agendas. RCF plans to link with the SPRU/CENTRIM work to develop a scenario for the evolution of construction into IS and thus identify the work that will be needed to facilitate this. We want to use 'vision' as self-fulfilling prophesy, to pull desirable changes through the industry.

Research agenda

Historically, the research agenda of the industry has attempted to mirror the supplier mindset, concentrating on technical performance rather than on functionality or impact (to use the modern terms for firmness, commodity and delight) (*Design Quality Indicators*, 2002). Research into identifying

other stakeholder goals and how these can be satisfied would enlarge the agenda substantially. Customer benefit through functionality and positive sensory impact is an elusive subject but a vital one. Anecdotal evidence is plentiful but rigour and replicability are not yet common in published work. Benefits will be very different for different building and customer types and research will need to be specialized to types. A promising example is the recent work by Professor Brian Lawson at the University of Sheffield linking hospital patient outcome records to matched pairs of old and new or refurbished facilities (Lawson, 2002). This work also revealed a significant gap between the values of the occupants (e.g. patients and care staff) and those of the estates teams running the buildings. This mismatch of focus suggests re-education of the construction/facilities culture is required to deliver enhanced value in user terms.

Research into society's goals for construction has increased rapidly as the sustainability concept has been clarified. In particular, environmental sustainability and quality of life provide many potential subjects. Research produces or disseminates influential ideas to designers. Matching environmental issues to economic sustainability requires much more work on whole-life costs, from embodied energy to maintenance and management regimes. Even more complex are the questions of equity in society, involving a range of disciplines and scales including town-planning issues governing accessibility to development locations. The symbiosis between transport and development patterns has never been starker. The automobile culture enabled the constraints of rail- and transit-served development patterns to be ignored. Whilst car technology may eventually transcend the problems of carbon emissions pollution, it will not be useful to a growing minority of citizens owing to age, health, cost or road congestion. Exploring the potential for imposing transit-related patterns on future growth and present urban fabric is an important research, practice and policy area.

Construction as a good neighbour is a subject with high research potential at many levels. The 'Considerate Constructor' scheme and the drive for safety have reduced nuisance but not quelled one of the strongest reasons for NIMBYism (the 'Not In My Back Yard' syndrome of opposing development

schemes). Techniques for quicker, quieter, cleaner construction and repair are important to develop. Off-site fabrication is one of the best methods to achieve good neighbourliness and it is a factor in defect elimination, standardization and respect for people. Popular disdain for 'prefabs' is misguided and inappropriate in a culture where hardly any other goods are not prefabricated. What society does not want from its built environment is repetitive, context-ignoring tackiness. However buildings are produced, cultural expectations (Impact Values) will control the acceptability of buildings. Therefore, an improved understanding of cultural and social expectations is vital if the built environment is to have enhanced 'fit' and value.

There has been little research into the growing problem of capturing people's imagination to recruit them into construction. The talent mix from high intellectual ability through practicality to rugged outdoor labouring is unique to construction and creates a confusing image. A major 'redesign' of the tasks and culture of the industry is necessary if it is to regain attractiveness to people as a career. Research can define and disseminate successful models. Standardization and prefabrication, coupled with computer-assisted design and communication and robotic manufacture, will increase the productivity of both designers and makers. Huge R&D efforts are however needed to achieve these. For example, the drive towards computer-aided design (CAD) object modelling is progressing very slowly but has huge potential for productivity. Barriers to its success have to be overcome.

Business stakeholders can be helped considerably by research into process and new models or strategies for construction business. There has been much enthusiasm for process research recently in the research community, however insufficient resources were diverted by government from the established areas of materials R&D. Process development is hugely important for all other stakeholders' benefit as well as for business success.

Companies have explored alternative business models, but apparently little aided by the construction research community. Management or business consultancy is the required skill set. The work by SPRU and

CENTRIM on IS (see above) has not been centred on construction but will now seek to extend itself that way. Work is needed to analyse the whole nexus of property, construction and facilities as a super-sector in the economy and how it creates and exchanges value. Value capture by suppliers in ways that serve the customers' interest requires research. Contract, insurance and payment methods all across industry cause loss of value to customers by contrary motivation of supply behaviour. How can experience from other industries and other countries be translated into property/construction/facilities terms?

The IS model for the future of the property/construction/facilities sector implies a whole life-cycle involvement with properties. The cycle from business case to brief-making finance, procurement, design, construction, operation, use and evaluation back to modification, disposal or deconstruction is presently played as a relay race. The parties involved at each stage have their own knowledge base but do not share it with the next stage parties. The knowledge of the whole and how it works would be invaluable to those making decisions on required functionality, performance and impact as well as on the specification and build method to achieve them. A knowledge model of a building or estate, assisting every stage and even enabling buildings to run themselves, is far from inconceivable. How are such things to come into existence?

The new research agenda can be characterized as marketing based. Construction has historically studied 'how' questions but not 'why' questions. The Industry formerly known as Construction will be driven by increased knowledge of what it must do to create stakeholder value. Research can make the business case for the new industry.

Assessing Fairclough

The Fairclough Review is a valuable contribution to Re-thinking Construction. It adds intellectual weight to the Egan analysis by raising the debate beyond execution of process towards vision of purpose. The RCF contributed thinking to the Review and only insofar as it did not emerge entirely in the published report are we dissatisfied (Reading Construction Forum submission to the Fairclough Review).

One area of concern is the make-up of bodies needed to provide strategic vision and steer construction research. The RCF and other non-institutional bodies for change exist because of dissatisfaction with the existing institutional approach. Fairclough's idea for a Strategic Forum builds upon the umbrella bodies of institutions representing each major constituency in the chain: clients, consultants, main contractors, specialists and product suppliers. Professional institutions are a 19th-century concept based on a model of shared special interests and used to lobby for the interests of each group. The position of each institution is inherently conservative, as the majority of its members have adapted to the status quo and fear change. The silos of separate interests remain isolated.

In the working world, companies develop their businesses in daily exchange with other firms in the cross-sector network. They innovate and collaborate as they see fit to be effective in their business interest. The more proactive firms tend to be disdainful of institutions as they do not share their conservative approach. Cross-industry groups are formed for projects, for alliances and offline to push for progress. The construction industry and its research strategy steering mechanism needs to engage with these innovators in their firms. An 'engine room' of practitioners convened to generate analysis of issues, enable informal debate and prioritize actions would energize the Strategic Forum and provide an enhanced industry perspective to CRISP (Construction Research and Innovation Strategy Panel).

The concept of representation, for which the institutions and umbrellas exist, does not fully serve the needs of industry change. It is too far from the practitioners, too divisive

and too conservative. Leadership of change is rarely representative in its origin. The industry is changing, but change is typically initiated by leading firms that demonstrate a way forward rather than by its institutions. Institutions digest change rather than drive it. The leaders at any time select themselves and represent only themselves.

The RCF group of R&D directors see themselves as 'engine room' material. They also want the successor to CRISP to identify common themes across the industry, to ensure their promotion for funding and to facilitate the adoption of outputs by industry. There should not be concern about assisting construction companies to use R&D outputs as being too 'near-market'. When the industry is so far from self-starting in this field, a period of market intervention is justified. A new industry-based research advisory panel should be a shop window for R&D outputs and provide an accessible knowledge map of current and recent R&D and feedback from putting it to use.

Integration is a theme in the Review that we strongly support. People are far more capable of crossing from their base-discipline into other disciplines or into integrating roles than is anticipated by an institutionalized industry. The construction industry not only needs more mobility and holistic thinking across construction disciplines, but also needs to embrace property and facilities disciplines. Education in the total nexus should form part of entry through any of the institutional doors. Mature, non-cognate entry to the industry should be enabled. We can learn much from other industries. Ironically, we isolate ourselves by the separation of most construction professions from the first moment of professional education and training. The research community

could support better integration by engaging in more cross-discipline and cross-industry research, revealing the joined-up nature of the issues and the skill-sets needed.

Fairclough portrays an industry (8 years after Latham, 4 years after Egan) that is still without clear direction and ageing faster than the population at large. Rebirth can be greatly assisted by his recommendations, but it should be rebirth as something rather different, the Industry formerly known as Construction.

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