

EVOLVING DESIGNS AND STAKEHOLDER CONTRIBUTIONS TO THE BRIEFING PROCESS

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This paper examines how client stakeholders engage with a project in the briefing phase through the artefacts of design. The significance of stakeholder engagement and interpretation of evolving designs is emphasized by empirical evidence drawn from a research study into hospital construction project briefing and design practices. The paper reflects that whilst both the NHS client and hospital design teams attempt to “engage” and “understand” stakeholders, stakeholders have the capacity to interpret designs with their own cognitive understandings. The semiotic theories of Roland Barthes and Umberto Eco concerning the role of author and reader of signs and lexicons of knowledge provide a supportive analytical framework for the insights of the paper. It is noted that whilst the constitution of the client and the parameters of a project affect stakeholder management practices, the role of evolving design artefacts and stakeholder engagement and interpretation of them should be recognised. Stakeholders relate to a project via the artefacts of design, interpreting issues against personal individual understandings that may be different to those of construction professionals or externally appointed project advisors. The paper makes the case for more inclusive participatory design initiatives to embrace diverse and insightful stakeholder opinions and interpretations.

Keywords: briefing, hospitals, semiotics, stakeholders.

INTRODUCTION

Stakeholder management has been recognized as an important concept by the construction management academic community (e.g. Atkin & Skitmore, 2008) and by institutional bodies committed to the advancement of project practices (e.g. RIBA's Certificate in Construction Project Management contains a stakeholder management element). However, there remains a lack of consensus on what strategies, practices and tools to employ to achieve stakeholder management on a project. Indeed, it has been argued that much of the stakeholder management literature is permeated with questionable assumptions and presumptions, often advocating the use of tools that lack validation (Collinge, 2012). This diversity of opinion does not assist in a clarification of ideals, principles or practices for the industry. Certainly, construction projects provide suitable contexts from which to study stakeholder influence and impact as each project brings diverse constellations of client, community and

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corporate interests together. However, questions remain as to the optimum strategies and practices to employ and whether such approaches are effective from a client perspective.

This paper contributes to the field by presenting research findings from a study into the briefing and design of hospital facilities in the UK. It is reported that stakeholder management is very much integral to briefing and design work (not being considered a distinctly separate activity) and that although both hospital designers and the NHS client actively engage stakeholder interests on a project through various activities, the significance of stakeholder interpretation of a design is often missed. It is argued that in the briefing phase, stakeholders relate to designs with their own personal interpretations that may be significantly different to hospital designers, fellow client stakeholder groups and externally appointed client advisors.

Semiotics provides a supportive theoretical framework for the paper, with the work of Eco (1979), Barthes (1977) and the social semiotic insights of Hodge and Kress (1988) and Vannini (2007) being utilized to elaborate upon the significance of signs in the briefing and design process. The paper argues that stakeholders relate to a project through the artefacts and signs of design (i.e. words in a brief; drawings; visualizations; physical models, etc.). These ideas are evidenced by presenting stakeholder interpretations of different design artefacts relating to patient bedrooms within a hospital: the changing form and format of designs affecting how stakeholders understand and relate to a project. It is argued that although designers attempt to predict stakeholder interpretations of designs, actual stakeholder interpretations may be different, resulting in formulas being interpreted in unforeseen ways.

In broader terms, the paper advocates a move away from a conception that stakeholders can be “managed”, having their “power”, “interest” or “influence” tracked in some way by individuals qualified and able to do such task. It is maintained that in the briefing phase, gauging and understanding stakeholder interests is often problematic, compounded by contractual parameters (e.g. PFI: private finance initiative) that inhibit stakeholder communication and input into the design process. The paper provides evidence that stakeholders relate to a project via the designs of a project with their interpretations being valuable and important. The need for more participatory design work is therefore made explicit.

STAKEHOLDER MANAGEMENT

Stakeholder management is rooted in strategic management theory (Freeman, 1984), being adopted by the construction management academic community as an important concept for the completion of successful construction project work (Atkin & Skitmore, 2008). Carroll (1993) provides a succinct definition of stakeholders as:

“those groups or individuals with whom the organisation interacts or has interdependencies” and “any individual or group who can affect or is affected by the actions, decisions, policies, practices or goals of the organisation.” (p.62)

In construction project contexts, large numbers of individuals, groupings and organisations could be conceived as stakeholders and scholars have classified them in variable ways. Leung & Olomolaiye (2010) and Olander & Landin (2008) categorize stakeholders as being either internal (clients; consultants; contractors) or external to a project. Publications have ranged in subject-matter from practical advice papers for stakeholder engagement (Chinyio & Akintoye, 2008), methodologies on how best to approach the subject (Fraser & Zhu, 2008), practical tools for utilisation (Walker et

al., 2008) and strategic needs analysis (Smith et al., 2001). Often supported by empirical evidence from case studies (e.g. Olander & Landin, 2008), the stakeholder management concept now embraces issues such as risk and uncertainty reduction on projects, sustainability, ethics and relationship management.

This paper explores stakeholder management from the perspective of hospital projects in the UK in the briefing and design phase. Hospital projects provide excellent contexts from which to study stakeholder management as hospitals embrace multiple stakeholder interests on both the client (e.g. clinicians; patients; visitors; FM; community groups) and construction (e.g. engineers; architects; designers; medical planners) side. Whilst hospital design teams must use optimal strategies and methodologies to embrace diverse stakeholder interests, the NHS client must also ensure that stakeholder interests are embraced and accounted for.

RESEARCH METHODOLOGY

As part of a study into the briefing and design of hospital facilities, a series of 21 semi-structured interviews were conducted with NHS client representatives and hospital architects, designers and engineers. The interviews were supplemented by the collection of materials from projects (e.g. schematic drawings; project documentation; power point slides). Interview questions were directed towards stakeholder management practices employed. Whilst interviewees provided insights regarding the methodologies and strategies of stakeholder management employed, hospital designer efforts to "understand" and "engage" stakeholder interests often oriented around the signs and artefacts of design and how stakeholders understood and interpreted these (i.e. words in a brief; schematic drawings; physical models, visualisations, etc.). As the construction project briefing and design process is characterized by stakeholders and designers communicating over various signs around which shared meanings and understandings are established, it was determined that a focused analysis of the communicative signs of design would be merited.

SEMIOTICS AND SIGN INTERPRETATIONS

Semiotics investigates how communicative signs utilised by people (e.g. spoken words, written texts, photographs) convey meanings and establish understandings between parties (Cobley, 2010). Semiotic scholars have explored and explained sign functionality in areas such as linguistics, literature and the arts, their analysis techniques having a potential utility and applicability to other fields. In "The Role of the Reader", Umberto Eco (1979) explored processes of sign generation and interpretation through his Model Reader concept, establishing the importance of the cooperative role of the reader in message interpretation. Although Eco focused upon written texts, musical compositions and works of art, his insights are applicable for any occurring communicative act. Eco argued that a sign-generator should have a clear understanding of the interpretive abilities of the sign-receiver as understanding falters when the meaning of a sign is not understood by the message receiver. In a construction briefing context, designs are often formulated by designers with a client audience in mind: designers actively predicting how a design (e.g. drawing, picture) will be interpreted by the client.

Roland Barthes (1977), in his analysis of non-verbal communication systems, clarified how images have multiple meanings, demonstrating how signs (such as advertisements) work on several levels for an audience, making explicit the mechanisms of meaning embodied within the advertisement. Barthes noted how signs

within communicative artefacts can be identified, analyzed and explicated independently for their properties. For example, advertisements have denotative and connotative meanings (i.e. by picturing an apple, an apple is denoted; as the apple is fresh and appealing, concepts of health and well-being are connoted). For Barthes, a reader identifies denoted or connoted meanings depending upon personal levels of knowledge (or “lexicons”): denotative, or 1st levels of signification, requiring only basic linguistic and anthropological knowledge from a reader whilst connotative, or 2nd levels of meaning, require cultural or specialized knowledge. As Penn (2000) states,

“The reader’s interpretational freedom is dependent upon the number and identity of his or her lexicons. The act of reading a text or an image is thus a constructive process. Meaning is generated in the interaction of the reader with the material. The reader’s meaning will vary with the knowledge available to him or her through experience and contextual salience.” (p.231)

Both Eco and Barthes emphasize the role of the reader in acts of interpretation and such issues are significant when designs are mobilized between client and designer as interpretations have a potential to affect the design process.

The work of Eco and Barthes has been taken forward by social semiotic scholars such as Hodge and Kress (1988) and Vannini (2007) who investigate how signs are used by people in social situations with motivations and objectives. As Vannini (2007) notes, “Social semiotics tells us that signs work because people with specific interests and specific strategies produce signs to achieve their goals.” (p.131)

However, as Hodge and Kress (1988) point out,

“Social semiotics cannot assume that texts produce exactly the meanings and effects that their authors hope for: it is precisely the struggles and their uncertain outcomes that must be studied at the level of social action, and their effects in the production of meaning.” (p.7)

STAKEHOLDER MANAGEMENT PRACTICES

Both NHS Trust representatives and hospital designers confirmed the importance of stakeholder management in their briefing phase work, reporting a variety of methodologies as effective. NHS Trust interviewees reported lengthy and detailed meetings between NHS staff groups prior to the initiation of any project work with construction professionals. As noted by an interviewee, following project initiation, as many stakeholder interests are embraced as possible:

“Some project teams don’t allow the users to have that interface meeting, it would just be a person like me. But certainly I think we actually got a better design and better ownership of the project by engaging the users.” (NHS Clinical Healthcare Planner)

Hospital designers reported that engaging with client stakeholders was often problematic due to the nature of the PFI procurement process:

“In the bidding process it is tricky. We rely on the Trust doing that work because the bidders can’t do it otherwise you would lose confidentiality between the bidders. The PFI model can be a problem issue. It depends on the quality of the technical advisors and how well they have captured that information and recorded it and then given it on to the bidders.” (Healthcare Sector Leader)

A variety of methods to “understand” the NHS client more were reported by hospital designers, such as internal workshops, issue identification and profiling of key individuals from within Trusts:

“On a recent project, we had a company do profiles of all the non-executive team members, so we know a little bit about them. We try and man-mark them so that one person interfaces with that person all the time.” (Project Director)

PFI hospital projects are characterized by design teams meeting various Trust stakeholder groups regularly in an iterative, closely managed process by the Trust (the competitive nature of PFI stipulates that competing teams must be given fair and equal access to the client). It is from within this closely managed process that stakeholders engage and contribute to the design evolution. However, the size of the NHS client does impact upon stakeholder management practices for both client and designer:

“There is a lot of democracy in hospital design which is mostly good news but sometimes can be quite trying because you are trying to take an awful lot of people along with you and you need to.” (NHS Healthcare Sector Leader)

Whilst the processes and mechanisms of effective stakeholder management work was noted as significant, interviewees also provided evidence of how actual stakeholder interpretations of design were arguably more important.

STAKEHOLDER INTERPRETATIONS OF DESIGN

The importance of stakeholder interpretation is now discussed through the insights of interviewees with regards to design artefacts relating to the design of patient bedrooms in a hospital. The design process itself is characterised by the development of communicative signs such as artefacts (e.g. drawings; models; visualizations) that facilitate discussions between client stakeholders and construction professionals. Application of social semiotic theories of analysis can assist in clarifying how issues of understanding, meaning and interpretation occur in project briefing contexts. As briefing and design work proceeds, designs are formulated and presented to stakeholder groups at various stages of the process, designs having their antecedents in Trust briefing documentation, where requirements are stated in written, textual formats.

The following written project statements relating to patient bedrooms were all drawn from a hospital project brief:

"Bedroom windows must be sized and positioned so that patients can view through them from wither a bed or a seat"

“Privacy and dignity of patients should be assured wherever possible and space allowances around patients should be sufficient to provide for this. This could include space for visitors to sit with patients and adequate space between chairs and seating.”

“It is essential that the ward layouts maximise views into and from bedrooms as there is need for continuous staff observation of the patient. Sight lines from bedrooms should be optimised for all users to enable outward visibility.”

Architects and designers begin to formulate design solutions based upon a wide number of project requirements, including such specific statements relating to rooms.

Figure 1 is a schematic plan of a ward with 2 banks of patient rooms and 4 separate staff bases. Such schematics are used extensively in collaborative design team work, being important in the establishment of shared understandings (Valkenburg, 1998).

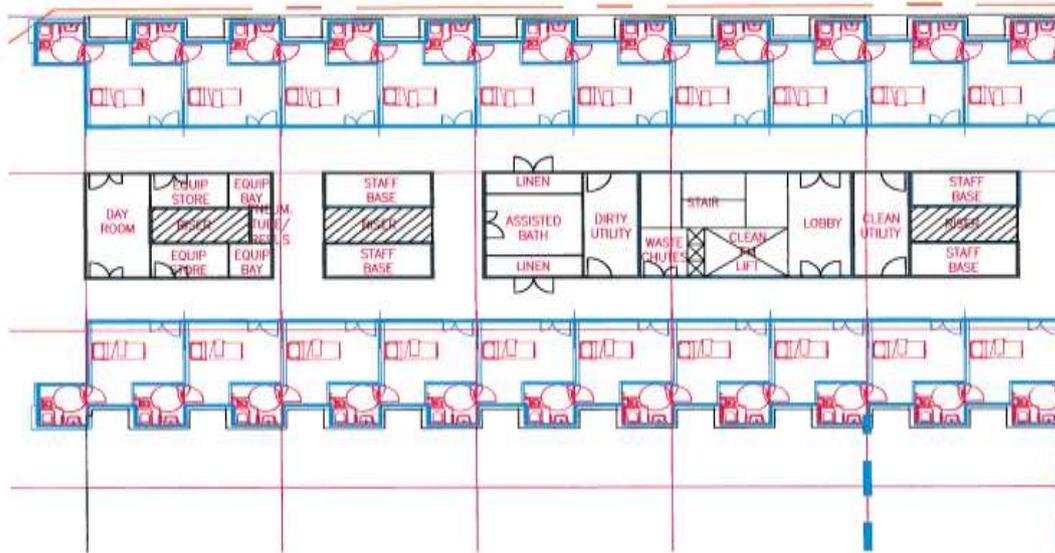


Figure 1: schematic drawing of ward with patient bedrooms

An interviewed NHS Design Development Manager gave a basic overview regarding stakeholder engagement with such drawings,

"Yes, it will start with a 2 dimensional, just a plan. We will look at their drawings, we will talk about it, and then whoever is really around the table will say what they do or don't like. Or the matron might be there, and she will say that something will not work. There is an understanding issue. We can look at a drawing 10 times and not see an issue, but a matron will see it on first look. We get clinicians who say that we want this and this. But medics have their own interests."

The NHS Design Development Manager digressed on how important issues are often not recognized on such drawings. One example concerned the staff base configuration on figure 1 where male and female patients were monitored by separate nurse teams. The architects had not recognised that one team could monitor both sets of patients adequately,

"It would have cost £250k plus £250k to run that as 2 separate teams per year but if you just join these teams together, you will have 1 team, but the architect didn't come along and think of that which was a bit of a surprise."

Another example relating to figure 1 was the inadequate space given for facilities use:

"Cleaner's rooms are undersized resulting in necessary cleaning equipment having to be stored remotely from the area in question; this often results from the designers not understanding how Facilities staff operate. It is unlikely in my experience that a Contractor would have any useful input here: more often or not they simply wait for the Client to tell them what is required." (NHS Design Development Manager)

In both instances, architects had been commissioned to produce drawings of proposed hospital area (incurring a cost to the Trust), but the designs themselves were flawed in some way (the staffing/financial implications of the ward and facilities management use). Reflecting upon how certain issues are not necessarily identified from drawings, the Design Development Manager stated,

"Sometimes I can't believe conversations happen with management because if an architect turns up with a drawing and the right people are not looking at it with the right eyes then things go on until somebody (in this case me seeing the drawing lying around) spots something and says there may be an issue there...Issues like that can go quite a long way."

Figure 2 is a power point slide of a patient bedroom, providing a more visual and aesthetic image of the bedroom that gives a better idea of space and visibility issues (as specified in the written project requirements). Whilst slides give more visual detail for client stakeholders to relate to, they also have the capacity to be interpreted in multiple ways.



Figure 2: power point image of patient bedroom

An NHS Facilities Manager commented that functionality of room elements within such slides is often missed: for example, floor, furnishings, wall colourings and light fixtures within rooms have implications for functionality (and cost) of the space:

"They put things in like beautiful lights on the wall but there is no cover on the top and what happens in Summer? They are a very bad thing for hospitals...patients complain that lights are filthy because they get filled with spiders, flies and dust. They are almost impossible to clean because domestics are not allowed to touch electrical things...And people sitting in the room have nothing else to do, so they tend to look around and they see these and they think "what is that?"

The Facilities Manager commented that the practical and functional implications of colour choice, wall colouring and floor covering are often not recognized by designers:

"Architects are more concerned with appearance than practicalities...an architect always has an opinion of what the inside of this building should look like, what colour scheme should be in there, what kind of lighting, type of furnishing but not thinking this is a hospital and not a hotel...the type of people using this area and how long the lightings and furnishings would have to last as cost is of paramount importance to us in the NHS."

Although certain client stakeholders may be engaged in the briefing process, having their preferences reflected in design artefacts, the interpretation of the same signs by other stakeholders may be different. As the NHS Design Development Manager commented,

"Facilities matters are often sidelined, and possibly not involved in discussions at briefing times. This can lead to real operational problems." (NHS Design Development Manager)

These reflections on how different designs have denoted and connoted meanings for stakeholders aligns with Barthes` (1977) view that readers identify meanings depending upon levels or lexicons of knowledge. Eco`s Model Reader concept is also validated and clarified: designers do actively interpret designs from a client perspective but their interpretations can only be limited. The fieldwork examples are depicted in figure 3.

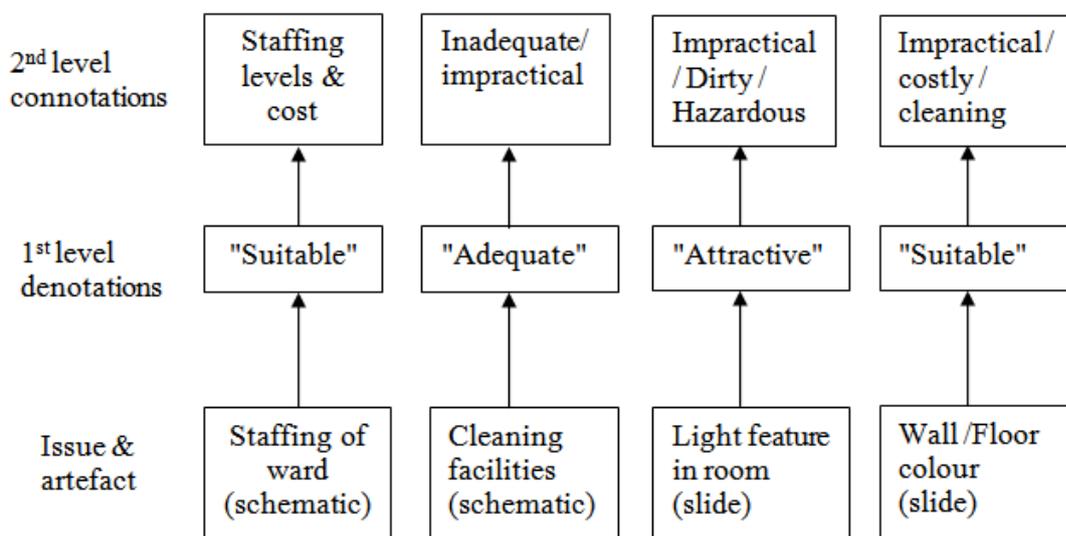


Fig.3: significations or "lexicons" of knowledge invoked by a design

PARTICIPATORY DESIGN

The importance of interpretation has been identified by construction scholars. In work exploring the role of artefacts in design settings, Luck (2007) noted that differences in interpretation between professional and non-professionals is an area requiring further investigation:

"By acknowledging the intermediary status of design representations, the "act of interpretation" is recognized as part of the design process...The problem is that there

seems to have been little, if any, research into how users understand these artefacts.” (p.29)

In construction project contexts, both client and designers assume the role of readers and writers of various semiotic resources utilized through the briefing process (e.g. briefing documentation; schematic drawings; room data sheets, etc.). A semiotic oriented analysis engages with communicative resources to clarify the meanings, social motivations and consequences of resource use and the role of sign readers and writers in such interactions.

This paper has re-emphasized the importance of interpretation, urging the need for more participatory design initiatives. However, the reality of construction project work impinges upon the practicalities of conducting comprehensive stakeholder management work: the PFI procurement model for UK hospitals particularly affecting stakeholder management work (PFI being characterized by tight timescales, quick successions of meetings and limited communicative channels between client stakeholders and designers). These realities do effect stakeholder engagement and stakeholder input into the design process. However, as Prasad notes,

“Stakeholder consultation should mean true participation of key people in briefing and design. The people who will be relying on the building to deliver their services possess precious knowledge and unique insight that will immensely benefit the quality of the design.” (2008, p.5)

It is perhaps valid to say that the interpretation of a design by a hospital cleaner may be of equal value to that of an Executive Board member, but having the mechanisms of stakeholder engagement in place is important if such contributions are to happen.

SUMMARY

The paper has outlined how hospital design teams and the NHS client attempt to embrace stakeholder interests in the briefing process whilst highlighting the important issue of stakeholder interpretation of designs. Whilst designers actively interpret design issues from a client perspective as they formulate drawings and slides, valuable stakeholder interpretations of a design may be missed because they are not engaged in the design process. Additionally, although designs may become successively more detailed and visual, the diversity of interpretation points to a need for effective stakeholder engagement work. Fieldwork research suggests that on occasion both hospital designers and expert advisors do not possess the same levels of knowledge as NHS staff when relating to design artefacts.

The communicative signs of design provide a vital link between the cognitive understandings of stakeholders and the potential realisations of design as formulated by architects, engineers and designers. Design functionalities are unlocked by engaging staff in participatory design work, allowing interpretation to occur, and by allowing knowledgeable people within the client organisation and the design team to contribute to the briefing and design process. In the briefing phase of hospital projects, optimal design solutions are reached by engaging and utilizing stakeholder interpretations of design to good effect. In this respect, stakeholders should not be "managed", but rather engaged, embraced and valued for their potential contributions.

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