



Povey Lecture

My contention today is that the construction industry can find a successful future by recognising and developing its role to bring value to customers and society. The industry has been historically short-sighted and introverted, behaving pragmatically project by project and without any shared vision of why it existed. “The work is there to do; we do it” seems to be its stance.

The late Sir John Fairclough was asked to review the industry’s approach to Research and Innovation in 2001. Coming from outside the construction culture he was surprised at the lack of vision and values he found and therefore the lack of rationale for research. In his report he said 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”.

I suggest that the industry needs a mission statement to organise its thinking and that this could be: “to add value for customers and society by shaping and delivering the built environment to meet their needs.”

The recent succession of studies into the industry: Latham, Egan and Fairclough, have caused a great deal of change in customer and supply side behaviour. From the Latham review sprang two linked private sector initiatives, the Reading Construction Forum (RCF) in 1995 and the Design Build Foundation (DBF) in 1996. These were overlapping groups of activists from across what we now call the supply chain: clients, consultants, contractors, specialists and academics. The RCF concentrated on researching new thinking and helped to inform the Egan report and to form M4I. The DBF concentrated on rethinking the integrated team and how it should work, teaching its members to “Build down Barriers”, to use the title of a pioneering action research project led by Defence Estates and then given to DBF to continue.



The RCF and DBF merged to form Be, Collaborating for the Built Environment, in 2002 after a definitive conference in Rugby which looked at scenarios for the 5-10 year future. High calibre speakers helped us to set a context which can be summarised as:

- Strong demand, led by the public sector, with private sector recovery later
- Customers seeking broader and deeper service
- Construction businesses seeking higher performance
- Society seeking sustainability and better quality of life
- A marked lack of talent entering the industry

This is a classic pattern of apparently divergent stakeholder goals. It seems useful to study the issues by reference to the Excellence Model, a long established way for organisations to align their actions in pursuit of their goals. The model is based on business results flowing from customer, society and people results. Results flow from Enablers: the business process of the organisation which is informed by market strategy, use of resources and partnerships and policy towards its people. The whole model starts with leadership, providing vision and values and learning from results.

If the whole industry were an organisation using the Excellence Model, what would its desired results look like?

- Customers getting support for their value propositions
- Society getting sustainable quality of life
- People being attracted into the industry
- Business growing and profitable

You will note that these statements are virtually the reverse of the present situation. Is it not just wishful thinking to expect such profound redirection? Suspend judgement whilst we look at the potential Enablers of those results:

- Leadership: transforming vision and values
- Strategy: focussing on customers and society value
- Resources: collaborative networks backed by Information and Communication Technologies (ICT)
- People: delivering on safety, respect and Investors in People
- Process: lean, integrated, whole life-cycle



These enabler statements echo calls in Latham, Egan and Fairclough and all need investment which the industry finds hard to make. I suggest that the key enabler, to unlock greater profitability and thus investment is a strategy to deliver more value to customers and society.

Value is a much abused word, often loosely used today to mean cheap, or as a synonym for cost or price. Value is a much too valuable concept to be lost. It has to mean the product of Benefit over Cost; the higher the product, the greater the value. The Victorians waxed lyrical about those who know the price of everything and the value of nothing, but the key point is that understanding value means understanding the benefits required or offered as well as the costs involved.

For buildings, benefits can be defined in how the building will service its function, how it will perform technically and how it will positively impact on users, the public and the environment. It will also perform as a financial asset.

Costs should not be seen solely as capital ones. Whole life costs, plus the negative impact on the environment, society, the risk of failure and the opportunity costs of alternatives foregone must also figure.

The Design Quality Indicator devised by the Construction Industry Council for the Strategic Forum is an excellent way to define benefits sought at the briefing stage and to judge success at design stage and on completion. It is of course not possible to convert all benefit areas into money terms; a judgement factors always remains.

If the industry is to live by value provision, how does it sit in the stream of value which flows through the built environment? We start with our customer's customer. They spend money with our customer or use the public service provided, based on the success of our customer's offer or value proposition. To satisfy their customers, our customer has to use supplies, one of which is the facility in which the customer value is created. That facility has to be operated and maintained to support the customer's business, either by the customer or through an outsourced supplier.

The facility exists because it was constructed and it was constructed to a design. Each step added value and set the parameters for the facility manager. But the building also had to be sited and financed. The development process saw to that. At the head of the value stream came the advisors who made a business case for the building, whether it was for owner occupation, commercial development or for a tenancy.



You will notice that the normally defined construction industry sits in the middle of the value stream, neither next to the delivery of support to the customer value proposition nor at the initial making of business cases. Contractors often complain about suppliers who only think about the needs of their immediate customer up the supply chain, and in ignorance of the end customer's needs. That is the typical position of the whole industry, too remote from customer value.

In 1998 the Royal Academy of Engineering produced a study of the Long Term Costs of Owning and Using Buildings . This has become much quoted as the 1:5:200 rule. The authors, one of whom is on the Board of Be, point out that for a generic office building the initial construction cost of 1 should be seen in proportion to 20 year operating costs of 5 and 20 year business staffing costs of 200. Even discounted to net present value, the ratios show that value cannot be defined solely in first costs terms. Value from the customer's view starts with the effectiveness of the facility as a benefit provider, coupled with the costs as they experience them of operating in the building.

I would add two further numbers to 1:5:200. The customer's value creation in their business, likely to be well above 200, should be set against the effort of planning, designing and managing the building project, a cost of 0.1. The customer's business could generate 250 or even 2500 units of value in 20 years, partly enabled by the skill put in to the formative stages, a leverage of 1:2500 to 1:25000. A design supporting the customer's value proposition and minimises operating costs is the best value.

Now we see the whole value stream what is it all worth? The UK Economy in 2002 was worth £1043bn. Construction measuring the spend on materials, labour and management was £80bn. But the full value stream includes business advisers (£5bn?), the property industry (£60bn?), design and cost control (£12bn) and facilities management (£60bn?), totalling over £200bn. The question marks indicate a lack of clarity in the scale of these elements and of overlap in their definitions. Be is starting a study of the whole model. It is clear however that the provision of the benefits of the built environment is worth about 20% of GDP. Furthermore, the built environment uses 60% of the energy sector's output, 20% of transport, and high proportions of water, waste treatment and information technology sectors. We could be talking of a quarter of the economy here, providing the infrastructure for the rest and determining its effectiveness and quality to a good degree.



Looking at our National Capital Assets as the office of National Statistics has just done, shows an even greater dominance of the built environment in our well-being. With total assets of £5,000bn, the UK has 77% in built environment. Half of all capital fixed each year goes into building and is then written down far more slowly than plant, machinery or stocks of goods.

The built environment is like the elephant in the proverbial story, explored by blind men. One feels the trunk, another a leg, a third the tail. They cannot imagine that this is one beast or what it must be like. Similarly our government divides its ministries like the blind man, none seeing the elephant. Yet seeing the elephant releases new thinking about what will produce customer and society value and meet the other desired results.

Several members of Be have spread themselves along the value stream, integrating services to add value. They are seeing more of the elephant than most. The Private Finance Initiative has had the largest impact of anything so far in linking the built product with the service of facility management and the finance of the whole. The PFI was inspired by moves in other industries to meet customer need for “integrated solutions”.

Integrated solutions, where providers advise, finance, design, build and operate, have emerged in aerospace and rail transport, and in defence, to make sense of complex, occasional purchases. The Science Policy Research Unit and University of Sussex have just finished a study of Integrated Solutions from which these diagrams are drawn. The fact that solution providers learn from operating what they build is a singular one for construction. The next great leap in building performance will come from design based on better understanding of how buildings serve customer and society value propositions and how much they cost to operate in every sense.

We need a mental model of the whole cycle of facilities, from ‘cradle to cradle’ as the sustainability view has it: all the players sharing knowledge so that there is a virtuous circle of rising performance, falling cost and eventual full sustainability in the built environment. The disconnections and ignorance of today would thus be overcome.

Be is certain that the future of the industry formerly known as construction lies in Built Environment Solution Provision, by alliances of firms or by vertical integration. We think this model, whilst challenging, will allow the five enablers of the Excellence Model to be aligned and will allow success in all results. Not least the BE SP model promises to be attractive to investors and to young people entering careers. The



business case is compelling: from the vulnerably cyclical construction model to one of more stable income streams and higher returns in a sector over twice as large as it was. Excellent facilities and assets will drive economic growth which in turn will demand more from the built environment, in quantity and quality.

Be is exploring the landscape of Built Environment Solution Provision with researchers whilst at the same time progressing its interest in collaborative working in today's team. The two are complementary as collaboration will be the basic skill in integrated solution provision.

Returning to the fundamental shift required, to perceiving value rather than only cost, I suggest the Michelangelo analogy. The late works known as the slave sculptures show roughly defined figures embedded in their original stone blocks. Michelangelo is reported to have said that his method was simply to see the figure within the stone and release it. What we have to do, by hard work rather than genius, is to see the value creation in what we do, cutting away the waste accurately to bring customers and society a truly valued built environment.

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