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Contextual Factors influencing Sustainability in Private Finance Initiative (PFI) Housing in the UK

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Local Authorities are increasingly faced with the problem of how to improve the sustainability of existing social housing stock, whilst providing additional units to meet increasing demand. The Private Finance Initiative (PFI) has been used as a means to deliver new and refurbished social housing using private, rather than public capital; however there have been concerns about the use of the PFI model to deliver sustainable infrastructure. This paper reports on the contextual factors that act as stimulants or impediments to sustainability within a large PFI housing project in the North East of England. The paper suggests that conceptually, the PFI procurement model should deliver sustainable housing. However it concludes that PFI procurement is hampered by a lack of skills, knowledge and understanding within the procuring local authority.

Keywords: Private Finance; Sustainability; Procurement, Project Management, Housing

Introduction

Social landlords typically provide homes for the most vulnerable members of society. Such individuals are often disproportionately affected by climate change and its impacts, being more vulnerable to shocks such as increases in fuel prices, loss of supply and extreme climatic conditions (Wolf *et al.* 2010, Oven *et al.* 2012). The challenge for social housing providers such as Local Authorities is how to improve the sustainability of existing social housing stock, whilst providing additional units to meet increasing demand (Callcutt 2007). In order to address this dual challenge subsequent governments have sought to introduce housing supply and quality targets, alongside a regulatory framework that seeks to reduce CO₂ emissions from housing.

Until recently, the funding regime for local authorities has discouraged them from directly building new council housing. The need for social housing has instead been met by housing associations using government grants (NAO 2010). Local authorities have also sought to ensure that private developers provide new social housing through the planning system. In 2009 proposals were announced to reform the council housing finance regime and provide local authorities with greater flexibility to invest in new housing stock directly. Many local authorities have funded improvements to existing housing themselves, however where additional funding is required there are three investment options (Hodkinson 2011):

- Transferring stock to housing associations for a payment equivalent to the value of the stock. The housing association then funds refurbishment through private borrowing.
- Establishing an Arm's Length Management Organisation (ALMO) to manage or improve stock with funding from the council housing department. This option is generally not viable where high levels of investment are required.
- The Private Finance Initiative (PFI) where the local authority enters into a contract with a private sector partner. This option is aimed at local authorities where high levels of investment are needed.

This paper is concerned with the last option, and whether the PFI procurement process, which differs from traditional housing procurement processes, can deliver new and refurbished housing that meets the sustainability objectives set out by government policy.

Housing PFI

The Private Finance Initiative (PFI) was developed in the UK in the early 1990's, initially under the guidance of the former conservative Chancellor of the Exchequer Norman Lamont (Wakeford and Valentine 2001, Henjeweale *et al.* 2011a). The main aim was to achieve closer partnerships between the public and private sectors, however PFI was also seen as a way of avoiding public expenditure controls and more recently leveraging private sector capital (Henjeweale *et al.* 2011b). Over the last two decades the principles behind PFI have been implemented in many other countries thus lessons learnt from UK experience have international implications (Grimsey and Lewis 2005).

Introduced into housing in 1998 PFI has represented a small, but significant part of total investment in social housing (NAO 2010). Since its introduction a total of £4.3 billion has been allocated to local authority PFI housing projects through six rounds of funding (NAO 2010). As of April 2009, the programme had refurbished 12,343 homes and purchased or built 991 homes with the UK Homes and Communities Agency estimating that further PFI programme will deliver a total of 28,000 homes (NAO 2010). In terms of the scope and process of PFI housing projects, a local authority negotiates and signs a contract with a private sector company that typically lasts 30 years and facilitates the refurbishment, re-provision or construction of new homes. During this period, and for the remainder of the contract, a private sector partner delivers the services previously undertaken by the local authority. In housing PFI, such services often include repairs and maintenance, tenancy management, facilities management and security (NAO 2010). The company is paid for the work over the course of the contract through a unitary charge which is performance based. The levels of performance required, and service standards are included in the 'output specification' that is designed by the local authority throughout the procurement of the project. If the standards contained within the specification are not met, the company will lose an element of its payment until standards are improved.

Sustainability in PFI

Since its inception PFI has drawn praise and criticism in almost equal measure, and has been the subject of numerous academic studies and industry reports. These studies investigate a range of different issues from the way in which PFI handles risk (Broadbent *et al.* 2004, 2008, Bing *et al.* 2005), whether PFI offers value for money over other, more traditional procurement routes (Asenova *et al.* 2002, Akintoye *et al.* 2003, Pitt *et al.* 2006); design quality and innovation (CABE 2003, Barlow and Koberle-Gaiser 2008); and more general papers concentrating on contextual factors such as barriers to PFI, success factors and project management (Broadbent and Laughlin 2005, Li *et al.* 2005, Smyth and Edkins 2007). An analysis of research on PFI by sector reveals that the majority of research has focussed on PFI Schools projects; PFI prisons; PFI hospitals; Ministry of Defence projects; other infrastructure projects such as roads, transport and waste. It is only relatively recently that researchers have begun to study the issues surrounding sustainability in PFI and PFI Housing in general. This issue is picked up by Hodkinson (2011) who sets forth a research agenda with regard to PFI and housing. One area that is missing from the Hodkinson's recommendation is PFI's role in addressing sustainability in housing.

The literature on sustainability and PFI spans a number of issues, including the financial implications of incorporating sustainability into PFI projects (De Lemos *et al.* 2003), the technical issues and how PFI may be used to promote sustainable construction techniques and unlock the

associated benefits (Garwood *et al.* 2002), and the extent to which sustainability in general is being considered within PFI along with potential methods of improvement (Hill and Collins 2004, Zhou *et al.* 2006, O'Brien and Hope 2010, Wang *et al.* 2011). Throughout the literature there is some scepticism as to whether PFI and sustainability can in fact co-exist (Quack *et al.* 2007). The argument suggests that by transferring public services either fully or partially to the private sector works to exploit the capital interest of private investors, for whom profit is the overriding factor. This is backed by evidence that in some PFI projects, both quality and cost has been compromised and sustainability not addressed (McCabe *et al.* 2001, Khadaroo 2008, NAO 2009). However some authors have suggested that PFI can and should be used as a mechanism to drive the construction sector towards greater sustainability (OGC 2002, BRE and Cyril Sweett 2005, Yates 2008).

In theory, the use of PPPs such as PFI to deliver new and refurbished social housing should create an opportunity to circumvent some of the issues inherent in providing sustainable homes. For example, one of the problems in attempting to utilise small scale renewable energy systems such as solar photovoltaics is their high capital cost and long pay-pack periods. The long-term nature of PFI contracts, typically 25-30 years, should mean that the whole life costs of maintaining the asset should be taken into account during design and construction (Hill and Collins 2004). This in turn should make capital investment more attractive as the long-term costs are greatly reduced. Additionally within PFI procurement there is a period of 'Competitive Dialogue' used in complex contracts where there is a need for the contracting authorities to discuss all aspects of the proposed contract with candidates (O'Brien and Hope 2010). This dialogue process presents an opportunity for both parties to discuss sustainability and renewable energy objectives, and for local authorities to ensure that their long-term commitments are taken into account.

For these benefits to be realised, the local authority PFI team requires the skills and capacity to be able to engage in meaningful dialogue at both a technical and contractual level (O'Brien and Hope 2010). In addition veterans of many PFI projects reveal that it is often the contextual factors such as political leadership and organisational priorities that decide sustainability outcomes (O'Brien and Hope 2010). This is due to the fact that sustainability as a concept is not apolitical and it is the interpretations of sustainability within a political context that determines levels of commitment (Hopwood *et al.* 2005, Mansfield 2009). Whilst it is recognised in the literature that contextual factors do affect the quality and value for money aspects of PFI project (See for example: Broadbent and Laughlin 1999, Dixon *et al.* 2005, Eaton *et al.* 2006) there is as yet no insight into how organisational and contextual factors affect the sustainability of PFI projects.

Research Design

The case study took place in the North East of England where a local authority was seeking to replace its ageing social housing accommodation for elderly people. The authority made the strategic decision to bid for central government PFI funding and was awarded just over £112 M to contribute to the procurement of high quality, sustainable homes. The project, aimed to refurbish and rebuild all local authority owned sheltered housing in the borough, approximately 1000 homes across 26 multi-residential buildings. At the same time, the project aimed to reduce overall energy use across the housing stock, reduce CO₂ emissions and maximise potential for renewable energy. The project also sought to meet the social care targets of the authority by reducing the number of elderly people vulnerable to fuel poverty and extreme weather events such as heat waves and cold winters.

A participant observation study was conducted between August 2008 and June 2011, during which time, the researcher was embedded within the PFI procurement team and gathered the views of those working on the project, and those working within the local authority but not attached to the project. The views of external advisors to the project were also recorded, as were those of members of the

private sector consortia bidding for the project; however the study focussed primarily on the public sector PFI team. In order to analyse data gathered, a framework was devised, based in part on the work of Eaton, Akbiyikli and Dickinson (2006) who investigated the stimulants and impediments to innovation in PFI projects (Figure 1).

Figure 1: Contextual Issues Framework

<p>External Environment Level</p> <ul style="list-style-type: none"> • Government • Legislation • Industry 	<p>Organisational Level</p> <ul style="list-style-type: none"> • Politics • Economics • Organisational Goals
<p>Project Level</p> <ul style="list-style-type: none"> • Project Management • Communication • Contractual 	<p>Job Role Level</p> <ul style="list-style-type: none"> • Knowledge, Skills, Capacity • Workplace pressures • Resources

Results

External Environment Level

The main issues arising at the external environment level are grouped under three main heading; issues arising at central Government level, issues arising from legislative and regulatory changes and issues arising at the level of the construction industry as a whole.

Governmental Issues

The influence of national politics on the PFI project as a whole was an issue that was raised consistently throughout the study. During the study period there were a number of major changes to governance in the UK that resulted in changes and delays to the project. On May 6th 2010 a general election was held to elect members to the House of Commons. During the elections government activity was placed on hold pending the results. Following this there were further delays as the new Government attempted to form a cabinet. In total delays to the project due to changes in national governance was over 3 months. One of the first actions of the new government was to embark on a comprehensive spending review designed to assess the country's finances and establish where budgetary savings could be made. As part of this review, the department for Communities and Local Government (CLG) scrutinised affordability within all PFI housing schemes. The project was placed on hold for a period of 12 weeks whilst the review was held, the results of which was a reduction of PFI credit of 2 million. The project was halted again prior to calling for tenders when the Treasury asked for the preparation of a pre-final business case to re-examine value for money in the project.

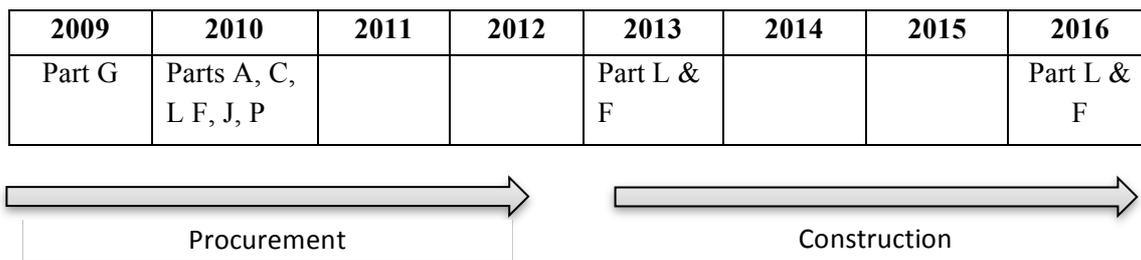
Overall delays to the project due to national political issues were estimated to result in a £300,000 bill for the procuring authority, and similar costs to each of the private sector bidding consortia. The true impact that the delays and additional cost had on sustainability within the project is difficult to

quantify. However PFI team members suggested such that additional cost would impact on the overall quality and sustainability of the project.

Legislative Issues

During the course of the project, there were several changes to regulations and legislation in particular the national building regulations which set minimum standards for design and construction in England and Wales. The regulations are updated and revised on a rolling cycle, and there were a number of revisions that took place during the project (Figure 2).

Figure 2: Changes to the UK Building Regulations 2009-2016



Building regulation approval is granted on design documents at the time of submission and the developer is then expected to meet the version of the regulations they have approval for. The changes in the regulations led to some confusion as to what version was to be used. The bidder's position was that they should meet the regulations in force at the earliest stage of their designs; however the local authority insisted that buildings should meet the building regulations at the time of construction. This had the potential to affect the sustainability of the developments designed throughout the project. The building regulations that cover energy use within buildings underwent a fundamental change in 2010 meaning that building constructed under this version would be required to be at least 25 percent more energy efficient than buildings constructed under the 2006 regulations.

Aside from the building regulations, bidders were obligated to meet BREEAM and Code for Sustainable Homes (CfSH) targets. During the course of the project both assessment methods underwent changes in the criteria examined within them, and in the way in which they were applied. The BREEAM methodology used was updated twice during the project procurement, firstly from the 2006 version to the 2008 version, and then from the 2008 to 2011 version. As the standards move forward, meeting them becomes more onerous, and as a side effect, more costly. On one hand it may be assumed that the more onerous standard would improve sustainability, however if in doing so affordability of the project is in doubt, other potentially beneficial design features may be removed which could have a negative impact on sustainability overall.

Industry Issues

There were a number of issues that affected the construction industry as a whole, and in turn impacted on sustainability within the case study project. The recession that gripped the world during the course of the study made it difficult for bidders to secure favourable funding terms. Terms that were favourable at the start of the project prior had become much less attractive resulting in the bid consortia struggling to remain affordable. The effect that the recession had on sustainability within the project focussed on the ability of the project teams to afford sustainable energy technologies.

Traditionally the construction industry in the UK is viewed as conservative and risk averse, a trait that was observed during the study period. Whist design teams appeared willing to drive innovation in

design, building contractors sought to risk price any design features that deviated from standard specification. In some cases sustainable energy systems were engineered out by contractors who preferring to stick with traditional fossil fuel systems that they were familiar with.

Throughout the study the level of knowledge amongst professionals working in the construction industry with regard to sustainability was observed to be relatively low. At the early stages of the project some of the bidders attempted to keep costs low by not appointing sustainability professionals. This was evident at an early stage where many of the bidders design submissions contained inaccuracies and factual mistakes when setting out their plans for meeting the sustainability objectives. At the later stages of procurement, the bidders did employ sustainability consultants; however they were not always present at procurement meetings resulting in delays in the review of sustainability plans and submissions, and delays on the subsequent feedback. On a number of occasions bidders had to change architectural plans that had been completed some weeks earlier to accommodate feedback from sustainability specialists.

Organisational Level

The participant observation study resulted in a number of impediments and stimulants to sustainability being observed which arose outside of the immediate project team but inside the organisations associated with the project.

Local Politics

The impact of local political issues on sustainability within the project was observed throughout the study period. The project was conceived and governed by one local political party, and was opposed by the main opposition. Half way through the project an election resulted in a change of governance. The first action of the new cabinet was to cease all major projects in the borough and undertake a strategic review. This resulted in a 9-month delay to the project and an estimated cost of £450,000 to the local authority and similar amounts to each bidder. This was mainly the cost of keeping staff in position and retaining the services of external advisors.

Following the review a number of changes were made to the project, resulting in a change to the profile of new-build versus refurbishment properties. The cabinet felt that by changing the programme to a more refurbishment focussed solution would reduce costs. There was some discomfort amongst council officers about these changes, not least because it was they who had to communicate changes to the residents. Many residents were unhappy with the changes; particularly those who had previously expected to have a brand new home and would now have a refurbished property. One of the issues evident following the cabinet review of the project was speculation as to the rationale for changes to the refurbishment and new-build profile. Some of the properties that were destined for demolition in conservative wards were changed into refurbishment properties. Similarly some of the refurbishment properties in conservative wards were changed into new-build schemes, whilst new-build schemes in labour wards were changed to refurbishment schemes.

Economic Issues

The procuring authority raised economic or financial issues extensively; both in terms of the organisation as a whole and the PFI project specifically. Many staff members reported the high capital costs of refurbishment as a barrier to improving the sustainability of council stock and estate in general. The main sources of funding for possible interventions are the Housing Revenue Account (HRA) and the local authority's general fund. With both accounts being squeezed due to reductions in government grant, internally funded projects were deemed unfeasible. The PFI project was subject to

different economic pressures being funded capially by central government. The main economic issues faced during the project were due to the global recession and resulting drop in land price. The local authority had put aside a large amount of land for transfer to the bidders as part of the capital funding for the project. The value of this land fell from £6 million to £700,000 almost overnight resulting in a potential £5 million funding gap.

Throughout the study period there were tensions between the PFI team and other teams within the local authority managing council housing. The PFI team were looking to maximise the efficiency of the refurbishment process within the schemes as a means to reduce cost. This meant that a number of vacant properties within the refurbishment properties were to be held so that the developer could begin work in these properties immediately as there was no tenant to relocate. The lettings team were targeted with letting every property in order to maximise rental income into the HRA. Another area of tension was with the housing repairs and maintenance team. The team were keen on cutting their costs by reducing the amount of planned maintenance on the sheltered housing schemes, whereas the PFI team saw that any work carried out would represent a saving to the project.

Finally the issue of value for money, and what this term actually means was raised throughout the project. It was observed that VFM meant different things to different people within the local authority. The asset management team at the council made it clear that they saw VFM as releasing the maximum amount of capital from a piece of land. The PFI team defined VFM as delivering an affordable project that met the project goals from a sustainability and social point of view.

Organisational Goals

The local authority's organisational goals and corporate strategy were observed to have an impact on sustainability within the PFI project. Organisational goals in place included a Climate Change Strategy and Carbon Management Strategy. There were also organisational obligations relating to sustainability such as the eradication of fuel poverty and meeting customer needs and expectations. The way in which organisational goals were interpreted by local authority staff differed greatly. During the study period, the authorities housing department was attempting to drive a customer-focused approach throughout the organisation, a change from the more delivery-focused culture that has existed in the past. With respect to the Climate Change and Carbon Management Strategy there was some discussion amongst staff as to the difficulty in reducing carbon emissions from social housing stock with many officers expressing the opinion that they had already done all they could to reduce carbon via technical measures.

Within the PFI team strong motivation to achieve all of the project aims was observed. With regard to sustainability the tenant focussed outlook of many PFI team members was observed to exert both a positive and negative pressure on sustainability within the project. On the positive side, the PFI teams drive to meet the organisational goals was observed to drive team members to find alternative solutions. The PFI team also had a good understanding of the relationship between building sustainability and the health of tenants. It was observed that this led them to ensure that sustainability measures were prioritised throughout the project. On the negative side, some of the sustainability measures suggested did not fit with the PFI teams aspirations for tenants and tenant choice. On example was when considering whether to install baths or showers as standard. The PFI team felt that tenants should have the choice as to whether to have a bath fitted or not, but from sustainability point of view it proved difficult to meet water conservation standards with baths fitted in every apartment.

Project Level

A number of impediments and stimulants to sustainability were observed which arose at the level of

the project team.

Project Management

The PFI team was led by a senior local authority manager, a career civil servant who had worked in a number of departments including managing the Adult Social Care team, and other construction projects. The project manager handpicked the project team; a situation which team members were keen to point out was not always the case at the local authority. As a result the project manager ensured that he chose people with the skills and experience appropriate to enable them to carry out their roles. Where recruiting internal staff with the right skillset was not possible, the project manager bought in external consultants or recruited for staff elsewhere. External advisors were appointed to deal with legal issues, financial management and project management and two Knowledge Transfer Associates to provide expertise in the areas of sustainability and architectural quality.

It has been suggested that commitment to the project goals was suggested as one of the key success factors when ensuring that sustainability goals are met within a PFI project (REF). This scenario was observed during the study when bidders began to test the boundaries of the project and assess what the council's priorities were. One of the issues raised by several of the bidders was whether the council wanted to stick to its aspirations to achieve BREEAM 'Excellent' certification of all of the buildings, or to increase the number of apartments being constructed to maximise rental incomes. The project manager stuck to the stated aims and goals of the project and insisted that bidders should achieve the required BREEAM scores whilst also seeking to maximise the number of apartments.

The project manager was answerable to the project governing body made up of senior heads of service and local councillors. Here the project managers' strength and motivation, as well as their ability to communicate effectively were key to the project's success. Conflicting priorities were observed between officers, and council members who were motivated by different needs. Officers were motivated to meet the key performance indicators, which were embedded into the project business case as it is these that were reported on and they were measured against. It appeared that councillors were motivated by the need to address the budgetary problems the authority was facing. Again, the project manager's ability to ensure that the projects goals were given equal priority helped to ensure that the sustainability aspects of the project were met.

Communication

Communication was observed to be a challenge throughout the project. Communication between members of the core project team were observed to be good which was perhaps due to the fact that the team were all located in the same area and had built good relationships. However, at an organisational level, responsibility for sustainability related issues was dispersed throughout North Tyneside Council. Effective action to improve sustainability within the project was hindered in part by the silo mentality of many of the local authority officers resulting in a lack of effective communication between departments. This was observed to be the case between the local authority housing teams and the PFI team. At the early stages of the project this view was perpetuated by the physical separation of the PFI team from the rest of the housing department in a different building at the council's offices. Another reason for the perceived separation of the teams was the fact that only one member of the PFI team had recently worked for the housing department the remainder coming predominantly from an adult social care background or recruited externally.

There were also issues with communication between the PFI team and other services with the local authority that ultimately had an influence on the sustainability of housing stock, in particular energy use. The PFI team were responsible for the management of the sheltered housing stock prior to hand over to the successful private sector bidder. This included responsibility for the budget and utility

consumption. However the management of energy consumption sat with an individual within the Asset management team in a different part of the council. The PFI team had been tasked with reducing the energy use within the buildings which was disproportionately high and represented a significant budgetary overspend. Close liaison with the asset management team was required in order to achieve this goal, but this proved difficult, as the asset management team were reluctant to engage citing time management and workload issues.

Format of project contract

The PFI project contract was observed to have both positive and negative impacts on sustainability. From a negative point of view, PFI contracts are built around standard contracts issued by HM Treasury who made it clear that they were very reluctant to consider any derogation from the standard contract. The rigid nature of this standard contract left very little room for innovation. As the buildings procured during the PFI project were to be constructed over a four-year period, the lessons learnt on early developments should be considered in subsequent builds. However, future proofing turned out to be a challenge contractually due to the rigid and often inflexible nature of the contract. Discussions were held over the situation where the authority might wish to invest in renewable technologies that would be retrofitted to the developments. This raised a number of legal issues as to who would be responsible for the maintenance of any installation and issues arising from damage during installation, a risk that the bidders would not accept. Despite these issues, there was some scope to innovate within the project documentation. Performance criteria were included in the payment mechanism with financial penalties attached. During the participant observation study it was observed that the inclusion of sustainability performance criteria with the payment mechanism in particular led to bidders spending more time and resources on ensuring that their plans were accurate.

Throughout the project allocation of risk was an issue. One of the key areas subject to the most discussion was the issue of energy supply and demand risk. Traditionally energy supply and demand risk is allocated to the local authority; however the PFI team were keen to allocate energy demand risk to the bidders. The rationale behind this decision was that bidders would have an incentive to ensure that energy use within the developments was reduced. The PFI team were also keen to target the bidders on an agreed energy demand level with bidders keeping any savings that they could make by reducing demand below this target. Ultimately such a risk transfer was not agreed as bidders felt that they had little or no control over tenant's energy use or behaviour.

Overall it was observed that throughout the project the format of the project contract and the rigid nature of PFI contracts in general acted as a barrier to sustainability. The same is true of the issues surrounding risk transfer where both the local authority and private sector bidders adopt a risk adverse standpoint that hampers innovation and hinders the adoption of sustainable energy systems and novel energy delivery techniques.

Job role level

At the job role level impediments and/or stimulants resulting from the individual are described.

Knowledge, Skills and Capacity

One of the key success factors found which drives innovation in PFI was that the public sector procurement team be made up of individuals with diverse and suitable backgrounds (Eaton *et al.* 2006). In the case study PFI team this was sometimes, but not always the case. Whilst the core procurement team was made up from mostly handpicked individuals employed specifically for their knowledge and background, the extended project team was made up of officers from other teams who

were attached to the project by their line managers. The core team was made up primarily of officers with some experience of working within construction, and adult social care, in many cases both. The social care background of key staff was evident throughout the project due to the person centred approach taken to many of the issues raised during the project.

In addition to the core team and their advisors, staff from other departments at the local authority supplemented the PFI team. This extended project team comprised of staff from financial, legal, IT, human resources and regeneration departments. The level of knowledge of members of the extended project team within the local authority was an issue that was expressed several times during the course of the study. In many cases, officers were aware that sustainability was an important issue that needed to be addressed both as a requirement of the project brief but also as a core organisation goal of the local authority. However individuals expressed the view that they did not possess the capacity and skills to be able to engage with the issues fully. One department within which this issue was particularly acute was the planning department who expressed the view that it was increasingly difficult to stay on top of changes in legislation and guidance with regard to planning policy in general, and sustainability in particular. There were also concerns expressed by planning officers about their capacity to discharge planning conditions relating specifically to sustainable energy systems.

The issue of not having sufficient knowledge around sustainability issues to engage with the issues within the project was not confined to the planning department. The Local Authority legal officers, and external legal advisors each admitted that they had little experience in this area and as such took a particularly risk averse attitude to proposals to include sustainable technologies or share risk in ways that were not familiar from other PFI projects they may have worked on. This approach, while understandable, may in fact hinder the sustainability of the developments by preventing innovative approaches to risk allocation or the use of new sustainable energy technologies.

Workplace Pressures

Throughout the project there was a great deal of pressure placed upon both the local authority PFI team who clearly felt that they were under some degree of pressure to ensure that the procurement was successful in terms of meeting the desired outcomes. It would seem however that much of this pressure was due to a desire to ensure that residents were happy with the outcome of the project, rather than other stakeholders. This attitude no doubt emanated from commitment to meet the organisational and project goals such as customer care and social issues. It is likely that the social care background of many of the PFI team contributed to this view, and this pressure.

Members of the PFI team were given a high degree of authority and autonomy in the way in which they went about their work. It was observed that this created trust amongst team members who seemed inspired to articulate alternative solutions and put forward solutions that were often unpopular to bidders. However there was also a feeling amongst team members that they were given too much authority and they were making decisions that the project manager should have been making. The participant observation study found that some team members were unhappy with this situation and felt that there was too much pressure on them to make important decisions.

Concerns were voiced by several members of the PFI team as to the expectations placed on them to undertake large amounts of work in a short amount of time, particularly at key points in the project. The bidders put a large amount of pressure on the local authority PFI team to feedback on their submissions in a short period of time. The private sector bid teams could draw upon extra resources within their component organisations, and as a result were able to produce large amounts of information in a relatively short period of time. The local authority team were not able to bring in

extra resources and as such struggled to manage the workload. This led to concerns over the quality of the local authorities' feedback to bidders on their proposals.

Throughout the participant observation study it became clear that there were significant workplace pressures placed on members of the extended project team. These team members had other full time responsibilities elsewhere in the local authority and were attached to give support to the PFI project in addition to these roles. It was observed that it was often difficult to schedule meetings with the entire local authority project team due to the other commitments. In addition if bidders requested to meet with a member of the extended team, it was often difficult to schedule a time when the team member could attend a meeting offsite at the location the PFI meetings were taking place. Members of the PFI clearly felt that the project was not receiving the full attention of many of the extended team members and that this was causing delays to the project.

Overall workplace pressures were observed to impact to some degree on the quality of feedback provided by the local authority team. The high levels of autonomy afforded to local authority team members was observed to be beneficial to sustainability, whilst the workload pressures acting on members of the local authority extended team led to questions over commitment.

Resources

Throughout the study resource issues were observed. Firstly access to the physical resources that the local authority team required to undertake the job was deemed inadequate. It proved difficult for the authority to provide meeting rooms that were large enough to accommodate the large competitive dialogue meetings and associated breakout sessions resulting in meeting being held off-site. The fact that the PFI team was conducting contract negotiations away from North Tyneside Homes' offices, and the local authority base only contributed to the separation of the project from the rest of the organisation.

Access to appropriate Information Technology resources was an issue raised by PFI team members on a number of occasions. Early in the project the local authority was using obsolescent email software that would not allow the receipt of large email attachments. This caused problems when bidders would attempt to send information to PFI team members. Similarly, for much of the study period, the local authority was using an old version of Microsoft Office which could not open documents created in the newer versions of the software. Other issues included access to the 'e-room' a dedicated server provided by the local authorities financial advisors which could be used to store project information accessible by the PFI team. Because of restrictions placed on local authority computer systems, officers could not use the e-room plugin and subsequently could only upload or download one document at a time. These issues may appear relatively minor, but meant that work often took longer than it should.

It became clear during the study period that there was an imbalance between the resources available to the local authority PFI team, and those available to the private sector bidders. In particular the amount of people involved in the project on either side was an issue. The private sector bidders could supplement their team with staff from other offices to speed up the design development during the project, however the local authority team were constrained by the amount of staff they could employ, mainly for economic reasons. This resulted in the project progressing more slowly than bidders would have liked at times as the authority could only consider a relatively small amount of documentation at a time.

Overall, access to the information necessary for the PFI team to undertake their work was good. The authorities' legal advisors provided written guidance on many aspects of the procurement process, and the PFI team had access to a library of documents that included best practice guides from industry and government. Access to information from other PFI procurement projects was less forthcoming,

despite the authorities best attempts. Whilst an output specification was obtained from another PFI project that had been completed in the North West of England, information from other PFI projects could not be accessed. In some cases, the other authorities legal teams felt that they could not disclose information about their specific project, or it was simply not possible to find anyone connected to a project that was able to assist.

Conclusion

The contextual factors that act as stimulants or impediments to sustainability within PFI housing projects have been examined. In relation to the external issues that affect sustainability the macro-political environment was found to have a detrimental effect. This acted alongside changes in regulations that led to confusion and increased complexity. Unsurprisingly, the challenging economic climate within which the project took place had an impact as bidders struggled to find favourable lending terms. All of these issues together added time and ultimately cost to the project, the result being that sustainability measures were engineered out as costs began to rise. These findings conform with Hodkinson (2011) that Housing PFI is particularly vulnerable to economic and political shocks, and the findings of Bing *et al* (2005) who suggest that delays to PFI projects result in increased cost and risk from regulatory changes.

Organisational goals impacted on the sustainability of the project both positively and negatively. Positive impacts were found to be present due to the strength, and communication of the organisations goals and strategy in relations to the PFI project. Negative impacts were observed as different staff interpreted organisational goals both internally and externally. Local politics inevitably added cost, complexity and uncertainty to the project and a poor understanding of the term ‘Value for Money’ conspired to split priorities amongst some members of the broader PFI team. This finding corresponds with those of Grimsey and Lewis (2005) who found that the notion of VFM is more often than not misunderstood and too often equated with lowest cost

With regard to project level contextual issues, project management played a key role in determining sustainability outcomes. The strength and knowledge of the project manager and project team were critical to the success of implementing sustainability into the project, however communication between the PFI team and other departments within the local authority was poor. These findings correlate with those of Reeves and MacGray (2009) who noted that a project team need to have the skills and experience appropriate to the particular scheme that is being procured be capable of managing the complex procurement process and have the sufficient authority to make key decisions, and Garwood *et al* (2002) who found that good PFI management can improve sustainability performance. The format of the project contract had both a negative and positive impact on sustainability within the project. Negative impacts were due to the rigidity of the contract that left little room for innovation and novel sustainability technologies. From a positive point of view writing sustainability based performance criteria into the project agreement meant the bidders were more likely to give sustainability full consideration. This concurs with work by the Environment Committee (2007) that suggests PFI can be a barrier to sustainability because of the way, in which contracts are structured.

Finally job role level contextual factors were examined. The study found that the knowledge, skills and capacity of all members of the project teams were key to ensuring sustainability objectives were met. In particular the professional background of project team members was observed to be important, as was the diversity of the project teams skills. From this perspective, the paper agrees with Hodkinson’s (2011) point that complexity of the PFI procurement process combines with weaknesses in public sector organisational capacity to place local authorities in a weaker negotiating position in relation to private sector bidders.

Workplace pressures had a negative impact on sustainability within the project as members of the extended project teams struggled to give the project full attention and deal with issues in a timely manner. Access and use of resources was found to influence sustainability. From a positive point of view the project team could draw upon a wide range of resources outside of the core project teams to assist them in incorporating sustainability into the project. From a negative point of view; access to resources by the local authority project team was limited which added time, cost and complexity to the project. These findings echo those of Reeves and MacGray (2009) who suggest that a well-connected team within the Local Authority is critical to the success of any procurement process.

Overall the study suggests that, at least conceptually, the PFI procurement model should be able to deliver sustainable housing. However it has shown that PFI procurement is hampered by a lack of skills, knowledge and understanding within the procuring local authority and is highly sensitive to external and internal contextual factors particularly politically and economically.

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