PII-Open 2002

Better designed buildings: improving the valuation of intangibles

Lead partner: Eclipse Research Consultants

DTI file reference STBF/04/22C

Deliverable 5: Milestone 5: Workstep 5

Write up of third workshop, held at RICS

Executive Summary

Background

This report summarises the outcome of the third project Workshop. It was held at the RICS in the afternoon of 13 July 2004. It was attended by 15 delegates, representing broadly the surveying and valuation community. The aim of the workshop was to obtain from delegates their views about the need for new methods for capturing and valuing intangible benefits in buildings. Prior to the workshop a briefing paper – based on the literature search about intangibles (Deliverable 2) was circulated to all the delegates. A Delegates' Workbook was devised, which asked series of questions rather like an extended questionnaire, and this was handed to delegates at the start of the workshop. The workshop was run in four sessions:

1) General introduction to intangibles, and the contribution of buildings to business performance.
2) Whether well designed buildings command a premium.
3) The need for new methods to put a value on better designed buildings.
4) Promoting the new methods – what actions are needed, by whom, and what are the barriers.

Each session began with a 5-10-minute introduction, based partly on the findings of the literature search, and this was followed by a found-table discussion/brainstorming session lasting about 20-30 minutes. The discussions were recorded. After each discussion, delegates were asked to write their own opinions in their workbooks – typically they were allowed 5-10 minutes for this. This write-up of the workshop is based primarily on the delegate's replies as recorded in their workbooks, together with an account of the issues that the delegates discussed around the table.

Findings arising from delegates' workbook entries

Delegates placed seven pre-specified business outcomes in the following order: Functional quality; Cost efficiency; Employee satisfaction; Flexibility in use; Corporate identity; Disposability; Book value. Asked to identify other business outcomes, they offered the following list: safety in use for staff and public (cited by 7); productivity of the support environment (cited by 2); manageability; risk; image value; competitive advantage; reputation; business continuity; customer/client satisfaction; ease of maintenance; environmental performance; profit margin; impact on those beyond the immediate users – the community; profitable use; adaptability to future uses; corporate responsibility. Location and transport were also mentioned.

When asked whether organisations and their professional advisors quantify, measure or value the business outcomes arising from their built facilities, about two thirds of the delegates said they didn't, although a few qualified this by saying 'not often' or 'not generally'. The reasons given were that buildings are often below the business radar and not considered a significant factor in business or profit generation, except when they become barriers to the business's function; there is weak awareness and absence of case studies demonstrating costs and benefits; there is not established techniques or methodology - it's too complex; public sector investment is budget-limited rather than concerned with value for money. Five delegates reported business did quantify business outcomes and used methods such as: occupant surveys and focus groups; measures of absenteeism; staff performance; staff productivity; staff retention and turnover; recruitment; retail sales in £/sq ft; pupil performance; performance of the business; rules of thumb; heuristics embodying prejudices and assumptions based on the 'lessons of the past'.

Is the connection between built facilities and business outcomes well understood by organisations? Most of the delegates said it was not, and gave a variety of reasons including: buildings are generally regarded as a nuisance or as containers of business activity rather than an integral part of delivery; feedback from buildings is not undertaken routinely and there are few procedures, metrics and benchmarks, commission client and user client are often different people even if from the same organisation; there is no incentive and most organisations have limited data on occupancy; because building procurement is not undertaken often enough to learn from experience; because of the short time frame for decision taking; and because professional advisers don't spend enough time understanding the clients' business. And finally, because we lack whole life/long term cost/valuation methodologies.

Is the potential contribution of good design on outcomes reflected in the time and funding available for briefing, design and construction? About two thirds of the delegates said 'no' and gave as the over-riding reasons cost and commercial time pressures, combined with ignorance of the potential benefits and complexity of relationships between the parties. In more detail the reasons given included: because people are in a hurry and don't realise the value than can be added (or subtracted); because briefing and concept design are too compressed in time to allow design to be research-based; because; because decisions are dominated by short-term low-cost considerations and an emphasis on immediate value for money (including public sector procurement methods that focus on evaluation of affordability in year 1 terms, not over useful life); because of the complex relationship between designer/architect, client, contractor, end user, and financier. Finally, when building for profit to an institutional standard, time and money will not go beyond achieving market rent, which will be based on what the general market would want and be prepared to pay. Delegates did draw attention to some examples where adequate time and funding had been allowed, particularly where occupiers with a (theoretically) 'unrestricted' budget were the decision takers; where the 'briefing' phase may have a clear focus on expected business objectives (such as the development of a certain number of new drugs in a given period of time).

Are well-designed buildings adequately valued by organisations? Two thirds of the delegates said they were not, and explained that worth to the business is not the accepted currency of valuation and the necessary metrics are not available. Even if occupants value their buildings, the building owner and/or commissioning client have different parameters for judging value, such as the cash flows generated in NPV terms against payment risk. As two delegates between them reported, the most successful buildings probably have a number of core features in common, but there is a difficulty in defining cause and effect. Also, often you find that a poorly designed building will not perform any worse than a well designed one, e.g. a state school that is modern might get worse exam results than a private school where the buildings are poorer.

Is investment in design and construction held back by lack of methods to capture intangible benefits? Delegates were evenly divided on this question. Those who agreed investment was held back gave as their reasons: lack of trust in designers and design; lack of engagement by the industry and its clients with outcomes resulting in a lack of credible value propositions; lack of appropriate methods equating to lack of evidence that intangibles have value in a situation where investment decisions require a number of people to be persuaded. Additionally, from an investment perspective, each organisation reacts differently to intangibles and therefor valuing is very difficult; and it is difficult to identify which intangibles contribute to value overall. Also, there is a shortage of information for evidence-based assessment of value, for example, the use of atria as a 'meeting space' for chance interaction – some atria are good but others fail to promote interdisciplinary exchange.

Delegates who doubted that investment was held back by lack of methods to capture intangible benefits, said that valuers can value 'intangibles' but decision makers don't generally want to increase short-term cost for long term gain; also valuers need 'evidence' on which to base their assumptions. One delegate asked: 'are we even valuing tangibles properly, never mind intangibles?' And one asked 'if intangibles could be priced/valued using a standard system, is it the property which benefits or the occupier? It must be the occupier'.

In order to improve valuation methods in practice, delegates suggested the following actions were needed:

- **By building owners:** greater recognition of use value, improved awareness of the stakeholder group and closer relationship with the users and their needs; more clarity in what was wanted and what attributes they valued, and the setting of higher standards and expectations including a longer term perspective.
- **By building managers:** more communication with occupiers and greater appreciation of the working environment and its fit with key business outcomes including better data on building in use and organisational outcomes; involvement in the design process sooner in order to inform and influence it.
- **By building designers:** better awareness of value drivers; more engagement with the outcomes; and analysis of potential value-adding attributes and systematic correlation of these with various types of outcome.
- **By surveyors and valuers:** improve understanding of the nature of intangibles; develop insights and methods to value the benefit of the buildng to the occupant operation in terms of an economic model of outputs of production; improve role as an information conduit between investors and occupiers; develop probability-based methods of valuation in addition to single point method of valuation.
- **By others: Government** should show a willingness to pay on a 'value for money' basis, recognise the potential benefits of improved outcomes, accept the risk for its delivery and work out how to share this with the private sector.

Delegates suggested a wide variety of means to introduce new methods into mainstream practice. Some emphasised the importance of gathering the evidence and demonstrating the benefits. Research and demonstration projects were proposed including having the OGC sponsor 'trials' to capture evidence. There would be a need to influence the RICS Valuation Faculty Board, followed by introduction of new methods into education and CPD. Convincing the accountancy profession would be essential to generate confidence in the process.

Delegates suggested there were a number of barriers to take-up of new valuation methods. The main ones related to lack of time, money, and motivation, together with lack of incentive given there is a well-established standard approach. Lack of evidence, lack of collective definitions for intangibles, and lack of confidence were also cited, as was the complexity associated with different organisations, departments and budgets (i.e. design vs. construction capital vs. maintenance; investor vs. user). Other barriers included the 'natural conservativism' of the valuation and property investment profession; the mind-set associated with lowest possible initial cost, and the risk-averse attitude of government and initial providers.

Delegates suggested various ways to overcome the barriers. One pointed out that it was very difficult to consider something as varied as property without dividing it up in terms of sector, type etc, since the drivers between commercial property value, for example, will be very different from those behind public sector procurement – intangibles will be different and so will the end users. The need for collecting evidence was stressed, including particularly a steady flow of useful information and better understanding of value. Capturing those intangibles that are 'tangible' was recommend initially. There will be a need to appeal to international accountancy standard-setters, for education and the development of industry competence through education and CPD.

Measurable factors indicating that means to capture intangible values were being successfully developed were suggested as being: raised awareness; availability of useful metrics; better defined value of buildings/built environment; the general acceptance of new tools and their implementation and uptake in practice; and bids assessed on the basis of business operating costs/benefits not just initial capital expenditure. Improvement in outcomes –such as more buildings enhancing perceived productivity – were also cited. Non-measurable success factors proposed included: greater debate; cultural impact on the built environment; and some non-commercial projects getting off the ground.

A summary of the points raised in the discussions

Wide-ranging discussions took place at the workshop and the following is an attempt to summarise some key points. Section 3 gives a longer account taken from the transcript of the recordings.

In the offices sector there is a separation between investors and occupiers. Investors want buildings that appeal to wide markets, and there is little incentive for the investor to meet the intangible wants of a single occupying organisation. So the model of ownership can work against the delivery of intangible benefits.

Intangibles mean many things to many different people. Can you capture value for different people in different ways and transfer them from one party to another. Which intangibles can be captured? Should we begin by choosing one or two intangibles and track to whom they are of value in the building process? Or identify those intangibles more likely to be captured and those less likely.

Measurement is important, such as measuring the difference in outcomes. A culture of feedback through measurement leads to a virtuous circle, or at least stops things going horribly wrong. What adds value is more than just initial design, it is a process with feedback loops and modification. But the contribution of a building is limited – a bad building doesn't cause a firm to go into liquidation.

There are a lot of things that are tangible that we haven't captured which would be useful. Duffy's Orbit study separated: image value; exchange value; use value; and there may be others like environmental and sustainable value, and social value.

What might be positive for one organisation might be negative for another because different value system. Needs sorting out under a number of different headings. In modern health centres or schools it's become a given to arrive in a two storey atrium. We can measure the cost very easily. What are the benefits and why do they want it? Partly image value, but it leaks into use value as well. There are benefits about transparency of the school and supervision, you can see where people are moving to.

Rather than a single point value, we need to consider the range and the errors in predicting value – perhaps in the form of a probability curve.

The problem often lies at the front end of procurement when people are deciding how much they want to spend on a project. Typically, the person taking the decision – e.g. the finance director – is in post for only 1,2, 3 years and doesn't want to spend more money in the short term to produce greater long term returns. Is the problem lack of investment, or getting the right brief, the right designers and good processes. We need to follow a robust platform route – putting up adaptable buildings that are robust in the face of technological changes.

LIFT and PFI have diametrically opposed motivations – at the end of the LIFT period, the building reverts to the private sector so the developer has to find an alternative use. But with PFI at the end of the period, it reverts to the state. In PFI – the decision is taken on what it's going to cost in year 1, so everything is predicated on how much they can afford in year 1 of a 30 year commitment (short term affordability). Someone else can worry about it downstream. So our behaviour is perverted. We have the NPV calculation of payment stream over 30 years which should reign, but it doesn't. Procurement drives the wrong behaviour. And the valuation techniques used in procurement are not being evaluated and valued to get the right behaviour. There needs to be a different valuation technique that says 'we will procure differently and take in the WLC in use of this building very seriously'.

What kinds of evidence are needed to say 'this building will start paying for itself in years 2, 3, 4 and 5. It may be in the so called smaller things, FM, maybe more energy efficiency. But in the more operational aspects of the building, we need the evidence to be able to assert that this building will actually reduce recovery times - shorter stays in hospital, and better throughput. At present the evidence base for hospital design - even from around the world - is relatively low.

It is in urban regeneration where the returns are potentially large. There are externalities which can be levered to generate increased returns to scale. By spending more you start raising values, encouraging inward investment which then makes your initial investment more valuable, leading to a virtuous circle going. That's the hardest kind of intangible, where the payoff you're going to get from your investment depends on knowing how other neighbouring property owners are going to react and respond. It's not predictable.

The Treasury Green Book is trying to grasp these issues of how you value regeneration and social impact and economic benefit to society. It's the Treasury line we should be trying to develop, and help them by providing the evidence that will overcome the spending departments and affordability criteria. We need to get to some of the technical advisors at the Treasury and see what they're doing. They're desperate for tools and will seize anything that comes out of this project.

Taking image, exchange and use - different owners value those differently. We need a sort of matrix that we can put those values in , and then say that the valuation will depend according to the type of user and where we are on the probability curve. Could we get some framework around it? This is a complex issue, at least we can start to address it. In terms of what drives hospitals valuation, it's the NPV of cash flow over 30 years – the NHS are saying 'what's it going to cost us next year?' What would the matrix look like?

We've established that it's difficult to categorise anything as either tangible or intangible. There's a spectrum from something that is absolutely tangible (floor area, net/gross) to at the far reaches are the truly elusive qualities such as what do you feel like and how do you capture that. In between that if we could lay that out and take some concrete examples along the route and then apply the brand/image/use value – can we construct a matrix through those kinds of methods. As for time, each intangible will be written off at different time scales.

There is a useful distinction between rental and yield – does better design by and large, in offices, have more impact on the rent or on the yield? In our office, the people who get excited about architecture and design are our letting agents (through better rents and fuller occupancy?). They're the people who can go round an office with potential occupier, explaining the building.

Smith Kline Beecham, for their building on the M4, did loads and loads of calculations in terms of all the intangibles we've considered today - productivity satisfaction, efficiency, flexibility. We should find our what methods they are using.

1 Workshop overview

This report summarises the outcome of the third project Workshop. It was held at the RICS in the afternoon of 13 July 2004. It was attended by 15 delegates, representing broadly the surveying and valuation community. The aim of the workshop was to obtain from delegates their views about the need for new methods for valuing intangible benefits in buildings. Prior to the workshop a briefing paper – based on the literature search about intangibles (Deliverable 2) was circulated to all the delegates. A Delegates' Workbook was devised, which asked series of questions rather like an extended questionnaire, and this was handed to delegates at the start of the workshop. The workshop was run in four sessions:

1. General introduction to intangibles, and the contribution of buildings to business performance.
2. Whether well designed buildings command a premium.
3. The need for new methods to put a value on better designed buildings.
4. Promoting the new methods – what actions are needed, by whom, and what are the barriers.

Each session began with a 10-minute introduction, based partly on the findings of the literature search, and this was followed by a found-table discussion/brainstorming session lasting about 20-30 minutes. After each discussion, delegates were asked to record their own opinions in their workbooks – typically they were allowed 5 minutes for this. This write-up is based on the delegate's replies as recorded in their workbooks.

2 Delegates' responses in their workbook entries

2.1 Buildings and business outcomes

Delegates were asked whether they agreed that buildings contribute to business outcomes for stakeholders. All but one of the delegates agreed with this statement, although several of those who agreed qualified their agreement by noting that it depended on the business, the stakeholders and the organisation. One noted that buildings could equally diminish outcomes.

A list of seven business outcomes had been pre-prepared and delegates were asked to rank them. There was broad agreement among the delegates about the rank order which was as follows:

Outcome	**Rank**
Functional quality	1
Cost efficiency	2
Employee satisfaction	3=
Flexibility in use	3=
Corporate identity	5
Disposability	6
Book value	7

Delegates were asked to identify other important business outcomes not listed and the following were proposed:

- safety in use for staff and public (cited by 7)
- productivity of the support environment (cited by 2)
- manageability
- risk
- image value
- competitive advantage

- reputation
- business continuity
- customer/client satisfaction
- ease of maintenance
- environmental performance
- profit margin
- impact on those beyond the immediate users – the community
- profitable use
- adaptability to future uses
- corporate responsibility
- location
- transport.

Analysis

Delegates placed seven pre-specified business outcomes in the following order: Functional quality; Cost efficiency; Employee satisfaction; Flexibility in use; Corporate identity; Disposability; Book value. Asked to identify other business outcomes, they offered the following list: safety in use for staff and public (cited by 7); manageability; risk; image value; competitive advantage; reputation; business continuity; productivity of the support environment (cited by 2); customer/client satisfaction; ease of maintenance; environmental performance; profit margin; impact on those beyond the immediate users – the community; profitable use; adaptability to future uses; corporate responsibility. Location and transport were also mentioned.

2.2 Quantifying and valuing business outcomes arising from built facilities

Delegates were asked the question whether organisations and their professional advisors quantify, measure or value the business outcomes arising from their built facilities. Replies varied. 9 delegates said no, although several qualified this response by adding 'not often' or 'not generally', while some noted that things were changing; one noted the introduction of key performance indicators.

Five delegates said yes, and the methods they listed as being in use were:

- occupant surveys of buildings in use and for proposed move
- post-occupancy evaluation studies using focus groups or questionnaires
- measures of absenteeism
- staff performance
- staff productivity
- staff retention and turnover
- recruitment
- retail sales in £/sq ft.
- pupil performance
- performance of the business
- rules of thumb
- heuristics embodying prejudices and assumptions based on the 'lessons of the past'.

The KPI's listed by one delegate were:

- affordability ratios
- occupancy cost ratios
- property/turnover ratios

'in terms of cost per head, etc'

The reasons given for lack of quantification (by those who answered 'no' to this question) were:

- buildings are often below the business radar and are not considered a significant factor in business or profit generation, except when they become barriers to the business's function.

- there is weak awareness or understanding including an absence of case studies demonstrating costs and benefits
- there is not established techniques or methodology - it's too complex
- public sector investment is budget-limited rather than concerned with value for money.

Analysis
When asked whether organisations and their professional advisors quantify, measure or value the business outcomes arising from their built facilities, about two thirds of the delegates said they didn't, although a few qualified this by saying 'not often' or 'not generally'. The reasons given were that buildings are often below the business radar and not considered a significant factor in business or profit generation, except when they become barriers to the business's function; there is weak awareness and absence of case studies demonstrating costs and benefits; there is not established techniques or methodology - it's too complex; public sector investment is budget-limited rather than concerned with value for money.

Five delegates reported business did quantify business outcomes and used methods such as: occupant surveys and focus groups; measures of absenteeism; staff performance; staff productivity; staff retention and turnover; recruitment; retail sales in £/sq ft; pupil performance; performance of the business; rules of thumb; heuristics embodying prejudices and assumptions based on the 'lessons of the past'.

2.3 Understanding the link between built facilities and business outcomes

Delegates were asked whether the connection between built facilities and business outcomes was well understood by organisations. 12 delegates replied no to this question. And they gave the following reasons:

- Because buildings are generally regarded as a nuisance;
- Because designers, builders and often their clients do not undertake routine feedback on building performance – so there are few trusted procedures, metrics and benchmarks
- Because the commissioning and the user client are often different even if they come from the same organisation.
- Because there is no link to funding.
- Because most businesses inherit their real estate from historic property decisions and are restricted by landlord/tenant relationships and property costs.
- Because there has been no incentive. Until recently, most organisations have no or very primitive data/information/MIS on their occupancy.
- Because of a lack of available research on a sector by sector basis (organisations that have the data retain it because of its commercial advantage).
- Because research into productivity of the workplace and even perception of productivity of workplace is a comparatively recent phenomenon.
- Because of the short timeframe for decisions
- Because of the short timeframe for decision makers
- Because of the top down nature of the (so-called) chain of procurement
- Because we lack whole life/long term cost/valuation methodologies.
- Because buildings have simply been seen as containers of business activity rather than as an integral part of delivery.
- Because professional advisors all too often don't spend sufficient time understanding their clients business
- Because the client doesn't always know all their business drivers.
- Because building procurement is not a process that is undertaken often enough.

2.4 The evidence demonstrating causal links between buildings and outcomes

Delegates were asked whether there was robust evidence demonstrating causal links between building attributes and successful business outcomes. 6 delegates said there was such evidence and when asked who held it offered the following organisations:

- CABE
- Audit Commission
- the Usable Buildings Trust
- Occupiers (rather than investors)
- Local Authorities
- Senior staff within organisations
- Facilities managers, designers and some of the more enlightened corporate real estate managers

The remaining delegates said there was no or only limited evidence. And they gave the reasons for lack of evidence as the following:

- Because nobody can be bothered;
- Because there are more likely to be bad reviews than good and people are fearful of the results;
- Because there is seldom enough money available to put things right.
- Because historically in the public sector there is no link between source and accounting for capital consumption – but resource accounting is changing this.
- Because there is a limited motivation to collect the evidence, and it would be difficult to analyse it conclusively. There are many different that go into property decisions.
- Lack of investment in research.
- Because people make businesses successful, not buildings.
- Needs active collaboration between major players.
- Because awareness of the possibility that there may be quantitative data is very recent.
- Because of the difficulty in measuring all possible outcomes.

Analysis
Is the connection between built facilities and business outcomes well understood by organisations? Most of the delegates said it was not, and gave a variety of reasons including: buildings are generally regarded as a nuisance or as containers of business activity rather than an integral part of delivery; feedback from buildings is not undertaken routinely and there are few procedures, metrics and benchmarks, commission client and user client are often different people even if from the same organisation; there is no incentive and most organisations have limited data on occupancy; because building procurement is not undertaken often enough; because of the short time frame for decision taking; and because professional advisers don't spend enough time understanding the clients' business. And finally, because we lack whole life/long term cost/valuation methodologies.

2.5 Opportunities to add value during briefing and design

Delegates were asked whether the potential contribution of good design to outcomes was reflected in the time and funding available for briefing, design and construction. Several replied that they did not have the experience to comment. However 9 delegates said 'no'. They reasons they gave were as follows:

- Because people are in a hurry and don't realise the value than can be added (or subtracted). Briefing and concept design are too compressed in time to allow design to be research-based or even a comparative process.
- Because public sector procurement methods focus on evaluation of affordability in year 1 terms, not over useful life.
- Because of the complex relationship between designer/architect, client, contractor, and end user, not forgetting the financier of course.

- Because decisions are dominated by short-term low-cost considerations and an emphasis on immediate value for money.
- Because of cost and commercial time pressures
- Because of the lack of obligation to do so
- Because of ignorance of potential benefits
- Because of low levels of client appreciation of benefits of design – design is identified with 'culture' and not productive industry
- Because when building for profit to an institutional standard, time and money will not go beyond achieving market rent, which will be based on what the general market would want and be prepared to pay.

Delegates drew attention to some examples where adequate time and funding were allowed:
- In a few examples, the client has allowed sufficient time to explore options. But these are rare and have sometimes even missed the opportunity window for funding the scheme.
- Generally only where occupiers with a (theoretically) 'unrestricted' budget are the decision takers
- In specific cases, the 'briefing' phase may have a clear focus on expected business objectives, such as the development of a certain number of new drugs in a given period of time
- Through developing a suite of standard processes, specifications and room designs that are proven, design costs can be reduced giving more opportunity to spend on delivery of design performance
- LIFT possibly because it involves local companies with local knowledge of the less tangible outcomes.

Analysis
Is the potential contribution of good design on outcomes reflected in the time and funding available for briefing, design and construction? About two thirds of the delegates said 'no' and gave as the over-riding reasons cost and commercial time pressures, combined with ignorance of the potential benefits and complexity of relationships between the parties. In more detail the reasons given included: because people are in a hurry and don't realise the value than can be added (or subtracted); because briefing and concept design are too compressed in time to allow design to be research-based; because; because decisions are dominated by short-term low-cost considerations and an emphasis on immediate value for money (including public sector procurement methods that focus on evaluation of affordability in year 1 terms, not over useful life); because of the complex relationship between designer/architect, client, contractor, end user, and financier. Finally, when building for profit to an institutional standard, time and money will not go beyond achieving market rent, which will be based on what the general market would want and be prepared to pay.

Delegates did draw attention to some examples where adequate time and funding had been allowed, particularly where occupiers with a (theoretically) 'unrestricted' budget were the decision takers; where the 'briefing' phase may have a clear focus on expected business objectives (such as the development of a certain number of new drugs in a given period of time).

2.6 Organisations and their buildings

Delegates were asked whether well designed buildings in their sector were adequately valued by organisations? 5 delegates said they were and gave the following reasons or examples:
- They can be in somewhere like the City where image is important – but whether they perform any better is questionable
- The perception of having a good school can be positive and encourage aspirations
- There is an increasing interest in better designed schools and hospitals
- Where organisations are very strongly people-oriented
- Images of buildings are used in promotional material, corporate marketing/recruitment marketing.
- HQ buildings – yes; public sector buildings – yes; back offices – no
- Where there is a high demand for the building/high rental value etc.

The remaining 9 delegates said either they were not adequately valued or only sometimes. They gave the following supporting explanations:

- Because the metrics are not available
- Because we value the cash flows generated in NPV terms against payment risk
- Because worth to the business is not the accepted currency of valuation
- Occupants often do value their buildings, but the building owner/commissioning client has different parameters for judging value
- Because often you may find that a poorly designed building will not perform any worse than a well designed one, e.g. a state school that is modern might get worse exam results than a private school where the buildings are poorer.
- Because of the difficulty of defining cause and effect: the most successful buildings probably have a number of core features in common – but there is a lack of research.

Analysis

Are well-designed buildings adequately valued by organisations? Two thirds of the delegates said they were not, and explained that worth to the business is not the accepted currency of valuation and the necessary metrics are not available. Even if occupants value their buildings, the building owner/commissioning client has different parameters for judging value, such as the cash flows generated in NPV terms against payment risk. As two delegates between them reported, there is a difficulty in defining cause and effect: the most successful buildings probably have a number of core features in common. But often you find that a poorly designed building will not perform any worse than a well designed one, e.g. a state school that is modern might get worse exam results than a private school where the buildings are poorer.

2.7 Is investment in design and construction held back by lack of methods to capture intangible benefits?

Delegates were asked whether investment in design and construction was held back by lack of methods to capture intangible benefits? 7 answered yes and gave the following explanations:

- Lack of trust in designers and design
- Widespread lack of insight and understanding
- Lack of engagement by the industry and its clients with outcomes – so no credible value propositions.
- Because valuers do need 'evidence' on which to base their assumptions.
- Depends on the building type. School very difficult to value. Commercial sector the value can be measured by the product value. Therefore – it's there.
- From an investment perspective, each organisation reacts differently to intangibles and therefor pricing is very difficult.
- Difficult to identify which intangibles contribute to value overall. Not enough evidence-based assessment of value, eg use of atria as a 'meeting space' for happenstance interaction – some are good but others fail to promote interdisciplinary exchange.
- Lack of appropriate methods equates to lack of evidence that intangibles have value –investment decisions require a number of people to be persuaded.

5 said 'no', 'maybe' or 'don't know. The reasons they gave were:

- valuers can value 'intangibles' but the best decision makers don't generally want to increase short-term cost for long term gain
- valuers do need 'evidence' on which to base their assumptions
- are we even valuing tangibles properly, never mind intangibles
- if intangibles could be priced/valued using a standard system, is it the property which benefits or the occupier? It must be the occupier.

Analysis
Is investment in design and construction held back by lack of methods to capture intangible benefits? Delegates were evenly divided on this question. Those who agreed investment was held back gave as their reasons: lack of trust in designers and design; lack of engagement by the industry and its clients with outcomes resulting in a lack of credible value propositions; lack of appropriate methods equating to lack of evidence that intangibles have value in a situation where investment decisions require a number of people to be persuaded. Additionally, from an investment perspective, each organisation reacts differently to intangibles and therefor valuing is very difficult; and it is difficult to identify which intangibles contribute to value overall. Also, there is a shortage of information for evidence-based assessment of value, for example, the use of atria as a 'meeting space' for chance interaction – some atria are good but others fail to promote interdisciplinary exchange.

Delegates who doubted that investment was held back by lack of methods to capture intangible benefits, said that valuers can value 'intangibles' but decision makers don't generally want to increase short-term cost for long term gain; also valuers need 'evidence' on which to base their assumptions. One delegate asked: 'are we even valuing tangibles properly, never mind intangibles?' And one asked 'if intangibles could be priced/valued using a standard system, is it the property which benefits or the occupier? It must be the occupier'.

2.8 What actions are need to devise improved valuations methods in practice:

2.8.1 By building owners

Some said it was not up to building owners to devise new methods.
Several suggested there was a need to understand better how buildings were used and what was wanted:

- Greater recognition of use value
- Improved awareness of the property's stakeholder group and their needs/requirements – and closer relationships with the user.
- Greater understanding of the needs of the occupier.
- Understand how building is to be used – [for example] in early 80's many pharma PM's guided briefing and design to minimise cost – without understanding the impact on the quality of the science. Now turned around in favour of scientists getting what they want not what they need.
- Greater cross-over between ownership/use.
- Clarify what they really want/value - beyond pure location /size of building.
- Owner-occupant – developers who sell-on and property portfolio managers need to identify where value is added.

Other suggestions are:

- Set higher standards initially and then value engineer to see what if anything can be taken out without loss of value. This will shift the onus of proof. These standards must probably come from regulatory/advisory bodies in the first instance. Research is needed to provide the knowledge-based to get these standards and norms right in the first place.
- As landlords there needs to be some incentive for them to improve things as they are driven by profit/results. eg environmental efficiency if it costs more to put in they won't do it, unless forced or subsidised.
- More diversity in stock design and less restrictive contracts
- Distinguish between investors and owner-occupiers.
- Need to look longer term. Need to ensure CSR//intangibles are valued. OPR accounts method.

One delegate pointed out that it wasn't unilateral action required by building owners, but that:

- All parties need to work together in the first place, this requires a multi-disciplinary approach.

2.8.2 By building managers

Several delegates said it was not up to building managers.

Others suggested the need for better understanding of building use:

- More communication with occupiers and more data collection.
- An appreciation of the working environment and its fit with key business outcomes.
- Improve quality and consistency of post occupational management and feedback.
- Consideration of appropriate research records eg days off sick, hospital bed occupancy days per patient, etc from different types of building; different staffing levels, etc.
- Need to involve themselves in the design process sooner in order to inform. Need to collect/store company costs.
- To value intangibles organisations need to understand more about them. These definitely depend on the individual organisation though, and what they are trying to achieve.
- Accepting change and churn in use.
- Cash-flow enhancement more possible if intangibles can be identified.
- In PFI sense – address PFI developers' a) ability to keep building available/safe at all times b) downstream flexibility.

2.8.3 By building designers

Several delegates said it was not up to building designers. Others suggested the following actions by building designers:

- A better awareness of existing value drivers
- Need to put a measure/value on intangibles.
- Concentrate on pleasing occupiers/tenant.
- Engage more with the outcomes
- Greater understanding of use.
- Involvement in determining the needs of the business use/occupier.
- Clear analysis of potential value-adding attributes; and systematic correlation of these with outcomes – of different types.
- Offer investors/occupiers more choice in design above and beyond the stated cost preference.
- Designers need to show real occupier benefit by trying to place value on intangibles, for example the benefit of more natural light helps improve occupiers morale, productivity etc.
- Learning to use 'adaptability' not 'flexibility' as a key driver.
- Somewhat facetiously, reform themselves: a) 3-D, 4-D design platforms, common information channels; b) eliminate interface issues, design out cost from their processes.

2.8.4 By surveyors and valuers

One delegate said:

- If sure that the market is asking for these things – until then, look for methods devised by others.

Others recommended the following actions by surveyors and valuers:

- Develop insights and methods
- Learn/develop techniques to value benefit of operation of primary purpose over useful life cycle – whole economic model of outputs of production.
- More awareness of, or openness to, diverging value.
- Greater perception of the business market, needs and trends.
- Improve role as an information conduit between investors and occupiers.
- Wider portfolios for investors, eliminating unique risk impact on portfolio value, should encourage more unique risk-taking. The HM Treasury on our behalf owns the widest portfolio of all.
- Development of probability based methods of valuation as opposed to (or better, in addition to) the single point method of valuation.

- Surveyors/valuers do not currently value intangibles other than those that are reflected in the capital and occupational markets. Greater understanding of them and their potential 'worth' needs understanding better.
- Stop estimating from measuring drawings, start cost planning (for that which is not yet designed) and ensure value triumphs over cost in investment terms.
- Understand nature of intangibles. Does it affect rental value or capital value or both? Does it need to be depreciated or written off like goodwill.
- Greater reliance on predictive valuation methods in order to get around the benefits of 'hindsight'?

2.8.5 By others

Seven delegates suggested action was needed by government, including the Treasury and OGC:
- By government 1) showing a willingness to pay on a 'value for money' (including value of intangibles) basis rather than 'cheapest'/'first year cost'/budget basis; 2) recognising that in such a 'design/value of intangibles' scenario, risks of getting increased outcomes are increased, and be willing to accept that risk - and working out how to cost/share it with the private sector.
- HM Treasury Green Book – link to macro social time cost preference valuation vs spending departments annual cash-crises.
- By government – particularly planning, who do not take a tough enough regulatory position.

Other suggestions were:
- Building occupiers – demand better buildings
- Statutory bodies – cross socio-economic benefits of improved building design.
- LAs – seed money Enterprize Zones link funding

Analysis
In order to improve valuation methods in practice, delegates suggested the following actions were needed:
- ***By building owners:*** *greater recognition of use value, improved awareness of the stakeholder group and closer relationship with the users and their needs; more clarity in what was wanted and what attributes they valued, and the setting of higher standards and expectations including a longer term perspective.*
- ***By building managers****: more communication with occupiers and greater appreciation of the working environment and its fit with key business outcomes including better data on building in use and organisational outcomes; involvement in the design process sooner in order to inform and influence it.*
- ***By building designers****: better awareness of value drivers; more engagement with the outcomes; and analysis of potential value-adding attributes and systematic correlation of these with various types of outcome.*
- ***By surveyors and valuers****: improve understanding of the nature of intangibles; develop insights and methods to value the benefit of the buildng to the occupant operation in terms of an economic model of outputs of production; improve role as an information conduit between investors and occupiers; develop probability-based methods of valuation in addition to single point method of valuation.*
- ***By others: Government*** *should show a willingness to pay on a 'value for money' basis, recognise the potential benefits of improved outcomes, accept the risk for its delivery and work out how to share this with the private sector.*

2.9 Introducing new methods into mainstream practice

Workshop delegates proposed a variety of means to introduce new methods in to practice. Some emphasised the importance of gathering the evidence and demonstrating the benefits:
- The creators of buildings (clients, designers and builders) have to remain involved beyond the date of practical completion to understand the outcome of what they have done. Otherwise there won't be sufficient evidence.

- Mapping the relationship between the design item and the approach. An addition to tools – not a paper.
- Demonstrate the lesser business impact that is likely to result if the measure are ignored.

Research and demonstration projects were proposed, including having the OGC sponsor 'trials', to capture evidence and build into evaluation of value as part of 'best value' procurement. Then there would be a need to train procurers across public sector. Similar suggestions included:
- Government regulation /tax regime; incremental (not too large) steps; evidential examples of success in practice
- Part of planning process.

One or two delegates suggested that if the methods were convincing a market would appear anyway, but others proposed dissemination and promotion including CPD:
- For valuers and surveyors: 1) detailed discussion and introduction to the following – RICS Valuation Faculty Board; university courses. It needs to be appreciated that such as shift in thinking and methodology would be significant and major for the valuation professional. Then also: 2) introduction through CPD events outside that profession, a demonstration that the methods are effective, lead to greater profits.
- Dissemination in property market language; and, clear relationships between intangible value to investor/occupier.
- Convince accountancy profession. Value on brands nearly became accepted in late 80s but recession and investor cynicism put paid to it. There must be confidence in the process.

Analysis
Delegates suggested a wide variety of means to introduce new methods into mainstream practice. Some emphasised the importance of gathering the evidence and demonstrating the benefits. Research and demonstration projects were proposed including having the OGC sponsor 'trials' to capture evidence. There would be a need to influence the RICS Valuation Faculty Board, followed by introduction of new methods into education and CPD. Convincing the accountancy profession would be essential to generate confidence in the process.

2.10 Barriers to take up

Delegates suggested the following barriers.
- Lack of time, money and motivation. Not so much the absolute lack of money but the difficulty of using it between different departments, organisations and budgets (i.e. design vs. construction capital vs maintenance; investor vs user). Complexity and relevance were also mentioned.
- Lack of incentives to change when there is a well-established standard approach. The high value of property makes minor changes to valuation process limited in effect. Issues such as location, economy, etc have a major impact.
- Lack of evidence/poor procedures at the 'front end' of building projects/inexpert clients; and a certain amount of 'droit de seigneurs' from architects.
- Lack of knowledge; and lack of confidence or acceptance.
- Lack of collective definitions for intangibles.
- Too short a time frame; difficulty of recognising 'psychological' and public value against 'hard fact' / private value.
- Time/complexity/relevance are all barriers.
- Economic/financial - 'cost benefit' ie a developer will not spend extra money generally unless it delivers greater profits.
- Difficult to determine cause and effect; and lack of understanding of value and cost
- Revelation of 'value' that is actually a competitive advantage, or a core competence.
- Natural conservativism of the valuation and property investment profession; government and other initial providers wanting lowest possible initial cost, and the mind set that lies behind that need; government and the initial providers being risk-averse.

Analysis
Delegates suggested there were a number of barriers to take-up of new valuation methods. The main ones related to lack of time, money, and motivation, together with lack of incentive given there is a well-established standard approach. Lack of evidence, lack of collective definitions for intangibles, and lack of confidence were also cited, as was the complexity associated with different organisations, departments and budgets (i.e. design vs. construction capital vs maintenance; investor vs user). Other barriers included the 'natural conservativism' of the valuation and property investment profession; the mind-set associated with lowest possible initial cost, and the risk-averse attitude of government and initial providers.

2.11 Overcoming the barriers

Delegates were asked about means to overcome the barriers. One noted:

- It is very difficult to look at something as varied as property without dividing it up in terms of eg. sector, type etc. The drivers behind commercial property value will be very different from those behind public sector procurement, the intangibles will also be different, and the end users are different.

And another suggested that

- Perhaps intangibles can be looked at in terms of user groups.

Several delegates talked about the need for evidence:

- Collect more evidence; evangelism; better procurement processes
- A ready flow of useful information
- Show it works and that it is a profitable (in a cash as well as a social) sense.
- Capture those intangibles that are 'tangible'. Don't worry too much about those ….
- The degree of alignment of the support environment with the needs of the business
- Better understanding of value.

Education was identified as one of the means to overcome the barriers, while other delegates suggested:

- Appeal to international accountancy standards-setters
- Development of industry competence.
- Better recognition (marketing) of intangibles.

One suggested that clients should insist on follow through and feedback, and. another that we should close the feedback loop.

Analysis
Delegates suggested various ways to overcome the barriers. One pointed out that it was very difficult to consider something as varied as property without dividing it up in terms of sector, type etc, since the drivers between commercial property value, for example, will be very different from those behind public sector procurement – intangibles will be different and so will the end users. The need for collecting evidence was stressed, including particularly a steady flow of useful information and better understanding of value. Capturing those intangibles that are 'tangible' was recommend initially. There will be a need to appeal to international accountancy standard-setters, for education and the development of industry competence through education and CPD.

2.12 Success factors

Delegates were asked to identify up to three measurable success factors and up to three non-measurable success factors.

2.12.1 Measurable success factors

Delegates suggested the following measurable success factors relating to new methods:

- Raised awareness
- Availability of useful metrics
- Better defined value of buildings/built environment.
- New tools – eg matrix/curve
- Actual use of new methods.
- Extent of implementation and uptake.
- Bids assessed on 1:5:200 not just capex.
- Wide dissemination/better marketing

Several success factors related to outcomes:

- Improvement in outcomes e.g. more buildings enhancing perceived productivity (currently only about one third do)
- Degree of accomplishment of business outcomes.
- Performance over time.
- Improved productivity and performance of occupants
- Improvement in staff retention

Other success factors identified were:

- Quantum of activities adding little or no value that have been identified and eradicated.
- General acceptance by government and/or investors
- Greater acceptance in other countries.
- Higher fees!

2.12.2 Non-measurable success factors

Non-measurable success factors were identified as:

- Greater debate.
- General feeling that things are working better.
- Increased well-being/satisfaction.
- 'Life style' measurement? ie worth to the individual rather than the corporation.
- Cultural impact
- Improved morale
- Some non-commercial projects getting off the ground.

Analysis

Measurable factors indicating that means to capture intangible values were being successfully developed were suggested as being: raised awareness; availability of useful metrics; better defined value of buildings/built environment; the general acceptance of new tools and their implementation and uptake in practice; and bids assessed on the basis of business operating costs/benefits not just initial capital expenditure. Improvement in outcomes –such as more buildings enhancing perceived productivity – were also cited.

Non-measurable success factors proposed included: greater debate; cultural impact on the built environment; and some non-commercial projects getting off the ground.

3 Summary of issues from the tape transcript

The discussions at the Workshop were recorded on mini-disk. What follows is a summary of the transcript.

In the offices sector there is a separation between investors and occupiers. Investors want buildings that appeal to wide markets, and there is little incentive for the investor to meet the intangible wants of a single occupying organisation. So the model of ownership can work against the delivery of intangible benefits at least as they apply to individual organisations. Also it's difficult to fulfil the intangible benefits of the occupier since they don't know what they want.

Intangibles mean many things to many different people. Can you capture value for different people in different ways and transfer from one party to another. Which intangibles can be captured? Should we begin by choosing one or two intangibles and track to whom they are of value in the building process? If this project could identify a certain number of intangibles that could be captured and those which it will be almost impossible to capture, that would be a useful contribution.

What is an intangible? It's where you know that something is of value to you, but you can't persuade your bank or accountant to put it on your balance sheet.

Is flexibility an intangible? It's as intangible as it gets! But adaptability is better than flexibility, else you find you don't need - the built-in flexibility, such as demountable partitions - that you've paid for. There is a whole branch of economics devoted to this – 'real options theory', concerned with whether to mine minerals now or in the future.

Measurement is important, such as measuring the difference in outcomes, such as trips and falls in hospitals. If you get a culture of feedback by measuring things then you get a virtuous circle – or at least stop things going horribly wrong. People who commission buildings don't know enough about the outcomes to know what they ought to do. What adds value is more than just initial design, it is a process with feedback loops and modification. People feel good about things because they feel part of something that's supporting what they're doing.

The contribution of the building is limited. An organisation isn't going to go into liquidation because it's in a bad building.

Capturing is the operative word. There are a lot of things that are tangible that we haven't captured which would be useful. Duffy's Orbit study separated:

- image value
- exchange value
- use value

and there may be others like environmental and sustainable value, and social value.

What might be positive for one organisation might be negative for another because different value system. Needs sorting out under a number of different headings. Image value is more difficult to make concrete than some of the use value or environmental value which can be valued (although valuations are not always trusted).

In modern health centres or schools it's become a given that when you arrive you need to do so in a two storey atrium. We can measure the cost very easily. What are the benefits and why do they want it? Is it image value? Partly image of the organisation, but it leaks into the use value as well. There are benefits about transparency of the school and supervision, you can see where people are moving to. Also a feelgood factor. Is that an example of an intangible? Another example is a building for the Saatchi brothers, who wanted an atrium and were prepared to pay the extra over cost. From the occupiers point of view, it makes a big image statement, also staff and clients loved that space, and it was used as office and coffee space. For valuation purposes, it's important to know what it's worth to the second buyer, while including the current occupier as a bidder. In this case, it was in a location where there were other advertising agencies who might also value an atrium.

Rather than a single point value, we need to consider the range and the errors in predicting value – perhaps in the form of a probability curve.

Valuers are capable of valuing intangibles – that's not where the problem lies. It lies at the front end of procurement when people are deciding how much they want to spend on a project. As a rule, that is a very short term decision. Typically, the person taking the decision – for example, the finance director – is in post for only 1,2, 3 years and they're not going to jeopardise their position, the bottom line they're protecting, to spend more money in the short term to produce greater money in the long term.

There is lots of money being invested in building. Are we investing to make them productive? Is the money well spent? Maybe there is a lack of sophistication in how we look at intangibles – maybe we don't invest to make them productive. The problem isn't lack of investment, but getting the right brief, the right designers and good processes. There is a need to follow a robust platform route – putting up adaptable buildings that are robust in the face of technological changes.

LIFT and PFI have diametrically opposed motivations – at the end of the LIFT period, the building reverts to the private sector so the developer has to find an alternative use. But with PFI at the end of the period, it reverts to the state. In PFI – the decision is taken on what it's going to cost in year 1, I'm not going to worry about year 20 or 30. So everything is predicated on how much they can afford in year 1 of a 30 year commitment (short term affordability). Someone else can worry about it downstream. So our behaviour is perverted. We have the NPV calculation of payment stream over 30 years which should reign, but it doesn't. Procurement drives the wrong behaviour. And the valuation techniques used in procurement are not being evaluated and valued to get the right behaviour. There needs to be a different valuation technique that says 'we will procure differently and take in the WLC in use of this building very seriously'. In a macro sense it will probably cost the economy less with that approach, not more. So the question is how do you shift some of the operating expenditure from down in the line into the initial procurement to get a better, more agile, more useful building. However, ultimately if it's a very highly specialised building, its either got to be very disposable or it needs to be a teflon tent with movable bits inside it, bit like the Dome, look how adaptable that's going to be.

So what needs to change? Using PFI language, which I think is adaptable to most business situations, the question is 'can I afford the rent this year?', so it's driven down to a current measure of availability of revenue funding not investment, they're buying fixed assets that have to be paid for over 30-40 years. To make it affordable you buy it with the longest possible bond that you can buy in the market. But the only reason the contract is taking a 30 or 40 year view is to drive down first year affordability, it's not that a 30-40 year view is being taken.

What kinds of evidence are needed to say 'this building will start paying for itself in years 2, 3 4 and 5. It may be in the so called smaller things, FM, maybe more energy efficiency. But what about the more operational bits. Could we ever assert that this building will actually reduce recovery times - you'll have shorter stays in hospital, you'll get better throughput. The whole system is now being predicated on payment by results. If you have shorter length of stay and greater throughput, you get the benefit.

What about the public good? If we want these public good issues to be included then as a private developer, I'd have to start pricing them into my scheme. I wouldn't do it otherwise, except from my own social standing - because I think it's the right thing to do and I'm prepared to accept a lower profit margin than perhaps another developer might. There are externalities in urban regeneration schemes, which can be levered to generate increased returns to scale. By spending more you actually start raising values, encouraging inward investment which then feeds back and makes your initial investment more valuable, and so on. You've got a virtuous circle going. That's perhaps the hardest kind of intangible, where the payoff you're going to get from your investment depends on knowing how other neighbouring property owners are going to react and respond. That kind of interdependence is suitable for game theory to be applied. Those kinds of intangible effects are very important.

UCLH is an example where early potential benefits were assessed. UCLH was proposing to rationalise itself on 4 sites, but the winning bid proposed rationalising on one site – they could do this because they'd acquired the option to buy some land which was not owned by UCLH. Their bid was tens of millions more than the original affordability constraint, yet it was accepted because UCLH decided that the benefits from greater synergy in medical care, research and teaching from having everything on one site had an NPV of £85m. Because they were determined they wanted it, they found a very quick way of valuing something that as far as I know no research has been done on, for which there's no knowledge base whatsoever. With great confidence UCLH said, definitely £85m, at least. Whether it will be possible to review whether those benefits were achieved is uncertain, the NAO may do so; they are auditing a portfolio of 10 of the first wave acute hospitals. They're going back to the original business case that was signed off to say, 'have we achieved that objective, if so good, if not why not'. It might actually start to produce some evidence. In any case, UCLH example will be 12 years from start of procurement to know whether it's actually worked.

The evidence base – even from around the world - for hospital design is relatively low and that is one of the problems.

It is in urban regeneration where the returns are potentially large. In Dublin they built a new international finance centre, largely speculatively. They were the tenth finance centre in Europe before, now they're the third. The Irish Government knew about the money flowing in as a result of joining the Euro – and took a calculated risk. As a result there is enormous regeneration - what's happened there is phenomenal. It was almost certain to work in some way, but it worked more spectacularly than anyone expected. (Although it's questionable what was the cause and what was the effect.) I don't think anyone did the study –how could you to prove what the effect would be. No valuer would have the PI cover to make that kind of forecast.

Keynes said that the greater part of all investments that have ever been undertaken by businesses are done not on the basis of rational evidence and careful calculation but on the basis of 'animal spirits' – by those who were feeling good about the future and decided to have a punt. Sometimes it goes disastrously wrong, sometimes it goes deliriously right. But the idea that it's based on rational calculation is a kind of fig-leaf, we like to think it's more respectable that it is.

The Treasury Green Book is trying to grasp these issues of how do you value regeneration and social impact and economic benefit to society. It's the Treasury line we should be trying to develop, and help them by providing the evidence that will overcome the spending departments and affordability criteria. There's a huge contrast between Treasury saying we've got to go down this route, and there is a greater value to society if people get better educated, if transport works, if regeneration brings communities alive - and it's the spending departments who resist that. We need to get to some of the technical advisors at the Treasury and see what they're doing. They're desperate for tools and will seize anything that comes out of this project.

In the square mile there's 15m sqm of vacant office space. There just aren't enough bums on seats to fill the space being created. Until we get to the intangibles of that and what kind of space we need, rather than what bulk we need, we're going to make the same mistakes in the next decade as we have done in the past. Canary Wharf went belly up twice before it was saved, so the funding is fundamental to our thought process. In a recession, does a well designed building go down less or show less variance? The market will determine that – it probably means it's a good building in a good location. It's a lower risk building. Paul Morrell says that buildings that win recognised awards gain rental premium of 10%.

What about housing, where there's a much shorter communication between owner and developer. They are building estates with features that are what people want, that's why we keep going back. But demand so exceeds supply that there is no real market, they can sell whatever they build. But there's more psychology at the individual level than at the corporate level. If a director asked 1000 employees what sort of building they'd like, he'd probably get a very different result from the one he decides to move them into. Not many organisations have procured their buildings in that way. Though some PFI school projects involve pupils as end users in the design of schools.

Taking image, exchange and use - different owners value those differently. We need a sort of matrix that we can put those values in , and then say that the valuation will depend according to the type of user and where we are on the probability curve. Could we get some framework around it? This is a complex issue, at least we can start to address it. In terms of what drives hospitals valuation, it's the NPV of cash flow over 30 years – the NHS are saying 'what's it going to cost us next year?' What would the matrix look like – is it a choice between tangible and intangible, or are we back to our curve. We've established that it's difficult to categorise anything as either tangible or intangible. There's a spectrum from something that is absolutely tangible (floor area, net/gross) to at the far reaches are the truly elusive qualities such as what do you feel like and how do you capture that. In between that if we could lay that out and take some concrete examples along the route and then apply the brand/image/use value – can we construct a matrix through those kinds of methods. As for time, each intangible will be written off at different time scales.

There is an assumption built into this project that you can design better for intangibles – which is questionable. Take the earlier example of a large volumetric space – you could put in a floor and use it for other things. The DQI's do deal with that, spatial quality is separate from functional area. But I'm sure valuers can talk about atria – how do you do that. Do they have a market value? Yes, there may be a rental value. Buildings with atria – might add or detract from the value. Might be more of a rental effect than a yield effect.

That is a useful distinction – does better design by and large, in offices, have more impact on the rent or on the yield? I'd say it has more impact on the rent actually. In our office, the people who get excited about architecture and design are our letting agents. Because they can get better rents and fuller occupancy? They're the people who can go round an office with potential occupier, explaining the building.

Are tenants who get excited about architecture and design culturally like that, or do the do so for an instrumental reason? Have they done a cold calculation and said 'yes, well get a better calibre of employee, we'll get the kind of culture we need and generate more profits as an organisation?' A firm like Smith Kline Beecham for their building on the M4, did loads and loads of calculations in terms of all the intangibles we've considered today - productivity satisfaction, efficiency, flexibility. We should find our what methods they are using.

Other examples of buildings benefiting from intangibles are a not-for-profit Childrens Hospital in Los Angeles, which operates a bereavement scheme gaining donations from people who've lost a child and who leave money to the hospital when they die. Oxbridge colleges find it easier to get money from alumni than, say, LSE – is this related to the buildings, or to historical and cultural reasons?