

SUSTAINABLE ASSET MANAGEMENT (SAM) DECISION MAKING: AN EXPLORATION OF CURRENT PRACTICE

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The fundamental aim of any construction client is to gain maximum benefit or utility from any project or programme proposed. Traditionally the utility of the project has been evaluated using monetary based techniques including, although not limited to, cost planning and whole life or life cycle cost analysis. In recent years, however, social housing providers have become increasingly aware of the importance of sustainability; both in terms of sustainable development and sustainable communities, leading some to consider a multiplicity of other non-financial attributes, cutting across the social and environmental aspects of sustainability during project appraisal. The results of an exploratory qualitative survey are reported, based on a series of semi-structured interviews undertaken with senior housing professionals from a range of social housing providers and local authorities. The research indicated a desire within the social housing sector to embed the three high level criteria associated with sustainability within their asset appraisal processes. Attempts to integrate sustainable benefit planning into the decision making process require further refinement as no apparent tool yet exists to facilitate this process.

Keywords: asset management; project appraisal, social housing; sustainability.

INTRODUCTION

It is more accepted that the management of the existing built environment is an important contributor in the drive towards sustainability and sustainable development (Yates, 2006). This approach has already become a major focus within the myriad of public policy documents related to sustainable development, sustainable construction, sustainable communities and finally climate change. The problem now facing local authorities and registered social housing providers alike is how to transpose policy objectives into reality.

The research aims to explore the importance placed on the sustainability criterion by those charged with the implementation of the government's policy objectives. Literature relating to sustainable development; sustainable communities, and current investment evaluation techniques are reviewed. The results of an initial exploratory study which collected data from seven housing professionals explored the level to which sustainability issues guides their decision making processes is presented.

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The paper concludes by proposing further research be undertaken to develop a decision support tool orientated towards the sustainable benefit evaluation of asset investment strategies in the social housing sector.

LITERATURE REVIEW

Sustainable Development

Sustainable development, evolved from the numerous environmental movements in earlier decades eventually growing into a wider discourse in the, 1980s when sustainability became an accepted method of balancing environmental resource protection, social progress, social justice, economic growth and importantly stability for now and for the future. Although a myriad of definitions have been proposed which encompass these ideals, the most widely used and accepted international definition of sustainable development is that provided by Brundtland (WCED, 1987)

‘Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Although this statement is the most widely accepted definition of sustainability, it is not without its critics, These arguments are encapsulated in the work of Brandon and Lombardi (2011) who suggest, as a solution to the criticisms of the earlier definition, the following:

Sustainable development is a process, which aims to provide a physical, social and psychological environment in which the behaviour of human beings is harmoniously adjusted to address the integration with, and dependence upon, nature in order to improve, and not to impact adversely, upon present or future generations

In the UK, the international commitment to sustainable development has resulted in various policy pronouncements, which have in turn each affected the construction sector. The first such policy ‘A better quality of life – a strategy for sustainable development for the United Kingdom’. (1999), responded directly to the commitments made at the Rio earth summit. The document outlines fundamental targets for sustainable development including: (i) the achievement of social progress; (ii) protection of the environment (iii) prudent use of resources and finally (iv) sustained growth in both the economy and employment.

Whilst developing its policies on sustainable development the government conceded that, the housing market in England was in itself unsustainable. In the south of the country, the market faced momentous housing shortages. Conversely, from the Midlands upwards the market was contracting significantly; with large segments of stock evidencing high vacancy rates, falling values or in the worse affected communities, virtual abandonment. The sustainable communities plan was to be the previous government’s solution to these failings, through the transformation of these problem segments of the stock into ‘sustainable communities’, or communities in which the government advocated:

“People want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all” (ODPM, 2003)

The view expressed by the various proponents of the sustainable community plan suggests that the implementation of the policy within both the social housing sector would lead to the creation of communities capable of absorbing social change through

self-renewal; or where existing housing could be reused or recycled to provide a range of goods and services for modern living.

Sustainability in the social housing sector.

Sustainability has become a key component of new social housing development over the last decade, with the Homes and Communities Agency (HCA) and its predecessor the Housing Corporation issuing a myriad of best practice and policy guidance to housing associations, registered social landlords and others involved in the delivery of social housing. Over this time horizon the attainment of sustainability indicators has become a key aspect on funding bids for new development (Wilkie, 2006). The attainment of sustainability is typically measured using two toolkits, the first of which is the Code for Sustainable Homes toolkit, although highly environmentally focused (Rees, 2009). Social housing is now required to attain level four or higher under this methodology. The second toolkit for the assessment of sustainability is the Life time homes standard. This toolkit which appraises the sustainability of the development against sixteen pre-determined design quantity indicators, covering a diverse range of attributes including inter alia community impacts, design and construction of the housing, infrastructure layout.

Whilst there is a clear, drive towards sustainability in HCA, funded new developments the same desires are also clear, although less directly, in the way social housing providers manage their existing stock. Over the last twenty years, social housing in the UK has repeatedly faced significant pressures to re-balance its stock, not only through improvements to the physical condition of the stock but also through improvements to the stocks energy efficiency.

The Decent home standard, launched in July, 2000 provided a mechanism allowing the government to require social housing providers to improve housing conditions, update facilities and improve the thermal comfort provided to tenants (Kempton, 2004). More recently, the coalition government has renewed this drive to improve the thermal performance of the existing housing stock including that provided by the social housing sector. The green deal seeks to improve the energy efficiency of existing housing thus reducing CO₂ emissions whilst also providing social benefits to society through improved thermal comfort and reducing fuel poverty (DECC, 2010).

Further to the drivers to improve the environmental sustainability of the existing stock together with the associated social and physical benefits offered. The social housing sector is also facing increasing pressures associated with a number of socio-economic phenomena including economic decline within some localities, changing social needs and finally increasing stigmatisation of social housing.

Economic appraisal of Asset Management Options

For the purposes of this research, asset management is defined as the strategic management of the existing housing stock with specific focus towards the more expensive and strategic investment regimes identified by Mansfield (2009b) to reverse the effects of both obsolescence and physical deterioration. The recent EPSRC funded research being undertaken at the University of Greenwich is at the forefront of the drive towards sustainable asset management. The ongoing research is focused towards the promotion of sustainable maintenance assessment, based not on condition but on the principles of performance appraisal. Whereby maintenance need is identified, assessed and prioritised using the performance of the stock, measured

against criteria, which encompass the three fundamental drivers of sustainability (Cooper and Jones, 2009).

It is now becoming increasingly accepted that improving the sustainable performance of existing social housing is a key challenge facing many public housing organisations. It is imperative, that investment decisions ensure that the environmental and social benefits associated with the investment are fully balanced with the pre-determined economic restrictions, which are inevitable within any project. Over the last six decades, a number of researchers (Needleman, 1965; Lean, 1971; Bell, 1981; Boon and Robertson, 1990; Nieboer, 2009) have developed various tools, in an attempt to provide a suitable model for housing investment decision making.

Prior to, 1980, these models largely adopted a pure economic approach to the appraisal of property investment decisions. The first, proposed in the seminal work of Needleman (1965) provided a purely economic tool, which facilitated the evaluation of possible investment levels. The Needleman model restricted itself to the consideration of demolition and rebuilding or various levels of refurbishment based on their capital cost. The model aimed to devise the most appropriate approach but it also failed to factor in any allowance for social costs, such as disturbance, which may be involved (Nutt *et al.*, 1976 pp.17).

Whilst this work presented the first such model, several modifications were proposed, these included Sigsworth and Wilkinson's (1967) amendment to include inflationary cost increases and Schaaf's suggestion that depreciation should be included within the formulation. The next step change in such investment models, emanated from the work of Lean (1971). This work advocated the need to base decisions on the perceived value of the building. Although grounded firmly in economics, Lean's proposals did consider accommodation standards and to some extent the environment, however, both these variables were allocated a capital value.

This initial focus of the work towards the economics of the housing asset management decision has since been called into question, not least within the paradigm shift in emphasis presented in the seminal work of Bell (1981). Bell was critical of the earlier work indicated above and argued that decision making should be reflective of the social and environmental importance of the proposed housing development and not just the economics of the decision. To reflect this change in focus, Bell proposed a more holistic model. The model was devised through the medium of case study research with Bolton Metropolitan Borough Council. Bell postulated that investment decisions in the housing arena should be based on a full appraisal of both the financial decision attributes together with the anticipated environmental and social benefits which could be attributed to each option. Allowing the professional to reach an informed decision based not only on the anticipated financial resources required, but to also map the outturn social and environmental benefits against the various spend profiles. However, Bell's work did not provide sufficient detail of the decision evaluation process. This omission limited the model's practical applicability.

Since the work of Bell in the early, 1980's which made the case for investment decisions to be based on wider benefits not just project cost, the social housing sector has yet to fully engage with this called for paradigm shift. However, the doctrinal work of Carter (2005) in cooperation with housing association delivery teams did evidence the start of the move towards sustainable decision processes in the procurement of new build housing. The importance of asset management tools which

include sustainability related attributes is captured by Mansfield (2009a). Mansfield argues that “evolving sustainability policies in respect to corporate social responsibility and socially responsible investment are also informing property-based decisions” in addition to the more normal economic attributes associated with return on investment which traditionally formed the key basis within the decision environment

Increasingly in the social housing sector, there is a desire for practitioners to evaluate the “value” of proposed asset improvement projects as opposed to appraisal restricted in focus towards cost. Whilst in the assessment of value, capital and whole life costs will be important. It may be argued that the potential benefits of the asset improvement programme or project would disseminate into the local community and so should also form a key part of this value-orientated assessment. This evaluation of benefits, it is suggested, should consider the potential benefits the investment may provide against social, economic, and environmental phenomena.

RESEARCH APPROACH

The research aimed to evaluate how housing and built environment professionals, at the delivery level, both interpret the policy documents pertaining to sustainable communities and finally how their interpretations are reflected in the early stage evaluation of both projects and programmes of asset management. It was essential that the research extracted this data from the sample in such a way that would allow the viability of further research to be appraised and evaluated. Preventing the researcher taking what Farrell (2010) alluded to as an armchair evaluation of the research problem confined to the bias of the researcher and their perception of the literature. In support of Farrell's assertion, Oppenheim (1992) advocates that the instigation of some form of exploratory survey would be a fundamental stage in the conceptualisation of the research hypotheses.

For the wider study, the researchers have adopted a pragmatic philosophical position thus allowing them to select the research paradigm suitable to the specific stage in the study. Oppenheim's (1992) seminal text on survey research design advocates the adoption of qualitative data collection during this phase. Creswell (2003:22) concurs with Oppenheim in this regard, suggesting a qualitative methodology is essential especially where the researcher is not fully aware of the variables, which would be key to the problem under review. Interviews would therefore facilitate the collection of data with sufficient depth thus allowing the researcher to draw both meanings and ideas from the research participants.

Method of Data Collection

The exploratory pilot study represents an extension and re-focusing of the earlier study (Higham and Fortune, 2010) which focused on the evaluation of potential sustainable benefits at project level within local authority housing regeneration schemes. The re-focused study sought to appraise asset management decision making at a strategic level within the social housing sector. As with the earlier study, this exploratory pilot study sets out to explore current practice whilst also evidencing the need and viability of the theoretical base of the proposed study to the academic community (Teddie and Tashakkori, 2009)

To achieve a balanced view within the exploratory study, it was considered relevant to include all those directly involved with asset investment decisions within the development of the business case for asset investment. The participants were selected

using discriminate sampling which maximises the opportunity of relevant data collection from a small sample. The housing associations and local authorities were chosen to represent the range of different business models and scales of activities. The local authorities were selected based on the size of the budget provided by one northwest pathfinder organisation in, 2009. The social housing providers were selected based on guidance from a senior housing practitioner, to ensure the data was collected from the full range of business models. The sample included organisations operating both the traditional housing association model together with organisations created through stock transfers, who operated by the registered social landlord and arm's length management organisation (ALMO) business models.

The participants were invited to take part in an interview, held at their offices. The aim of the interview was to establish the meaning and values associated with the term sustainability and to explore how the organisations applied sustainability within the strategic business case for investment. This approach was sufficient to ensure the collection of comparable data the interviews allowed the interviewee to shift the focus to some extent towards their own perceptions of the issues they felt were the most prominent.

CURRENT PRACTICE OF ASSET MANAGEMENT

Sustainability and sustainable communities

The first area explored during the interviews sought to establish the importance of sustainability and sustainable communities' rhetoric to the property investment decision making process at both strategic and project level. The interviews revealed a significant disparity between the acceptance of the government's policies as rhetoric and the actual acceptance of the policies to an extent that would allow them to be implemented.

The data suggests that whilst all seven respondents demonstrated a sufficient understanding of the theoretical concepts and policy guidance relating to the key deliverables associated with sustainable development, and more specifically those associated with sustainable communities. As the discussions developed, however, it became increasingly clear that the three interviewees based in local authorities demonstrated an unwillingness to accept the importance of sustainability within the regeneration context. The views expressed ranged from, the smallest local authority, that accepted the importance of sustainability, but felt unable to comment further due to the limited scope of their own programmes. The larger organisations, on the other hand, expressed negative views towards sustainability

"It's not a philosophy I subscribe to in all honesty as it's not really proven . . . economic regeneration takes time. We have boundaries. And we can't deal with everything. Such as rebuilding the job market in the area . . . Social regeneration is more difficult and vulnerable to political whims as it's a long term goal" (Medium Sized Local Authority).

Conversely, however, the range of interviews held with professionals from social housing backgrounds demonstrated an unambiguous commitment to sustainable development and sustainable communities. As one interviewee put it.

"The thing that seems to be buzzing around at the moment is sustainability and we are very interested in trying to integrate that into our development policy (RSL)"

One very encouraging response to the questions highlighted that the government led top-down rhetoric which forced sustainability onto organisations has now ended. This suggested that social housing providers now assimilate sustainability into their activities because they believe it is integral to their business.

"The Housing Corporation used to have a sustainability tool kit which you had to demonstrate compliance with, but that seems to have dropped off about three or four years ago. Now there is no actual sustainability assessment model to which we must adhere but we are still very conscious of the importance of sustainability"(National H.A.)

Asset Management Decision Process

The final major theme within the research, relates to the feasibility evaluation of investment programmes. The literature suggested that such an evaluation would often exhibit a monetary focus using either capital cost or whole life cost based investment appraisals. The final section of the interview, sought to identify the current approaches adopted by professionals in relation to project appraisal.

The data reveals a significant disparity between those professionals working in the local authority context and those working in the social housing sector. In terms of those from the local authority background, the discussions suggest that project evaluation is not the norm with the context of the projects. The three professionals unanimously felt the level and availability of funding actively prevented them from undertaking any meaningful feasibility appraisal of projects.

"I have a budget of £12,000 per property including all professional fees etc . . . what's the point of project evaluation?" (Large Sized Local Authority)

The views expressed by the regeneration professionals, suggest that any form of cost or value based planning and evaluation is presently not achievable within the regeneration arena given the importance of price ceilings in terms of maximum spending allowances.

Importantly all three professionals were also of the opinion that the present funding system held back the achievement of sustainable regeneration, Indeed the smallest local authority surveyed advocated that

"Our lack of funding is a major barrier to the implementation of any worthwhile regeneration" (Small sized Local Authority.)

Regrettably, as the local authorities increased in scale, and therefore their overall contribution of the total funding allowance increases, the views expressed by the smallest local authority continue to be exhibited.

"If I want an impact I give a grant, but do we have enough funding to make an impact? The problem is if you're going into an area you need to do the lot and if you do half the area it will only have a 25 p.c. effect". (Medium sized Local authority)

Finally, the professional employed by the largest local authority highlighted that

"I could achieve sustainable regeneration, indeed if you look at past works under SRB I did, but I spent typically £30,000 per property. Now it's an unrealistic dream on my budget of £12,000 per property including all professional fees etc . . . if they want sustainable communities I need significantly more money".

Conversely, the experiences in the social housing sector would again appear not to support the views expressed above, the interviewee from the housing association

confirmed that investment appraisal at project feasibility stage was fundamental to the decision making process. Although this often focused on the holistic assessment of a multiplicity of variables, which correlated with those identified in both the policy framework and literature associated with sustainability. However, it must be acknowledged that the funding regime in the social housing sector is less reliant on the public purse. As such, housing associations are less likely to experience the negative effects of funding pressures.

The commitment to the implementation of rhetoric pertaining to sustainable communities was clearly important, as one interviewee demonstrated through the narrative of a small case study recounting a recent project.

The estate itself was categorised as a major crime hotspot with significant problems associated with anti-social behaviour, outdated stock and predominantly socially excluded . . .demolition would have been easier here, however we remodelled the estate transforming an unpopular housing estate in to a mixed community and popular estate. . . .The asset management decision here really was fed by the appraisal of social, environment and economic benefits in deciding what the community wanted and delivering it. (RSL)

This approach was echoed another interviewee who simply stated

"We have demolished significant quantities of property based on our assessment of both social attributes and physical condition (ALMO)

Whilst it would appear that sustainability related variables are paramount and cost is secondary, the interviewee's from the major housing associations explained that these outcomes are very reflective of the stock

"Transferred local authority stock is always problematic due to the vast amount of social and environmental problems they exhibit" (Regional H.A.)

This is not to say, however, that the more commercially focused housing associations do not express the same commitment to sustainability, as one interviewee expressed

"We predominantly use capital cost appraisal models, the primary model we use does not really consider cost appraisals such as cost plans. We use the net present value model which compares costs against revenues to appraise the commercial sense of the investment. Although this looks economically focused, we do go beyond this. We use scrutiny panels to assess the wider potential benefits of the investment considering issues such as how the investment would support the community, but there must also be scrutiny against our strategic objectives" (National H.A.)

Summary

The exploratory research reveals that professionals working in the social housing arena are far more in-tune with sustainability generally, than was originally suspected. It has to be acknowledged that the data collection undertaken in the social housing sector is not yet generalisable and as such it cannot be argued to be robust. The findings of the exploratory interviews concur with earlier work evident in the literature (Carter and Fortune, 2002; Cooper and Jones, 2009). The research indicated a desire within the social housing sector to embed the three high level criteria associated with sustainability within their practices. Yet attempts to integrate sustainable benefit planning into the decision process requires further refinement as no apparent tool yet exists to facilitate this process following the removal of the sustainability toolkit commissioned by the Housing Corporation.

Refinement of this process will now form the basis for further research contributing to an ongoing PhD in the field of sustainable benefit evaluation. The research will build on Carter's (2005) earlier CONSUS model of sustainable procurement practice by re-affirming the significance of each of its sustainability features within the feasibility evaluation of potential estate improvement programmes. Shifting the focus of the tool towards the management of built assets. Such a shift will develop a decision aid linking the appraisal of sustainable benefits to the more traditional monetary based analysis of programme feasibility within the asset management arena.

CONCLUSIONS

The study has identified several areas that could be developed to facilitate increased implementation of sustainability within the housing investment decision environment. Whilst the professionals working in local authorities, are predominantly involved with private housing identified several key barriers to the implementation of sustainability. Social housing professionals clearly did not share these views, evidencing a clear commitment to sustainability through the medium of both sustainable development and sustainable communities. Yet the professionals concerned identified the lack of appropriate decision support tools which allowed the more subjective, value laden, variables to be appraised as a gap in current asset management practice and welcomed the research proposed. This together with the literature reviewed above provides a clear base from which the PhD in the field of sustainable asset management decision making can now be developed.

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