PII-Open 2002

Better designed buildings: improving the valuation of intangibles

Lead partner: Eclipse Research Consultants

DTI file reference STBF/04/22C

Deliverable 4: Milestone 4: Workstep 4

Write up of second workshop, held at CABE

Executive Summary

Background

This report summarises the outcome of the second project Workshop. It was held at the offices of CABE in the morning of 30 June 2004. It was attended by 13 delegates, representing broadly the design 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.

Findings

Buildings lead to a wide variety of outcomes for all the parties involved. Table 1 (in the body of the report) summarises those affected by buildings under four headings:
- finance, design and construction organisations
- the public
- organisations that occupy buildings
- visitors to buildings.

For each heading it provides a further breakdown of key participants, and the outcomes that affect them. Above all, the table illustrates the wide variety of stakeholders involved in buildings and the wide variety of impacts and outcomes.

In their Delegates' Workbooks, each delegate was asked to choose a sector and respond to the questions in relation to that sector. They were asked to identify up to six stakeholders, and the key outcomes for each. The full replies are given in Appendix 1. Because the respondents selected different sectors to reply about, it is quite difficult to compile the responses into a single all-embracing overview. Indeed what the replies show is the wide range of stakeholders in any one sector, and the many outcomes arising from buildings. Table 1 attempts to summarise the responses in Appendix 1. Using four categories, it lists beneficiaries in each and, in the third column, summarises outcomes.

Are designers motivated by the delivery of improved outcomes? There was broad agreement among the replies that designers *are* motivated to a greater or lesser extent by outcomes, but that the extent of commitment varied according to the designer themselves, and their experience, according to the context, and according to which stakeholders' interests were involved. It could depend on the degree of social commitment, on commercial imperatives and job-winning, on job-satisfaction, and on peer group recognition. One respondent said that the form and extent of commitment might vary during the designer's career. The commitment to outcomes might also be towards 'design statement' or profitability over amenity. One delegate pointed out, designers' remuneration is decoupled from the value outcomes, other than construction cost, while another said the commitment could be limited by what time and financial resources were available. Just one delegated said he thought designers were not motivated by outcomes since these are peripheral rather than core – core concerns tend to be taken up by finance, risk, delivery, professional peer pressure, and so on.

When asked about the evidence linking design attributes and successful outcomes, delegates' replies again varied. The majority said there was some evidence of good design achieving successful outcomes, and drew attention to emerging results in the retail and healthcare sectors. However, it was also suggested that some of the existing evidence is anecdotal and not robust or replicable – and the example of housing developers' surveys of buyers preferences was cited as being limited to market niches. Existing evidence was thought to be too diverse to provide a clear foundation from which to take the important first step. One delegate said that evidence-based design is gaining in credibility (though she questioned whether this was just 'fashion talk') and identified scientific evidence (trials and experiments), social (attitudes, satisfaction, experience) and theoretical (AEDET etc). Another said that amassing the evidence and categorising it was an important first step, and should lead to the ability to transfer values to a new context and provide values for a specific new project.

If the evidence linking good design to successful outcomes, who holds that evidence? Delegates identified a wide variety of sources including government, the NHS, CABE, specialists consultancies, experienced clients and - in housing - developers, the Housing Corporation and the Housing Forum. However some also noted that the evidence was dispersed, anecdotal, academic and unsorted. There was no common language or shared understanding, and a rag-bag of variables had been studied under various headings of building quality, management, competitive space available, rent, etc. The difficulty of measuring outcomes arising from design as distinct from many other influences was also noted. Finally, one delegate said it was unclear how much really filters through and influences designers.

Is the potential contribution of good design to successful outcomes reflected in the time and funding available for briefing, design and/or construction? Replies to this question varied. One delegate said that well-timed interventions did not in practice need much additional input. Several delegates said that experienced clients could be good in this regard for they viewed the building as an investment and understood the benefits from thorough analysis and evidence-based design. Others identified various barriers, such as the constraints of institutional funding mechanisms, political imperatives, and time constraints. Strategic planning and briefing were reported as often being compressed and poorly

facilitated, owing to insufficient skill, capacity and experience. One delegate said that design, as an iterative process, never received sufficient time or funding.

Are well designed buildings adequately valued by clients and society? Again there were variations in the replies. Three said yes (although one added that badly designed new hospitals are also valued as they are 'better than the old one'.) Seven said in part they were, and the evidence was in contented clients, repeat business, surveyors' valuations, journal coverage and awards. However, public relations coverage could be mixed up with evaluation, media reviews tended to be limited to highly visible buildings, and icon buildings while valued in the short term were less so in the long term. One delegate said that things were beginning to improve owing to an increased recognition of the social value of buildings.

Does a lack of appropriate methods to value intangible benefits hold back investment in the built environment? All but one of the delegated said they thought it did. They offered various explanations. Several said there was inadequate investment in time for briefing and reviewing and for developing design team skill and formation. The future was constrained by the past and clients carried on as they had before – clients had to be convinced and their awareness raised to encourage them to spend extra money; evidence, good arguments and a road-map were needed that would alert them to considering potential benefits early in the design process. One delegate said there was an absence of evidence to support greater investment. One warned of the danger of focusing narrowly on easily measured 'intangibles' which could skew design.

Actions required by all stakeholders to devise improved valuation methods in practice include clearer models of what is being evaluated, consistency across all parties of models and language, a process to feed evaluation to where it is really usable, and reviews of evaluation models from other sectors.

Actions required of building owners include:
- To give greater recognition to the impact of buildings on their business models
- Greater openness to arguments other than financial ones
- Regular post occupancy reviews and sharing of information across owner organisations
- Once there is evidence, then to have higher expectations and be more demanding including a demand put on designers to use evidence from past projects
- Integration of evidence-based design and social amenity into the briefing process and business case reviews
- Introduction of design quality indicators into key sectors
- Opportunities to debate requirements and expand understanding

The following actions were identified from building managers:
- To keep proper records of factual data documenting links between building design factors and outcomes, to enable comparison between different solutions and to establish good benchmarking data and identify trends
- To offer case studies for comparison and evaluation
- To set aside a proportion of cost savings for better evidence gathering and dissemination

The following actions were identified as being required of building designers:
- Set out aspirations as part of briefing
- Convene the skills of related professions rather than going it alone, and to apply emerging information, lessons and methods
- To learn to interrogate clients and evidence about how outcomes are influenced by design
- To make arguments for evidence based design using case studies and accepted wisdom, and in client language
- Take opportunities to remain in the loop after the design process is complete
- To offer case studies

Surveyors and valuers should:
- Be open to intangible benefits and take into account environmental performance, employee satisfaction and related evidence
- Open up the 'black box' of valuation
- Work with investment analysts, corporate finance professionals and other experts such as in brand valuation to identify and distill possible new approaches and methods

Delegates further suggested that:
- Government should set aside research funds to study improved valuation methods, and encourage internal collaboration between research outputs and its own client departments
- There should be a bringing together of international resources and joint research efforts
- Research funders should demand better application of the results of feedback research
- The professional institutions, particularly RICS, should establish a cross disciplinary research body or standing committee to develop consensus-based evaluations and review examples from other sectors
- Project funders should be more aware of the opportunities for buildings to contribute to future employment and health and develop a vision of the future
- There should be greater awareness of the social value of buildings in design education
- The research community should examine the extent to which their existing valuation tools could provide a framework for application to building design

The following actions were identified as necessary to introduce new methods into mainstream practice:
- New methods will need to be well publicised, credible and persuasive, linked or integrated into existing methods (for example, environmental impact or sustainability assessment), presented in a way that encourages participation including in individuals own language, and with the benefits clearly identified.
- Pioneers will be needed, with buy in from whole projects, with perhaps external incentives, and with the results published to demonstrate it can be done
- The institutions will need to adopt and endorse them as best practice, with the basics included in the curriculum for qualification and introduced into training and CPD. They should be an integral part of the decision making process. A legislative push may be required, and there may be a need for subsidy and tax breaks.

A wide variety of barriers to take up of new methods were identified, which may be summarised as:
- Difficulty in identifying tangible benefits or perceived value from the application of new methods
- Insufficient time and funding in a process already littered with competing demands
- Lack of awareness and understanding of the proper benefits of good design, and of possible valuation techniques,
- Short-term balance-sheet mentality, apathy, and lack of a feedback culture
- General burden of design information overload, with designers wary of taking on extra burden unless there are immediate gains.

When asked about possible means to overcome the barriers to take-up, delegates identified the following:
- Focus efforts carefully, make a sensible medium/long term plan, but with some short term (potential) quick wins and successes. Don't try and do everything first time, and avoid the feedback story where loads of methods (some contradictory) lie around for ages but all energy is dissipated by protagonists of each promoting their own. Develop the framework in the language of business models, like the Balanced Scorecard or EFQM,
- Collect existing evidence to show what's already been done. Run more workshops and cross-pollinate ideas between disciplines. Produce good factual material and/or demonstrations, ensure it is robust and evidence-based, and that it sets out the financial benefits and other advantages to all

stakeholders - and in their language not expect them to learn ours. Present as an opportunity not an administrative burden.
- Use research funding to gather new data and evidence. Bring in social sciences on 'soft' issues of comprehension, follow through, commitment.
- Full and comprehensive communication and training. This needs to be sustained and monitored.
- Create a supra-national non-commercial funding body for international collaboration.

When asked about measurable success factors, delegates proposed the following:
- Interest from government which identifies ways to push/pull demand and supply
- Take up of new methods, changes to practice including improved briefing, greater design certainty and fewer post contract changes
- There is a robust case for good building design
- Increased user satisfaction with the process
- Better buildings get built that provide function, delight, and better value and improved financial performance, and there is increased satisfaction from businesses and users
- Outcomes are improved and the improvements measured in a way that is transparent and intuitive
- Case studies are published, there is promotion by CABE, and good buildings gain headlines

When asked about non-measurable success factors, delegates identified the following:
- Greater recognition of the contribution of design to society
- Clearer understanding of end users needs and opinions
- Interchange of new knowledge between disciplines and internationally
- Happier clients, increased well-being of users, and increased user satisfaction
- Increased investment of time in briefing and evaluation by clients and consumers
- Incresed public trust and respect for the design professions
- Increased contribution of buildings to users and communities
- Review and publication of successful outcomes

1. Workshop overview

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5) General introduction to intangibles, and the contribution of buildings to business performance.

6) Whether well designed buildings command a premium.

7) The need for new methods to put a value on better designed buildings.

8) 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.

1   Results

1.1   Stakeholders and their values

In their Delegates' Workbooks, each delegate was asked to choose a sector and respond to the questions in relation to that sector. They were asked to identify up to six stakeholders, and the key outcomes for each. The full replies are given in Appendix 1. Because the respondents selected different sectors to reply about, it is quite difficult to compile the responses into a single all-embracing overview. Indeed what the replies show is the wide range of stakeholders in any one sector, and the many outcomes arising from buildings. Table 1 attempts to summarise the responses in Appendix 1. Using four categories, it lists beneficiaries in each and, in the third column, summarises outcomes.

Category	Beneficiaries	Outcomes
Finance, design and construction	Financiers, banks, PFI consortia, developers, designers, surveyors, contractors, sub-contractors	Return on capital, profitability, long term value, repeat business, awards, prestige, ease of letting or selling
Public realm	Local authority Local community Regional and national community	Regeneration and inward investment, property values, pollution, local health, employment, civic pride, neighbourly behaviour, vandalism
Occupant organisation	Chief Executive, Project Directors, Communications & Marketing Managers, HR, FM, caretakers, Energy Manager, security staff, general workforce, cleaners	Organisational productivity and profitability, organisational vision, image and identity, corporate brand and reputation, corporate social responsibility, good working environment - staff health and well-being, recruitment and retention, absenteeism, energy and maintenance costs,
Visitors to building	Hospital patients, hotel guests, retail customers, students, pupils	Recovery rates, footfall, examination results

Table 1 Beneficiaries and outcomes – a summary table of delegates' replies listed in Appendix 1

1.2   Are designers motivated by the delivery of improved outcomes?

Three delegates replied unequivocally that they were and offered as reasons self- or job-satisfaction, keeping up with the game for business development and job getting reasons, and peer group recognition.

Eight delegates said some designers were motivated to a greater or lesser extent, or designers were motivated to some extent. One delegate said it was hard to generalise on the motivation which ranges (at various times over designer's career) from social commitment, commercial imperatives and (but relatively infrequently) designer's ego. Partly it could depend on context and experience, partly on the designer and partly on.which stakeholder's interests were involved. As one delegate explained, there are different values and ambitions held by different disciplines (architects/engineers) which needed to be explored. There are examples of buildings where the point has been missed. While there is a growing acknowledgement (but not yet full understanding) of the impact of design on health outcomes etc, it is aspirational and appears in the rhetoric. However there could also be an over-emphasis on image and attraction issues ('statements') including environmental performance, combined with under-emphasis on efficiency and appropriate versatility. The commitment to outcomes is reported as being not always in the appropriate proportions, for example, it could be profit over amenity driven or 'statement' over amenity driven (more likely). One delegate pointed out, designers' remuneration is decoupled from the value outcomes, other than construction cost, while another said the commitment could be limited by what time and financial resources were available.

One delegate said his perception was 'no'. And he gave as his reason, because outcomes are not core but peripheral. Core concerns tend to be taken up by finance, risk, delivery, professional peer pressure, and so on.

Analysis
Are designers motivated by the delivery of improved outcomes? There was broad agreement among the replies that designers are motivated to a greater or lesser extent by outcomes, but that the extent of commitment varied according to the designer themselves, and their experience, according to the context, and according to which stakeholders' interests were involved. It could depend on the degree of social commitment, on commercial imperatives and job-winning, on job-satisfaction, and on peer group recognition. One respondent said that the form and extent of commitment might vary during the designer's career. The commitment to outcomes might also be towards 'design statement' or profitability over amenity. One delegate pointed out, designers' remuneration is decoupled from the value outcomes, other than construction cost, while another said the commitment could be limited by what time and financial resources were available. Just one delegated said he thought designers were not motivated by outcomes since these are peripheral rather than core – core concerns tend to be taken up by finance, risk, delivery, professional peer pressure, and so on.

1.3   Is there robust evidence in the sector you are focusing your replies in demonstrating a causal link between design attributes and successful outcomes

Again the replies ranged widely. Four delegates said no, or not that they were aware of. Of these, one said he knew that good work was on the way, but suspected it was too diverse to provide a clear foundation on which to start. Another said that amassing the evidence and categorising it was an important first step. It can provide both anecdotal evidence, and idea of the magnitude of value, and possible the ability to transfer values to a new context and provide values for a specific new project.

The remaining nine delegates said there was some evidence. Among these, several noted studies that were under way and provide an emerging evidence base. They drew attention to:
- space utilisation, quality of building management, and related user satisfaction, but noted that feedback procedures were patchy and not linked to design quality.
- work by Sainsbury on the design and provision of car parking and its effect on profitability

- research into acute hospital design.

Another suggested there were three types of evidence: scientific (like doing trials); social (satisfaction, experience); and design theory (AEDET etc); and that evidence based design is gaining in credibility – though she went on to question whether this was just the 'fashion talk' of the moment.

One who said there was some evidence of design achieving successful outcomes, nevertheless suggested most of it is anecdotal and not in measurable form, 'i.e. a good design is expected to get a better planning consent, but is it ever tested to see what a less 'good' design would achieve'. Another suggested the evidence was not robust or replicable (e.g. housing developers' surveys of housebuyers' desires are limited in their depth or moving beyond identification of market niches. It's less what do homeowners want or could provide a better home that what will they accept/buy. Another argued that too many issues were being addressed in too many diverse ways to provide a clear foundation on which to start.

Analysis
When asked about the evidence linking design attributes and successful outcomes, delegates' replies again varied. The majority said there was some evidence of good design achieving successful outcomes, and drew attention to emerging results in the retail and healthcare sectors. However, it was also suggested that some of the existing evidence is anecdotal and not robust or replicable – and the example of housing developers' surveys of buyers preferences was cited as being limited to market niches. Existing evidence was thought to be too diverse to provide a clear foundation from which to take the important first step. One delegate said that evidence-based design is gaining in credibility (though she questioned whether this was just 'fashion talk') and identified scientific evidence (trials and experiments), social (attitudes, satisfaction, experience) and theoretical (AEDET etc). Another said that amassing the evidence and categorising it was an important first step, and should lead to the ability to transfer values to a new context and provide values for a specific new project.

1.4   Who holds the evidence?

Those who reported that they believed there was evidence, identified a variety of sources which included the following:
- Specialist consultancies; sometimes corporate services teams of large organisations.
- Experienced clients, including individual client developers who have some measures of success – some of this could become evidential if analysed.
- OGC is trying to present evidence in central civil government;
- There is work by the Dutch, Canadians, Norwegians, and in the US, but it's not very accessible, and feedback is unsystematic.
- US work (by Ulrich etc) has changed in focus from therapeutic to safe environments.
- NHS Estates website which contains a growing database of 450-500 studies. NHS has undertaken some principal studies
- NHS Confederation
- Developers, Housing Corporation, JRF, CABE, HBF.

However, some also noted that the evidence was dispersed, anecdotal and academic. One said that there was a lack of a common language or clear understanding of agreement about what elements can be used to provide what evidence, and a need to develop a common model into which elements could be slotted. Another implied the evidence was unsorted – instead a rag-bag of variables had been studied under various headings of building quality, management, competitive space available, rent, etc. Another noted the difficulty in measuring outcomes across very diverse sets of institutions, of which building design <u>may</u> have a small impact. Yet another said it was unclear how much really filters through and influences designers.

Just one delegate said there wasn't the evidence; there had been no previous motivation to seek it out, nor had it had, hitherto, any perceived value.

Analysis

If the evidence linking good design to successful outcomes, who holds that evidence? Delegates identified a wide variety of sources including government, the NHS, CABE, specialists consultancies, experienced clients and - in housing - developers, the Housing Corporation and the Housing Forum. However some also noted that the evidence was dispersed, anecdotal, academic and unsorted. There was no common language or shared understanding, and a rag-bag of variables had been studied under various headings of building quality, management, competitive space available, rent, etc. The difficulty of measuring outcomes arising from design as distinct from many other influences was also noted. Finally, one delegate said it was unclear how much really filters through and influences designers.

1.5 Is the potential contribution of good design to successful outcomes reflected in the time and funding available for briefing, design and/or construction?

Three delegates said that it was.
- through the adoption of the DQI toolkit, eg Aedet and NEAT and the forthcoming release of DART by NHS Estates.
- it does not take long/cost much with well-timed interventions/contributions of relevant experience
- quite often yes with experienced clients, e.g. Sainsbury – good comparison with Tesco which flip the priorities.

Seven said sometimes, if rarely, and gave the following explanations:
- It can be if sufficient funding for initial design is received from benefactors (in the university sector). Otherwise constrained by stop-go funding mechanisms of higher education funding.
- Can be if projects are seen as part of continuum. One-off projects less likely to succeed.
- Maybe. Look at BAA experience and major pharma organisations (tend to regard buildings as plant (even offices) – understand investment (of time etc) and evidence. [garbled]
- Strategic planning and briefing are not recognised (understood) sufficiently owing to lack of skill, capacity and experience. Delivery of the NHS Plan (100 hospitals, 3500 primary care buildings etc) is driven by political imperative and timescale.
- Rarely as time constraints let alone finance often preclude it despite many clients liking to think that they seek good design. Fragmentation of the design team procurement leaves little opportunity for the transfer of information.
- Rarely – even in the housing sector which is closest to the motor industry in terms of replicability.
- Generally not. Higher Education funding often demands very swift procurement. We try to build proper briefing periods believing that this forms a sound basis.

Two said 'no' and offered the following explanations:
- Compressed and poorly facilitated briefing deeply restricts the achievement of best value in construction and performance.
- 'Delivery on time' imperative is very powerful but inimical to proper and comprehensive briefing. Design time - as an iterative process - never has sufficient time or funding.

Analysis

Is the potential contribution of good design to successful outcomes reflected in the time and funding available for briefing, design and/or construction? Replies to this question varied. One delegate said that well-timed interventions did not in practice need much additional input. Several delegates said that experienced clients could be good in this regard for they viewed the building as an investment and understood the benefits from thorough analysis and evidence-based design. Others identified various

barriers, such as the constraints of institutional funding mechanisms, political imperatives, and time constraints. Strategic planning and briefing were reported as often being compressed and poorly facilitated, owing to insufficient skill, capacity and experience. One delegate said that design, as an iterative process, never received sufficient time or funding.

1.6   Are well designed buildings adequately valued by clients and society?

Again there were variations in the replies: Three said 'yes':
- I think so – at least one has won a prize recently (if that means anything).
- Many new buildings are well designed (if not completely) and there is good uptake of recycled older buildings. So, yes.
- Yes, but with the added idiosyncracy that badly designed new hospitals are also valued as they are 'better than the old one'.

Seven said in part:
- Mostly. In some cases our clients provide us with repeat business. Users let us know they are delighted.
- Tendency to be valued 'officially' – i.e. by surveyors and accountants. Rarely by HR or marketing professionals investment analysts.or corporate finance professionals or
- Clients don't know what they don't know.
- Anecdotally and through award systems to some extent. PR gets mixed up and substitutes for evaluation. As for public perception, there is little here to rely on.
- Well designed is a stakeholder perception and this varies. Award systems. are one form of recognition.
- Icon buildings often valued at least in the short term, but less so in the long term. Expressed by client through new appointments of successful teams. By society, by journalism, etc.
- Buildings that are very highly visible lead to media review.

One said 'no':
- Not currently, but this is beginning to improve due in part to a greater recognition of social value.

Analysis
Are well designed buildings adequately valued by clients and society? Again there were variations in the replies. Three said yes (although one added that badly designed new hospitals are also valued as they are 'better than the old one'.) Seven said in part they were, and the evidence was in contented clients, repeat business, surveyors' valuations, journal coverage and awards. However, public relations coverage could be mixed up with evaluation, media reviews tended to be limited to highly visible buildings, and icon buildings while valued in the short term were less so in the long term. One delegate said that things were beginning to improve owing to an increased recognition of the social value of buildings.

1.7   Does a lack of appropriate methods to value intangible benefits hold back investment

Twelve delegates answered 'yes' to this question and offered the following explanations:
- Seems to restrict investment of time (for briefing and reviewing) and cash in design team skill development and formation.
- Yes, we need to convince clients to spend time and money. Aedet has helped to raise awareness.
- Yes. Many positive and negative perceptions of buildings are seldom captured as anything other than anecdotal evidence which, due to its immeasurability, is never relied upon.
- It is key to many areas of work to have arguments at their disposal to make a case for funding for 'intangibles'. See manuscript.
- Yes. Because it limits the scope of briefing strategic planning and especially budget setting. The past then still rules the future.

- Yes – holds back investment in better/more appropriate buildings.
- Yes, but it is the application to the masses of the wisdom of the representatives around this table that is really missing.
- Yes. Because it enables clients etc who choose not to look in this direction to carry on as they wish.
- Yes. Mainly because there is little factual evidence to support greater investment.
- Yes. But the focus has to be 'balanced' both valuing tangibles and intangibles. And we're also very good at valuing the 'costs' of poor design rather than benefits because of becomes an ever widening territory to including with long chains of influence.
- Yes. However, it may be more about capturing values in vision. Danger that narrow focus on easily measured intangibles could skew design.

One replied 'no' and explained that many clients consider it common sense to provide for these benefits. However, they don't have a systematic road map that alerts them to considering these benefits early enough in the design process.

Analysis
Does a lack of appropriate methods to value intangible benefits hold back investment in the built environment? All but one of the delegated said they thought it did. They offered various explanations. Several said there was inadequate investment in time for briefing and reviewing and for developing design team skill and formation. The future was constrained by the past and clients carried on as they had before – clients had to be convinced and their awareness raised to encourage them to spend extra money; evidence, good arguments and a road-map were needed that would alert them to considering potential benefits early in the design process. One delegate said there was an absence of evidence to support greater investment. One warned of the danger of focusing narrowly on easily measured 'intangibles' which could skew design.

1.8 What actions are needed to devise improved valuation methods in practice:

1.8.1 Actions required generally

One delegate proposed the following actions were required by stakeholders generally:
- Clearer models of what is actually being evaluated across all stakeholders.
- Consistent use by all parties of models and language used.
- Development of a process to feed evaluation to where it is readily usable.
- Looking at evaluation models from other sectors.

Analysis
Actions required by all stakeholders to devise improved valuation methods in practice include clearer models of what is being evaluated, consistency across all parties of models and language, a process to feed evaluation to where it is really usable, and reviews of evaluation models from other sectors.

1.9 Actions required of building owners

- Post occupancy reviews – regularly – make data collection focused
- Demand more transferable evidence of designers from relevant past projects.
- Greater understanding of how to articulate the issues, explain them and introduce them into the briefing/design process. NHS Directors, to whom I presented recently, suggested that integrating these issues into the business case review process would be the most significant move.
- More holistic approach to procurement with an emphasis on need.

- Documenting progress indicators and developing evidence on the links between building design factors and outcomes in terms of e.g. employee performance, student performance, patient recovery, nos of disputes, employees leaving.
- Introduce DQI's into each sector. Example of AEDET comparators in NHS procurement, empowers the client. Similar mechanisms for each sector would assist. Awards for this process, statues and appreciation boosts responsiveness.
- More opportunities to SEE and understand existing solutions – including contact with other building owners.
- More opportunity to debate requirements to expand understanding of the possible.
- To be more open to arguments other than financial ones. To be more forthright/demanding when they understand.
- Allow time and resources to assemble data. To take ownership of the concepts so that the results are put into practice – the old problem of the tenant says he can get what he wants, the developer says he would be no-one finds it, the ??? saying there is no demand, etc.
- Greater expectations.
- Clear ideas of organisational criteria.
- To recognise valuation of intangibles in their decision making processes.
- To recognise impact of buildings on their business models, eg EFQM.

Analysis
Actions required of building owners include:
- *To give greater recognition to the impact of buildings on their business models*
- *Greater openness to arguments other than financial ones*
- *Regular post occupancy reviews and sharing of information across owner organisations*
- *Once there is evidence, then to have higher expectations and be more demanding including a demand put on designers to use evidence from past projects*
- *Integration of evidence-based design and social amenity into the briefing process and business case reviews*
- *Introduction of design quality indicators into key sectors*
- *Opportunities to debate requirements and expand understanding*

1.10 Actions required of building managers

The following actions were identified for building managers:
- Constantly record issues. Make comparisons between different solutions
- Set aside a proportion of cost savings to better evidence gathering and dissemination.
- Greater understanding of wider issues in relation to use and perception.
- Documenting progress indicators and developing evidence on the links between building design factors and outcomes in terms of e.g. employee performance, student performance, patient recovery, nos of disputes, employees leaving.
- Establish good benchmarking data. Access to strategic briefing, long term use data, issues in construction, asset valuation, etc. And design impacts across the range of stakeholders. Raised status and eventually salaries will result. Good managers should be highly valued and good team leaders.
- Devise frameworks that review success factors that include more aspects that just design.
- Amassed data can produce 'trends' in results.
- To accept a change in attitude on the part of building owners. The promote the propositions of the designers.
- Compile good factual data for comparison and evaluation. Put the case that better buildings can enhance the business case.
- Engagement with the feedback process, as a feed-forward into better design values rather than a responsive process 'solving problems'.

- To recognise and allow time for valuation process.
- To offer up case studies to support process.

Analysis
The following actions were identified for building managers:
- *To keep proper records of factual data documenting links between building design factors and outcomes, to enable comparison between different solutions and to establish good benchmarking data and identify trends*
- *To offer case studies for comparison and evaluation*
- *To set aside a proportion of cost savings for better evidence gathering and dissemination*

1.11 Actions required of building designers

The following actions were identified as required from building designers:
- Seek out aspirations as part of briefing. Devise methods to manage the deliver (or not) of these aspirations.
- Convene the skills of related professions – environmental psychologists, ergonomists, economists (rather than try to maintain dilettante action)
- Greater precision about the issues – to shift from aspirational talk.
- Less reliance on 'off the peg' solutions so that solutions have greater meaning.
- Making arguments for good design elements in terms of the expected outcomes, based on existing evidence: - pull together case studies, accepted wisdom, etc; - put it in the language of the clients (employee performance, etc)
- Increasingly 'submit' to value assessments just as we are now deeply disciplined by energy evaluation 'sustainability indicators'. These should be at stages (as DQI approach) with respect to the time needed to share, listen and justify rankings at each stage.
- Greater opportunities to remain in the loop after design process complete.
- To apply available methods with courage and be open to any new (proven) methods.
- Increase awareness and use at all levels of available information. Apply emergence concepts to team working to facilitate the development of universal concepts.
- Learning to interrogate clients and evidence about how outcomes are influenced by design and to use that as a basis for reflective design. Less reliance on other's methods of valuation – it's not just the magic of QS or developers.
- Offer up case studies.
- Promote dialogue with clients on valuation.

Analysis
The following actions were identified as being required of building designers:
- *Set out aspirations as part of briefing*
- *Convene the skills of related professions rather than going it alone, and to apply emerging information, lessons and methods*
- *To learn to interrogate clients and evidence about how outcomes are influenced by design*
- *To make arguments for evidence based design using case studies and accepted wisdom, and in client language*
- *Take opportunities to remain in the loop after the design process is complete*
- *To offer case studies*

1.12 Actions required of surveyors and valuers

The following actions were identified for surveyors and valuers:
- Be open minded about the 'fixes'. Move away from advising clients/investors that they can only value the traditional 'tangibles'.

- Work with investment analysts and other corporate finance professionals – and with experts in brand valuation.
- Distillation of work from other sectors in terms of methodology.
- Take into account the environmental performance of buildings, running costs, etc.
- Take into account 'employee satisfaction' with buildings.
- Take into account other evidence collected by building managers.
- Review of innovation and greater understanding of what users need and tends in direction of needs.
- To be more open-minded to the intangibles.
- To be willing to accept that there are more complex but also more useful ways of arriving at a true building value and to include this understanding in basic and CPD training.
- Opening up the 'black box' of valuation – its opinions adjusted by experience then tested against the market.

Analysis
Surveyors and valuers should:
- *Be open to intangible benefits and take into account environmental performance, employee satisfaction and related evidence*
- *Open up the 'black box' of valuation*
- *Work with investment analysts, corporate finance professionals and other experts such as in brand valuation to identify and distil possible new approaches and methods*

1.13 Actions required of others

The following actions were identified as being required of others:

Government and research funders
- ODPM – set aside for research a proportion of money raised from planning fees and S106 agreements
- Government/NGO's - to bring together resources and efforts across national boundaries – NATO efforts
- The creation of international research funds
- Government funders - provide internal collaboration between research outputs and client authorities.
- Research funders - demand more collusion/collaboration; demand more from the application phases

Professional institutions
- RICS, in its own interest, should establish a cross-disciplinary research body, a standing committee to continually develop consensus-based evaluations. 'Environmental valuation' journal with examples from other areas of social activity.

Project funders
Funders – understanding of opportunities and vision of future employment, future technology, future health.

Design education
Raise awareness in design schools

Research community
Environmental economists can examine the specific context of building design and intangibles and see/demonstrate the extent to which existing valuation tools could be applied to provide new evidence, and provide frameworks for thinking and presenting evidence.

Users

Users: performance guidelines. Visit to exemplar projects with the evaluation information present during the visit so as to see how it works!

Users – this is the wider public such as shoppers, health & fitness club users, etc who need to be more willing to voice opinions.

Building users – to be able to be involved in the construction process in a way they can learn and develop greater awareness without imposing additional loads of unfillable expectations.

Analysis

Delegates suggested that:

- *Government should set aside research funds to study improved valuation methods, and encourage internal collaboration between research outputs and its own client departments*
- *There should be a bringing together of international resources and joint research efforts*
- *Research funders should demand better application of the results of feedback research*
- *The professional institutions, particularly RICS, should establish a cross disciplinary research body or standing committee to develop consensus-based evaluations and review examples from other sectors*
- *Project funders should be more aware of the opportunities for buildings to contribute to future employment and health and develop a vision of the future*
- *There should be greater awareness of the social value of buildings in design education*
- *The research community should examine the extent to which their existing valuation tools could provide a framework for application to building design*

1.14 Actions needed to introduce new methods into mainstream practice

The following actions were identified:

- They need to carry credibility
- There will need to be pioneers.
- Whole projects will need to 'buy in'.
- Include basics in curriculum for qualification and CPD.
- Big investment in dissemination (ODPM?).
- Incentivisation for application
- Guidance to be aspirational.
- Approval process – integrate it into something that already exists.
- Tool kit or whatever to develop understanding and a process that encourages participation.
- Examples published to demonstrate it can be done.
- Ensuring that they are at the heart of the strategic case for potential developments.
- Link them to existing assessment processes, eg EIA and sustainability assessments. Key pieces of research can be very influential in demonstrating new techniques – why not try to put economic values on intangibles in buildings – get researchers to find limits of techniques, but if numbers can be produced it will get people thinking.
- Chartered institute adoption as best practice
- Training/CPD for professionals.
- Legislative push including government procurement guidelines
- Awards, publicity, educational take-up in all professional training and masters.
- Include as an essential part of designer/team appointment.
- Links for subsidy and tax breaks.
- Demonstration (proving hypothesis) is probably the only way ultimately.
- Real status, i.e. not another paying lip service/tick box means of getting around issues.
- Create awareness combined with good factual information and identify benefits for the recipient.
- Grow an appreciation and peer group status for team working solutions as opposed to figurehead leaders.

- For evidence to be persuasive it needs to talk to individuals in their own language.
- The method in itself should have benefits (i.e. DQIs has improvements in teambuilding as well as better understanding of the built project).
- To incorporate them as an integral part of decision making process, eg ??? ??? valuation technique at the initial business case stage which are then developed as the project proceeds.

Analysis
The following actions were identified as necessary for the introduction of new methods into mainstream practice:
- *New methods will need to be well publicised, credible and persuasive, linked or integrated into existing methods (for example, environmental impact or sustainability assessment), presented in a way that encourages participation including in individuals own language, and with the benefits clearly identified.*
- *Pioneers will be needed, with buy in from whole projects, with perhaps external incentives, and with the results published to demonstrate it can be done*
- *The institutions will need to adopt and endorse them as best practice, with the basics included in the curriculum for qualification and introduced into training and CPD. They should be an integral part of the decision making process. A legislative push may be required, and there may be a need for subsidy and tax breaks.*

1.15 The barriers to take up of new methods

The delegates identified the following barriers to take up:
- Insufficient funding/time.
- Lack of tangible (!) benefit (in itself).
- Don't be too ambitious.
- Lack of cash and excessive volatility of workload for academics and practitioners.
- Insularity.
- Lack of understanding – it's not on the radar.
- Time in a pressured process that is already littered with competing demands.
- Leadership – and who should take that role?
- Lack of awareness of issues and techniques.
- Sense of ownership in the process.
- Intellectual scope – inherently cross-disciplinary
- Social intention: beyond just value for money
- Simplification and exposition so that players understand why it's worth it
- Realistically, it may take decades. So need encouraging 'staging points'.
- Cost and perceived value
- Apathy
- Lack of feedback and longer term commitment
- No mechanism to received and process data.
- Short-term balance sheet mentality.
- Obstacle to the bringing together of collective wisdom might be research funding systems.
- Lack of understanding of real and proper benefits of good design.
- Lack of understanding leads to: a) well-intentioned clients falling short; b) less well intentioned clients cutting corners.
- General burden of information overload means that designers etc are wary about taking on anything new which demands more input unless they see immediate gains to their design, peer group recognition, or it enhances their business plan.
- Putting business outcomes first? Frank Well's excellent point that building fabric is seen by business organisations as part of the solution – not the total issue.
- Multiple perspectives of all mentioned in Q13.

- It may be seen as too subjective.
- It may be given little weight in the decision making process compared to financial analysis.

Analysis
A wide variety of barriers to take up of new methods were identified, which may be summarised as:
- *Difficulty in identifying tangible benefits or perceived value from the application of new methods*
- *Insufficient time and funding in a process already littered with competing demands*
- *Lack of awareness and understanding of the proper benefits of good design, and of possible valuation techniques,*
- *Short-term balance-sheet mentality, apathy, and lack of a feedback culture*
- *General burden of design information overload, with designers wary of taking on extra burden unless there are immediate gains.*

1.16 Overcoming the barriers

Delegates identified the following ways to overcome the barriers:
- Produce good material.
- Don't try and do everything first time.
- Make a sensible medium/long term plan, but with some short term (potential) wins.
- Create a supra-national non-commercial funding body for international collaboration.
- Full and comprehensive communication and training. This needs to be sustained and monitored.
- Collecting existing evidence – showing what's already been done. More workshops and cross-pollination of ideas between disciplines.
- Research funding into both evidence based data collection and social science or 'soft' issues of comprehension, follow through, commitment, reimbursement.
- Scenario writings – setting out visions of how such evaluations 'might' improve everyone's experience – 'value fiction' (like science fiction)
- Demonstration of success.
- Financial benefits – real payback.
- Demonstration in terms that those that need to be more convinced will understand. It is out job to present in their language, not expect them to learn ours.
- There needs to be greater focus of effort to join up disparate efforts on trying to achieve this. We don't want to repeat the feedback story – loads of methods (some contradictory) around for ages but all energy dissipated by protagonists/supporters of each, let alone the general sceptics.
- Combinations of consistent communications, talking and so on in large and small groups, with specific training (and possibly some entrenchment in legislation/political belief …)
- Make sure information is factual and sets out the advantages to all the stakeholders. It is presented as an inspiration opportunity and not as an administrative burden.
- Multi focus approaches that can reconcile the conflicting views.
- That any measurement system is robustly evidence-based.
- To develop the framework in the language of business models —eg EFQM or Balanced Scorecard.

Analysis
When asked about possible means to overcome the barriers to take-up, delegates identified the following:
- *Focus efforts carefully, make a sensible medium/long term plan, but with some short term (potential) quick wins and successes. Don't try and do everything first time, and avoid the feedback story where loads of methods (some contradictory) lie around for ages but all energy is dissipated by protagonists of each promoting their own. Develop the framework in the language of business models, like the Balanced Scorecard or EFQM,*
- *Collect existing evidence to show what's already been done. Run more workshops and cross-pollinate ideas between disciplines. Produce good factual material and/or demonstrations, ensure*

it is robust and evidence-based, and that it sets out the financial benefits and other advantages to all stakeholders - and in their language not expect them to learn ours. Present as an opportunity not an administrative burden.

- *Use research funding to gather new data and evidence. Bring in social sciences on 'soft' issues of comprehension, follow through, commitment.*
- *Full and comprehensive communication and training. This needs to be sustained and monitored.*
- *Create a supra-national non-commercial funding body for international collaboration.*

1.17 Measurable success factors

The following were identified by workshop delegates as measurable success factors:
- Take up – by project/by client body.
- Improved project delivery – process and product.
- Greater end user collaboration with purpose.
- Column inches of discussion.
- Poll of awareness in buildings leaders, NHS leaders, Housing Trust leaders.
- Participation of consumers in briefing and evaluating design.
- User satisfaction with the process.
- More robust briefing and design certainty.
- Reduction in post contract changes.
- People understand the basis of measurement – transparent and intuitive.
- People use new numbers to make their case for good building design – a few headlines.
- Government gets interested and identifies ways to push/pull demand/supply.
- Better buildings get built.
- Review and publication
- Whether it changes practice - what and how things are done
- Is satisfaction above a baseline higher or lower over time.
- Are the business expectations met over time.
- Functionality
- Delight
- Do buildings which have taken account of identified intangible factors perform better financially?
- Improvements into the specific outcomes measured.
- Additional value created by better designed buildings in projects using the new methods.
- Promotion by CABE.
- Case studies published.

Analysis
When asked about measurable success factors, delegates proposed the following:
- *Interest from government which identifies ways to push/pull demand and supply*
- *Take up of new methods, changes to practice including improved briefing, greater design certainty and fewer post contract changes*
- *There is a robust case for good building design*
- *Increased user satisfaction with the process*
- *Better buildings get built that provide function, delight, and better value and improved financial performance, and there is increased satisfaction from businesses and users*
- *Outcomes are improved and the improvements measured in a way that is transparent and intuitive*
- *Case studies are published, there is promotion by CABE, and good buildings gain headlines*

1.18 Non-measurable success factors

Delegates identified the following non-measurable success factors:

- Public trust (respect) in design professions.
- Increased investment of time in briefing and evaluation by clients and consumers.
- Better interchange of knowledge between countries and disciplines.
- User satisfaction with the building.
- Design team ??? perception.
- Stakeholder feedback.
- Review and publication.
- Contribution to neighbourhood/community
- Well being and contribution to individual performance.
- Effects on 'design' development.
- Longevity of relevance.
- Clearer understanding of end user needs and opinions.
- Clearer understanding of the journey from end user to client and back again.
- Smoother, simpler construction processes and happier clients!
- Greater recognition of the contribution of design – that, for example, a hospital isn't just the accommodation for delivering a health service but part of the cure itself.

Analysis
When asked about non-measurable success factors, delegates identified the following:
- *Greater recognition of the contribution of design to society*
- *Clearer understanding of end users needs and opinions*
- *Interchange of new knowledge between disciplines and internationally*
- *Happier clients, increased well-being of users, and increased user satisfaction*
- *Increased investment of time in briefing and evaluation by clients and consumers*
- *Increased public trust and respect for the design professions*
- *Increased contribution of buildings to users and communities*
- *Review and publication of successful outcomes*

Sebastian Macmillan, 31 August 2004

APPENDIX 1 Delegates' replies about stakeholders, outcomes and measurement

All building types

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Those who work in buildings	• Increased well-being at work better relations with colleagues, more creativity, less likely to leave company, more likely to work better	• Yes, e.g. willingness to accept reduced income for improved working environment (survey)	• Cost of recruiting new staff who leave because of poor working environment • Economic gains from increased productivity.	•
Those who visit buildings (eg clients, patients)	• Better experience with company, more likely to give business • Patients – better experience, more likely to recover	• Clients – measure returns to business related to good building design (requires good data and statistic al analysis)	• Patients eg willingness to pay increased taxes for improvements to local hospital (survey of patients) OR benefits transfer - measure improvements to health in better buildings and value these using existing literature on economic value of life years and morbidity	•
Those who pass by buildings (general, local public)	• Better experience of urban landscape, sense of pride in surroundings, increased well-being	• Survey of general public – e.g. willingness to pay increased taxes for changes to urban landscape.	•	•
Those who may not see buildings but are affected indirectly (e.g. larger population of England benefits from tourism related to House of Parliament)	• Increased revenues to general economy from tourism, new businesses moving to area, etc	• Could survey tourists. (Will the Swiss Re tower improve London's appeal to tourists?)	•	•
Those who reap profits from buildings, but don't work in them (CEO's etc.)	• Increased profits from more clients, greater productivity, increased sales/image etc.	• Revenues from good building design and increased efficiency etc. See 'workers' above. • More clients.	• Better image: e.g. how do we currently value the benefits of branding? A good building design can increase a company's image as a caring employer, one who is future-looking, taking on new environment technology, will reflect on value of company's product.	• Reduced costs of heating, water, waste disposal.

Healthcare buildings

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Client – Trust Chairman	• Landmark building from short time intervention • They are able to articulate a vision for the organisation in a broad sense	• Putting the project on the map	• They can make/support decisions which consider quality/affordability – i.e. give leadership at board level	•
Chief Exec and Project Directors	• Making the organisation work – complex set of issues about modernisation of organisation and estates, and buildings that fit	• Patient healthcare outcomes • Staff efficiency, recruitment, retention • Patient safety • Modernising services • User satisfaction	• Possibly – not aware of any specific examples (but they would be useful)	•
Design Champion	• Unsure whether they have time to achieve much – this is a political intervention that needs more development	• Quality of design • Other factors from personal experience eg regeneration, sustainability	• Unaware	•
Consortia (PFI)	• To get the project in a very competitive market • To be perceived as a leader in the field that can bring 'innovation' from the private sector to the public sector.	•	•	•
Contractors	• Perception is that profit is a bigger motivator than vision	•	• The contractors are recognised for driving out these 'added extras' in the affordability negotiations.	•
Design Team	• Make 'good' buildings - by doing so they often become the guardians of the social values that are poorly articulated and sometimes not even recognised or articulated by the client	• Toolkits – AEDET • Design Review Criteria • Sustainability toolkit - NEAT	•	•

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Patients	• Wellness	• Length of stay • Morbidity	• Yes, annualised bed/day analysis, e.g. less days per patient = less cost per treatment episode	• By providing efficient design and ones which positivly promote wellness, e.g. daylight/views and natural ventilation
Staff	• Good working environment	• Retention • Satisfaction survey • Prescribing errors • Care errors	• Reduced recruitment and training needed • Reduced litigation	• By providing efficient and stimulating design.
Primary Care Trusts	• Maximum activity • Improved health	• Reduced morbidity • Activity analysis	• Introduction of payment by results • Use of league tables as a financial incentive.	• By providing modern and appropriate facilities, e.g. Day Care/ACAD facilities
Neighbours	• Minimal impact on daily living	• Difficult to measure	• Difficult to quantify. Staff time issue.	• The perception of good design is difficult for large or potentially dangerous developments.
Strategic Health Authority	• Maximum and appropriate activity	• Reduced morbidity • Activity analysis	• Yes, annualised bed/day analysis, e.g. less days per patient = less cost per treatment episode	• The perception of good design is difficult for large or potentially dangerous developments.
Local Authority	• Regenerative impacts • Health improvement	• Increased employment locally • Reduced call on local services	• Reduction in local unemployment • Reduced pressure on support services	• No

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Nurses	• Comfortable, stress-free working environment that contributes to efficiency, limits fatigue, and adds a perception of increased value.	• Possibly using recruitment, retention and absenteeism statistics, currently not collected sufficiently consistently. But also qualitative evidence	• This the end of the rainbow we are all trying to reach. It may be possible to provide within individual trusts and CABE is looking at this, ie linking recruitment and retention statistics with design quality and associated costs.	• I believe absolutely. Key elements include: design of appropriate individual areas for staff; high quality organisation of space; signifying value placed on nurses by their employers through the quality of the environment.
Directors of Nursing	• Stable, effective workforce.	• And here as above		• And here as above
Other healthcare staff including ancillary	• Similar to nurses	• And here as above	• Similar to nurses	• And here as above but with different specific applications.
Patients	• All this therefore impacts positively on patient care	• Perception of staff by patients and ongoing recovery statistics.	• Yes, but not clear how calculated.	• Related to above
Visitors (including those visiting patients, external contractors, and so on.)	• Less central to this study but still relevant to the impact on nurses' working environment.	• With difficulty.	• No	• Yes, but with different specific applications
	•		•	•

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
PCT Finance Director	• Affordability expressed in Lease Plus Agreements lasting 25 years	• Complex tabulation of capital, revenue, and soft FM costs, and income caps or guidelines	• FM & QS Private sector financial model run by specialist (bank) – translates into annual lease payments (including % interest charges etc)	• Remotely; if the patient and clinician outcomes fail to be given a monetary expression!
PCT Service Providers (Departmental)	• Adequate to excellent department facilitation	• Design representations and dynamic scenario planning (time flows)	• NHS Building & Health notes guidance adjudicates whether standards met. Then cost is 'accepted' – but benchmarks are not easily found against which to add value.	• Yes, especially through detailed planning and environmental design.
Private Sector Service Provider (LIFT)	• No defects • Low maintenance • Long term value (for use or sale as another use-class, e.g. offices)	• High quality front end information. Deep level of flexibility to build structure.	• 'Good design' not remunerated well! • Flexible planning preferred. • Banks assess value of property at end of 25 years and lend accordingly.	• Yes, profoundly. But it is assumed this is the professional benchmark. It is not evaluated or specially recompensed.
General member of public in neighbourhood	• Good looking new facility • Easy to locate • Communicating welcome/ease of access	• Empathetic designers, flair, delight and contextual sensitivity.	• Only to achieve planning consent. Then every tendency arises to 'back pedal' to cheaper outcomes.	• Yes, directly – through skilful urban design, publication consultation, negotiation with Local Authority, etc.
Patient user – member of local PCT catchment	• Clarity of use • Ease of access to GPs and clinics • Lack of any stigma • Palpable improvement in care	• Design narratives 'patient journey' agreed/negotiated at early stages. Experienced designers and best examples visited.	• Only if can demonstrate more consultations per hour! As yet healthier community is not rewarded!	• Directly yes – best is to show/visit good examples. Difficult to isolate the 'representative patient'.
Complimentary healthcare, preventative medical advice, well-being centre	• Capacity of NHS facility to easily incorporate – through cultural shifts – non-clinical care, counselling, etc	• Low capital cost, flexibility, 'natural environment'.	• At present none. However in future, home based care will transform the value of centre focused care, then 'building' can find other complementary uses, especially towards well-being, etc.	• Yes, but only to extent it is specifically set as a goal.

Higher Education Laboratories

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
The scientists (the users)	• Appropriate research facility • Functional • Interactive • Able to attract best scientists	• Yes to all – does it work, ask the users.	• If it isn't, then it's been a wasted expenditure	• Yes to all
Estates Directorate	• Project delivered on time • On budget • To required quality	• Yes • Yes • Harder	• Yes – compare budget to out-turn cost • Yes, compare actual programme to original • Quality harder	• Yes
Planning authority	• Appropriate additions to the townscape: scale, massing, appearance, traffic & pedestrian access	• But achieving planning permission	• No	• Yes
Architect	• Firmness, commodity, delight, • new knowledge for next time, • clients expectations exceeded	• If it doesn't leak, if it functions, harder of course • the experience gained • yes if all the above are achieved	•	• Yes • No
Security providers/managers	• Functional security • Appropriate location of function • Easily manageable solutions	• Does it work	• Yes – efficient, cost-effective, long term provision of security	• Yes
Cleaning company	• Safe cleaning methods • Economic cleaning solutions • Well-selected materials • Appropriate storage facilities	• All are measurable	• Cost of contract/staff cost (or not) of replacements	• Yes

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Research Community	• Recognition • Research quality • Income • Value of research • Seeing ideas exploited • Advancement	• Papers published. • RAE Assessment. • £/sqm • Sometimes • Hit rate • Career progression	• No. • Yes – additional HEFCE funding • Yes - ??? • Some national figures quoted in drug companies • Maybe • Could be	• Ability to be able to recruit best people • Facilities to suit users • Flexibility for future • Facilitation of interaction.
Animal technicians	• Pleasant working environment • Social interaction • Animal health	• Yes – questionnaire • Yes – questionnaire • Infection rates	• No • No • No	• Yes – working environment • Yes – by inclusion in department • Yes
Students	• Recognition of academic achievement • Social interaction • New horizons	• Yes – degree class • Institution recognition • Yes – questionnaire • Probably - questionnaire	• National figures quoted • National figures quoted • No • No	• Yes • Yes – by providing opportunities for interaction • Yes – by increasing opportunities for chance meetings
Staff	• Satisfaction of working for successful organisation. • Advancement. • Feeling valued. • Social interaction	• Yes – survey • Career progression • Yes - survey	• Could be – cost of recruiting new staff • No	• Yes – by type and openness of working environment • Yes- by being empowered to participate in the process.
Facility manager	• Effectiveness of FM valued by users	• Yes – user survey	• Yes – FM efficiency	• Yes by measurement and control and ??? of use
Energy manager	• Low energy use compared to comparators. • Reducing energy consumption.	• Yes – metering, benchmarking • Yes – trends	• Yes – energy savings	• Yes – by measurement and control and ease of use.

Commercial offices

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Chairman/main board	• Return on capital • Total overhead cost Community relations Corporate reputation	• Financial accounts • Cons P & L accounts Complaint levels Public and peer opinion Corporate brand valuation	• Yes – conventional financial accounts • Yes – financial and mgt accounts Maybe – cost and time exp in local planning issues Yes – stock valuation; press references	• Unpredictable link – good design can produce more for less Can project reinforce desired image and identity (but only if they are 'true') Attraction and reconition (even controversy e.g. Swiss Re)
HR Director, Knowledge Officer	•	•	•	•
Business Unit Leader	• Utilisation of resources • Cost of operations Supply chain relations Workforce quality	• Asset utilisation • Management accounts Customer retention supply cost control Staff retention and recruitment cost	• Yes - conventional mgt accounts • Yes – conventional mgt accounts Yes – sales management and procurement cost trends Yes- HRM records – cost of recruiting vs peers	• Yes – improved efficiency of use through higher versatility and low cost of reorganisation • Yes? Better welcome supported by good design/hospitality • Yes – more attractive and satisfactory environment
Business Infrastructure Management	• Capacity of infrastructure • Occupancy cost Resilience of infrastructure User satisfaction	• Utilisation of space, bandwidth • Total cost of occupancy Failure rates Complaint levels, attrition	• Yes – space occupancy studies and records of comms utilisation • Yes – hard and soft FM costs and amortized capital costs, etc. Yes – FM records/costs Yes – occupier attitude surveys and HR exit interviews	• Yes – more efficient and versatile space configuration • Yes – sustainability and running cost optimisation • Yes – greater resilience of systems • Yes – attraction and comfort stimulation
Workforce	• Availability and capacity of work tools and settings • Company density Contactibility and access Comfort and safety	• Utilisation of settings and equipment • Static and dynamic OD Phone traffic trends, failed calls User surveys, H&S records	• Yes – Utilisation rates versus complaints of scarcity • Yes – ditto ? – cost of time spent fixing/waiting for calls and meetings Yes – cost of lost time/absence	• ? – mainly about management • Yes- space configuration as above. Yes – more attractive and effective communication/interaction spaces Yes – better attention to ergonomic factors
Corporate	•	•	•	•

communications/Marketing Dir				

Key stakeholders	Key outcomes for each	Quantification of outcomes	Monetary value of outcomes.	Contribution of good design to outcomes.
Developer	• Financial success • Reputation enhanced for future bids • Success in attracting tenants	• Balance sheet • Success in being selected for future projects	• Yes, see under quantification. • Long term growth or decline of the business. Benchmarking can provide interim.	• Yes, but we need to define good design. Different views from project manager, valuation surveyor, development surveyor etc. Good design is seen to attract tenants and achieve planning consent.
Funder	• Longer term financial interest • Long term flexibility to respond to market change.	• Change in book value of the asset • Does it fail to attract new tenants.	• Yes, see under quantification.	• Yes, but in various ways. The fashionable bits (elevations etc) may date and affect adversely, while flexible format/structure etc can add value.
Tenant	• That the building meets functional, brand and sometimes CSR objectives.	• Yes, in some cases such as noise transfer or service access	• Yes, and it will be reflected in the willingness of the tenant to accept rent increases, service charges etc. In some cases such as difficulties in servicing, it may be possible to calculate the actual cost based on additional staff.	• Can be fundamental in satisfying functional need. May be more or less effective for branding etc.
Users, for example shoppers or cinema audience	• That the service offered by the occupants of all the buildings meets the users needs in an enjoyable stress-free way.	• For a shopping centre, the footfall, for a cinema more difficult as it may be the film rather than the building.	• Generally not calculated but a shopping centre which is enjoyed and offers the goods wanted enjoys a higher spend per head.	• Can be important in creating the background ambience, but in the end the quality of the service/goods will be the determining factor.
Local community	• That the building allows the occupier to fulfil the community needs in terms of goods, service, employment, environmental enhancement, lack of pollution etc	• Some such as employment or carbon dioxide emissions are easy, others such as cultural impact difficult.	• Employment or carbon dioxide emissions, and income from rates or a S106 agreement are measured.	• Similar to above.
National/global community	• Does it fulfil national global objectives or give rise to global issues such as global warming.	Energy, etc easy Traffic generation	•	•

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Developer	• Profit, reputation	• Partly	✓	• Partly
Architect	• Fees, reputation	• Partly	✓	• Partly
Local Authority	• Jobs, revenue	• Yes	✓	• Partly
Agent	• Letting	• Yes	✓	• Partly
Occupier's project champion	• Satisfaction evaluation of a positive move in his/her self assessment and job assessment	• Yes	• Perhaps	• Partly
Staff who work in the building	• A good/bad move – and accommodation experience	• Yes	• No	• Partly

Housing

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Owner organisation	• Durable, attractive housing • Rent pays cost • Good image	• HQI • Maintenance • Costs • Good reports	• Mainstream/management costs • Rent account	• Yes – improving/maintaining quality of stock
Housing manager	• Easy to let • Few voids • Easy to maintain	• Turn around • Number of voids • Few complaints/survey	• Rent levels/annum/cost • Cost of voids • Cost of staff time	• Yes, easily let etc.
Housing maintenance manager	• Easy to maintain • low cost • Easy access	• Maintenance costs • Low level of reactive repair • Number of abortive visits	• Yes • Cost of reactive repairs • Cost of abortive visits	• Yes, easy to manage
Development manager	• Development costs work • Prestigious	• Number of units developed • Reputation	• Property value held • No (? loss of development funding/opportunities)	• Yes, easy to develop, get planning approval, funding
Tenant	• Suits needs • Affordable services • Durable • Attractive	• Transfer requests • Low bills • No. of repair requests • Ease of letting (time)	• Cost of managing transfer and void • Running costs • Reduced turnaround	• Yes, happier users
Neighbour	• Attractive • No nuisance/adverse impact • Supports infrastructure	• Planning objection • Property values • Local economics	• Property values locally	• Yes, happier neighbours

Key stakeholders	Key outcomes for each	Measurement of outcomes	Quantification of outcomes.	Contribution of good design to outcomes.
Developer	• Return on investment • Increased land values • Rapid sales • Commercial kudos	• Yes • Yes • Yes • No	• Yes – commercial and development economics. • No	• Yes – see CABE's Value of Housing Design and Layout
House buyers	• Desirable home (with kerb appeal) meeting individual criteria for location, amenity, affordability, resale value	• Yes, but much of it is opinion and aspiration.	• Yes, crudely through costs and resale values. Hedonic pricing of housing markets is beginning to reveal some of the costs.	• Yes – but there are design aspects and aspirations designers need to understand, and housebuyers aspirations and expectations to raise.
Social landlord	• Obtaining properties that are easy and cheap to maintain and popular with tenants	• Probably only in retrospect – WLC costing is too inexact..	•	•
Tenants	• A desirable home (with kerb appeal) meeting individual criteria for location, amenity, affordability, resale value	• Yes	• Nor really	• Yes
Planners	• Scheme in agreement with UDP's and planning requirements • Simple process/good S106 deals etc.	• Yes • No	• No	• Yes – clarity of approaches demonstrated in design codes etc. – but also understanding of design to assess proposals.
'Local community'	• Appeasing nimby-ism	Probably no (despite the good recent JRF study on 'Housing Futures' and local opinion).	• No	• Yes – also good consultation and communication.

Retail

Key stakeholders	Key outcomes for each	Can these outcomes be measured?	Quantification of outcomes.	Contribution of good design to outcomes.
Retail customers - users	• Pleasant, efficient environment in which to shop • Adequate stocks of commodities	• Yes – survey/opinion. Yes stock control linked to requests for	• Yes – sales £/sqm (The difficult part is working out which contributes where and when, and there may be conflicts)	• Yes
Staff	• Pleasant efficient environment in which to work	• Yes – survey/opinion and measure of efficiency £/sqm	• Yes, as above	• Yes
Business owners	• Profits per sqm of <u>total</u> space, retail and storage etc. • Image	• Yes £/sqm against norms • Yes survey/opinion	• Yes, as above	• Yes
Business directorate/senior managers	• Ease of achieving above	• Yes because other outcomes can be measured.	• Yes	• Yes
Trading companies (e.g. for deliveries)	• Efficient access/egress and systems for interaction	• Yes – survey/comparative	• Yes, reflected in price negotiation	• Yes
Wider general public	• Adds to street or other scene – visual amenity	Yes – survey/opinion	•	• Yes