A TAXONOMY FOR CONSTRUCTION CLIENTS

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Abstract:
Different conceptual approaches have been adopted to understand the characteristics of the construction client. However, up to date there seems to be a lack of clarity with regards to who the construction client is, and how it can influence product development and the delivery of value and innovation in construction. This paper presents a literature review focused on bringing to light the different definitions and types of clients identified in the literature. It also discusses the ability of different types of clients to stimulate innovation in construction. Based on the literature review and on discussions undertaken at the CIB TG58 workshop, a taxonomy for construction clients is proposed. The definition of such taxonomy is aimed at providing a necessary theoretical platform from which discussions on the clients role in driving innovation could move forward.

Keywords:
Construction Clients, Innovation, Taxonomy

1. Introduction

The construction industry has been challenged to be able to deliver better services and products to its clients. In this context, means by which appropriate value, sustainable outcomes and innovation could be achieved through a prosperous construction industry have been under investigation. A better understanding of construction clients’ identity and the consequent definition of a classification system is seen as essential to support the industry to respond to such challenges.

The development of ‘a well-defined theoretical or empirical classification is a basic step in conducting any form of systematic inquiry into the phenomena under investigation’ (McCarthy, 1995:37), therefore it is essential. An appropriate classification for construction clients is necessary to provide clarity in terms of
who the construction client is, their needs, their likely involvement with the process and support needed. Such a taxonomy may provide clarity by exposing general characteristics of clients (organisations) which could support the understanding of their interests, motivations and ability to stimulate both process and product innovation in construction. Such taxonomy can also assist the clarification of roles and responsibilities for specific types of client, considering the context in which they operate. Clarifying the types and interests is needed to allow construction professionals to take appropriate actions at each project, supporting them in unfolding the clients’ objectives. But first, our present understanding of clients, and consequently the structure of a classification, needs consideration.

This paper presents a literature synthesis focused on bringing to light different definitions and types of clients as identified in the literature. A discussion of the ability of different types of clients to stimulate innovation in construction is also presented. This aims to help determine and predict the relationships which govern the client involvement with and support for innovation during the design and construction of buildings.

There are clearly diverse construction clients with different aspirations, motivations and willingness to innovate. However, understanding the client is not straightforward. For instance, Green (1996) argues that construction professionals need to build up good relationships with clients to be able to understand their needs, preferences and requirements. Flanagan et al. (1998:22) emphasise that ‘the generic ‘customer’ of the past no longer exists’ due to changes in the methods and types of project financing (e.g. PFI; LIFT), which have led to a diversification of the customer base. Newcombe (2003) further argues that issues such as the separation of ownership and occupation, the rise of the corporate client and the greater penetration in the industry by the continuing client have led to confusion about the clients’ identity and their interaction with the industry. The concept of ‘stakeholders’ also extended the traditional definition of the client to include the users of the facility, the community at large and others, and has intensified the lack of clarity of the identity of the construction client (Newcombe, 2003).

The behaviour of the construction client has long been recognised as an important factor in improving the industry’s performance, and more specifically in stimulating innovation in design and construction (NEDO, 1975). Therefore, understanding what prompts clients’ attitudes and actions becomes critically important for construction professionals in collectively taking the industry forward (Boyd and Chinyio, 2006). Identifying construction client types is a first step in achieving such broader understanding.

To support this, the paper is organised as follows. Initially, a discussion of the concept of taxonomy is described. Following, the definition of the term ‘client’
and the different types and classifications of clients as proposed in the literature are presented. Finally, questions for reflection are put forward.

2. Taxonomy

The term taxonomy originally referred to the science of classifying living organisms. The word was later applied in a wider sense, and now emerges as a classification of things, or the principles underlying the classification (Wikipedia, 2006). Most types of physical or conceptual entities (products, processes, knowledge fields, human groups, places, events etc.) may be classified according to some taxonomic scheme at different levels of granularity (Wikipedia, 2006).

Taxonomy is, therefore, a theoretical operation in which groups, classes, or sets are systematically organised and linked according to some criterion (Mayr, 1982; McKelvey, 1982). Taxonomies may be hierarchical or non-hierarchical, may describe network structures, and may be derived inductively or deductively (Rasch, 1987).

Taxonomy development involves determining a classification scheme, i.e. identifying differences, attributes or properties on which to base a classification, and the techniques used to construct it (McCarthy, 1995). Because it includes systematically organising concepts and criterion links, taxonomy construction may be considered a conceptual framework (Conway and Sligar, 2002).

The next section synthesises the definition of the term ‘client’ and the client types as proposed in the literature. This forms the basis for the proposition of a clients’ taxonomy.

3. The construction clients

3.1 Definition of the term client

There is currently a poor understanding of who the client is, starting from the lack of clarity in the definition of the term ‘client’ itself (Boyd and Chinyio, 2006). The term client has connotations of an individual as a result of historical and other uses. Consequently, early views tended to assume that ‘client’ implies a person or a well defined group of people which act as a single entity (Newcombe, 2003; Bertelsen and Emmitt, 2005). For instance, clients have been defined as the person or firm responsible for commissioning and paying for the design and construction of a facility (BPF, 1983). Thus, clients were seen as the initiators of projects and those that contract with other parties for the supply of goods and construction services (Atkin and Flanagan, 1995).
In construction it is, however, unlikely that a client will be an individual; most clients are organisations or groups of people (Bertelsen and Emmitt, 2005), and organisational factors, rather than an individual’s decision, tend to influence the client’s decision to commission a project (Kamara et al., 2000). Even when the client is legally an individual, the clients’ family and associates are part of the decisions surrounding the development. Furthermore, a client can be a representative of the owner, and act with delegated authority of the owners’ part (Boyd and Chinyio, 2006). Therefore, organisational influences create complexity in determining the identity of the clients and their requirements, to allow different perspectives to be considered (Kamara, 2000).

Cherns and Bryant (1984) observed that project team members normally do not appropriately acknowledge the complexity of most client organisations. They also state that construction professionals sometimes seem impatient with this complexity, tending to erroneously assume that the client clearly knows what are his/her requirements. Kamara et al. (2000) further stress the importance of understanding that a constructed facility is not an end in itself, but a means to satisfying the business needs of the client. This creates a need of understanding the different perspectives represented by the client as well as translating the clients’ business needs in construction terms (Kamara et al., 2000).

A further difficulty lies on the fact that the term client is also used with a different meaning within a project. As discussed by Flanagan et al. (1998), different people perceive to have diverse clients throughout the supply chain, e.g. the development company sees the investors, the financers and the tenants as the client, while the specialist contractors and material component suppliers see the construction firm as the client. This resonates with the customer-supplier chains presented by Oakland (1993) and many other advocates of total quality management.

In summary, clients are often complex and multi-faceted in nature, comprising several interest groups whose objectives differ and may be conflicting (Green, 1996; Boyd and Chinyio, 2006). The existence of multiple stakeholders with different agendas, needs and interests has introduced political factors into the design process (Green et al., 2004). This influences the requirements management process, resulting in the need to negotiate a shared understanding of the client’s requirements as well as the clients’ business needs. Therefore, a single definition of a client is impossible within the complex context of individuals and organisations which have interests in the delivery and use of constructed assets. It is true, however, that there are many types of clients. The next section presents types of clients as identified in the literature.
3.2 Types of clients

Previous research has identified different types of clients, suggesting ways in which they could be classified. However, different terms have been applied to refer to similar classifications, which contribute to the lack of clarity of who the construction client is. The types identified in the literature are presented below.

Darlington and Culley (2004) described two types of clients. The first type, the identifiable customer, is represented by the individual who has a specific design problem, e.g. a family needing a new house. The individual has a clear view of the problem and the context in which it occurs, which can be discussed directly with those responsible for developing design. By contrast, the ‘virtual’ customer represents a class of individuals who might be satisfied by some product, the design of which will satisfy a collection of requirements. The actual process is quite different in capturing and managing requirements for each type of client. Most design methodologies consider requirements capture for the ‘virtual’ customer, e.g. Ulrich and Eppinger, (2000) and Cross (2000). Furthermore, British Property Federation (BPF, 1983) definition of the client may be appropriate for the ‘identifiable’ customer, but it belies the multifaceted nature and complexity of the ‘virtual’ customer.

Similarly, Zeisel (1984) has emphasised the difference between paying clients (an entity/organisation signing-off documents) and end users (as wider functional clients). Paying clients can be approached as the ‘identifiable’ customers while end users could be seen as ‘virtual’ customers. Edmondson (1992) has also referred to these two types of clients as the ‘apparent customer’ and ‘the user’.

It is important to emphasise the difference between these as, usually, a relatively clear relationship and exchange of information exists between paying clients and designers, but there can be a lack of understanding between clients and end users, as well as users and designers. This happens as, in some instances, it is difficult to clearly establish who the end users will be, as end users may include individuals as well as corporate entities. It is important, however, that the views of both clients and users are considered for successful outcomes (Zeisel, 1984).

A second criterion to classify clients focus on the level of client experience with construction. Higgin and Jessop (1965), have distinguished between sophisticated and naïve clients on the basis of their previous experience with construction. Boyd and Chinyio (2006) include partially informed client in this classification, i.e. those who have procured a few projects.

Masterman and Gameson (1994) categorised clients as: primary and secondary, inexperienced and experienced, generating four categories. The authors draw from the definition developed by Nahapiet and Nahapiet (1985), in which primary
clients are seen to be those whose main income is derived from constructing buildings (i.e. property developers), and secondary clients are those who build to perform other business activity (e.g. retail or healthcare). However, a primary client could not be inexperienced, therefore this category was eliminated. Masterman and Gameson (1994) further argued that clients cannot be classified solely on the grounds that they possess previous experience; they must have experience of the particular building type in question.

Hillebrandt (1984) referred to continuing clients and one-off clients, while Cherns and Bryant (1984) made a distinction between unitary and pluralistic clients. Similarly, Blismas et al. (2004) emphasised the difference between clients involved with one-off projects and those who have large ongoing construction portfolios. The same authors further argue that the single project paradigm dominates the literature of construction management; however, this does not accurately reflect the reality of many clients who are effectively involved in multi-projects environments.

Construction clients have also been classified according to the sector in which they operate. Hillebrandt (1984) stressed differences between public and private sector construction clients. NEDO (1975) highlights that, in the public sector, the expression of the requirements to meet social needs is seldom clear cut, therefore determining requirements is challenging. Furthermore, as the public sector represents 40% of construction orders in the UK, it is believed that it could make a contribution towards improvement by demonstrating ‘it is a best practice client’ which consistently secures the best whole life performance that the industry can offer (Strategic Forum for Construction, 2002). However, this approach has been contested, as some authors advocate that the client should not be seen as responsible for the improvement of the industry (Ivory, 2005).

Boyd and Chinio (2006) extended this categorisation to include public, private and mixed. Public was divided into national and local. Private was subdivided into industrial and services. Mixed involves a degree of public and private enterprise, divided into not-for profit and private regulated organisations.

The literature also presents classifications based on the type of project the client is involved with. For instance, Boyd and Chinio (2006), drawing from the work of Mbachu (2002), described a client-system based and a client need-based categorisation. The first emphasises the nature of organisation and source of project finance, while the second focuses on the built asset form, use and ownership type, being therefore a project/product classification approach.

Cherns and Bryant (1984) stressed the importance the environment in which the client operates. For instance, if the client’s business environment is stable, then requirements are likely to remain relatively constant over time; however if this
environment is dynamic, requirements may well change as design evolves. Such
collection helps professionals to predict the level of change and consequently
consider appropriate approaches to manage requirements.

Finally, the scale of the client organisation has also been used as a means to
differentiate between types of clients, as larger organisations procure a larger
amount of building on a more regular basis (Boyd and Chinyio, 2006). The
Strategic Forum for Construction (2002) describes that large, repeat clients
normally have in-house teams and processes which ensure they establish crucial
requirements at the outset of a project; however small and occasional clients do
not have such structures in place and are perceived to need guidance on the
practical steps to be taken when considering commissioning a project.

In conclusion, six generic criteria to classify clients were identified in the
literature, being described in Table 1: (a) paying clients and users; (b) level of
experience of the client with construction; (c) nature of the client organisation –
sector in which it operates; (d) type of clients’ business; (e) size of the client
organisation; (f) rate of change in the clients’ organisational environment.

Table 1: Summary of client types as identified in the literature

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<tr>
<th>Client ‘type’</th>
<th>Terms used to refer to the type in the literature</th>
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| Paying client and users | Apparent customer and user (a)  
| | Paying clients and end users (b)  
| | Identifiable customer and virtual customer (c) |
| Level of experience with construction (and with specific building type) | Sophisticated, partially informed and naïve (d, e)  
| | On-going portfolios and one-off projects (f, g)  
| | Unitary and pluralistic (f) |
| Nature of the organisation - sector | Public (national and local) (h, i, l)  
| | Private (industry and service) (h, i, l)  
| | Mixed (mix of public and private enterprise; not-for profit and private regulated) (e) |
| Clients’ business type | Property developers (primary) and those who build to perform some business activity (secondary) (j, k) |
| Product type | Building form types, building use types, ownership types (e) |
| Rate of change on environment | Static vs dynamic environments (f) |
| Size of the client organisation | Static vs dynamic environments (f) |
| Size of the client organisation | Small, medium or large companies (e, l) |

Sources:
- a. Edmondson (1992)
- d. Higgin and Jessop (1965)
- f. Cherns and Bryant (1984)
- g. Blismas et al. (2004)
- h. Hillebrandt (1984)
- i. Nedo (1975)
- k. Nahapiet and Nahapiet (1985)

It is important to note that most client type descriptions in Table 1 reflect extreme
representations. For some of the types presented, however, there is in reality a
continuum in which the client could be located, i.e. clients may be completely inexperienced in construction, or they may have some level of experience with the industry but maybe not with the project type, or they may be very experienced in construction and with the specific type of project. Such continuum also applies for the size and rate of change in the client organisation.

In summary, the literature presents different approaches to describe the construction client’s identity. Different terms have been used to refer to similar classifications, which may have contributed to the poor clarity about the construction client. Furthermore, it is possible to state that the classifications identified in the literature are too high level to effectively support a better understanding of the client. It is however difficult to determine more detailed clients characteristics, as the clients base is diverse.

4. Discussion: construction clients’ taxonomy?

This section presents questions brought forward through this literature synthesis. The questions aim to stimulate discussion about the validity of proposing a clients taxonomy, as well as to enable the identification of appropriate attributes or properties on which to base the construction clients’ taxonomy. A final taxonomy will result from further research in the area. The questions for discussion are posed as follows:

1. Can a taxonomy of the construction clients support the industry to better identify and respond to client needs?

Green (1996) has argued that understanding clients according to their type is naïve as client organisations are not unitary entities whose objectives are clear and consistent over time. The author further states that ‘construction professionals... must also accept that there will never be any single interpretation of a complex multi-faceted client’ (pg 157). Following such argument, it is therefore necessary to understand the characteristics of the specific client organisation and also to the ways in which the client makes sense of his own organisation when developing a project. Clients needs will therefore be identified via an evolving relationship between construction professionals and building clients/users. Therefore, a taxonomy of clients may not serve the purpose of better identifying and responding to client needs.

Furthermore, Table 1 makes it clear that classifications found in the literature have not sufficiently focused on the clients needs. Even though these may clarify that different stakeholders needs should be considered (e.g. paying clients and users), it does not support the identification of what these needs may be. For instance, knowing the level of experience of the client with construction does not
help in determining clients’ needs nor in appropriately responding to these needs. Identifying clients’ needs is a basis through which their motivations and willingness to innovate could be recognised.

We argue here that a typology will only be effective if it is based on a clients needs oriented model. This model should also emphasise what triggers the client to become involved in construction, i.e. a personal aspiration (e.g. a person building a house), policy demands (e.g. a PCT developing a healthcare facility) or business objectives (e.g. BAA building an airport terminal). Consequently, it would be possible to identify how a client organisation may interact in the development and decision making process in a project, and hence how they may influence innovation.

Considering the taxonomy beneficial, a further question follows:

2. How to establish a client’s motivation to innovate in design and construction?

Ivory (2005) reported on potentially negative implications of the client upon design innovation. The author presents empirical evidence from three case studies in which the client had a desire to avoid the risk associated with innovation; e.g. late or over budgeted projects, or higher than expected running or maintenance costs. Therefore, it is possible to state that in some cases clients may not see the benefits from innovation, so they would have no reason to support it.

Clients have a disproportionate share in the risk of innovation in buildings; therefore client-led innovative construction projects should be seen as exceptions rather than the norm (Ivory, 2005). It is then necessary to consider the following question:

3. How to identify the clients’ ability to be engaged in the construction process and support innovation? Do clients want to be part of the construction team? And Do clients have the expertise the industry expects them to have?

There is a need to question our research assumptions when dealing with the construction clients. Past research identified that clients can have difficulties in providing timely and appropriate information for design (e.g. Barrett and Stanley, 1999; Darlington and Culley, 2004). Such difficulties are also recognised by the industry, and many professional reports are dedicated to provide guidance to clients, e.g. CABE (2003), NHS Estates Best Client Guide (NHS Estates, 2002), and reports from the Construction Clients Group (see http://www.constructingeverything.org.uk/resourcecentre/clientzone/processmap.jsp) and the Strategic Forum’s Accelerating Change (2002).
Nevertheless, academic recommendations appear to be somewhat prescriptive and assume a high level of client knowledge. Figure 1 presents a summary of activities clients should undertake to achieve successful building outcomes (see Tzortzopoulos et al. 2006 for details), including managerial and design activities. Managerial activities involve the (re)design of the clients business operations, as well as the definition of project management structures and decision-making processes. Design activities are those necessary to provide the design team with information to develop design solutions, i.e. the definition of the building vision, project priorities and appropriate building requirements.

![Diagram of client's managerial and design activities](image)

**Fig. 1. Clients’ activities in the design and construction process**

Furthermore, there seems to be a clear assumption in the literature that the ‘clients should enter the construction process with a clear understanding of their 'business' needs and their environmental and social responsibilities and hence the functionality they require from the finished product’ (Strategic Forum, 2002). However, no other industrial sector has such expectations from its clients. For instance, when buying a car, the client does not expect or want to get involved in its development or manufacturing. In fact, it is usually a burden for the client organisation to get involved with the construction industry. This clearly needs to be taken into account for the definition of a clients taxonomy.
5. Closing remarks

One possible solution for the questions put forward may emerge from a better understanding of the epistemological basis through which we are trying to understand the construction client.

Most typologies assume a somehow positivistic approach in which the understanding of the clients seems to be based on an ‘objective’ and ‘stable’ client structure and composition. On the contrary, client organisations may be approached from a phenomenological perspective, in which they are seen as coalitions composed by different individuals with varied and sometimes conflicting objectives. This means that the clients may be seen as clear and objectively defined entities or they may be seen as groups that understand their world subjectively through action, and therefore interpret and act on the design and construction process subjectively. In such view, their understanding of the (organisational) problem they deal with evolves based on their actions and subjective interpretation of the information available throughout design and construction.

One may argue that there is probably an ‘objective’ part of the problem definition (within the client organisation), and a ‘subjective’ part which constantly evolves. Similarly, there may be some objective definitions of client organisations characteristics/types that may support the industry to predict the likelihood of the clients involvement in the process. Therefore, it may be possible to identify cause and effect relationships linking the client types with their possible interaction and influences over the project. However, these need to be considered alongside an active interpretation of specific contexts and situations.

References:


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