

UNDERSTANDING THE DYNAMICS OF NOVATION: A CONTRACTOR'S PERSPECTIVE

A P King, A D Knight and A Griffith

School of Environment and Development, Sheffield Hallam University, City Campus, Pond Street, Sheffield, S1 1WB, UK

Design and Build is an increasingly popular form of procurement, which can be characterized by its integrated approach between design and construction. Novation is one variant of design and build, which has received various general research over the years. This paper directs its focus onto understanding design and build through the use of a grounded theory methodology, employing semi-structured interviews of contractors. This qualitative methodology relies on the cyclical interplay of literature with the data collection method.

Both pre and post-contract areas of novation are discussed. The main findings revolve around six central themes. These being: Contractor information requests to the architect which are not fully answered by architects owing to lack of time, contractor retaining commercial edge, contractor value engineering exercises being curtailed, contractor's inexperience of novated designer affecting risk and tender price, advantages – learning curve, disadvantage – architect conflict of interest.

Novated design and build is believed to be generally disadvantageous by contractors. This is owing to the fact that the contractor has no choice in appointing the novated architect. This results in fragmentation in what is intended as an integrated procurement route. We argue that clients should take a balanced view prior to opting to use novation.

Keywords: design and build, design development, grounded theory, novation, tendering

DESIGN AND BUILD

Design and Build is an increasingly popular form of procurement across the globe. Characterized by its integrated approach, guaranteed maximum price, and single point responsibility, it shifts responsibility for the construction product onto one party, the construction contractor. Its traditional contracting procurement counterpart is characterized by fragmentation of the project team project members in producing the construction product. The perceived need to move towards more integrated routes is grounded in the problems associated with traditional contracting; poor relationships between project members, litigious problems, lack of cost certainty, cost overruns and time reliant development stages. Responsibility for design and construction being assumed by one organization is typically limited. This is owing to two main factors; first, the client needing advice from an impartial party, and second, the preparation of preliminary information to allow a tendering competition. A client will typically employ consultants to help them develop the brief for the scheme, which leads to the production of outline drawings and a specification for the work. This work constitutes the employer's requirements and is the only document that the employer needs to produce. The contractor will then develop the design based on the employer's requirements, and then collate this response into one document, the contractor's

proposals. This differs from traditional procurement, where the employer may have to produce full drawings, specifications and bills of quantities.

Novation

Novation is one derivative of design and build, its principal defining feature is that the employer's design consultants, once the initial requirements have been prepared and the contractor selected, are transferred to the contractor. Barclay (1994) and Meara (1996) have commented on the confusion that surrounds novation and the other often used term 'consultant switch'. Barclay argues that novation is incorrect and in doing so relies on the standard form of agreement published by the Association of Consultant Architects (ACA). His argument is based on the fact that under a novation agreement, the original contract is rescinded and a new contract with another party is entered into under the same terms. Consultant switch, it is argued, is a more appropriate term for the majority of these contracts. Novation offers the advantages of being able to encourage buildability whilst allowing the employer a relatively free hand in designing the building (Siddiqui, 1996). Siddiqui found that it needs a relatively experienced client to fully exploit the process. Whereas Siddiqui believes that the contractor can benefit through novation, other authors dispute this. Akintoye (1994) found that the use of novation is not widely favoured by contractors, because it gave them the responsibility without the custody of the project. In addition he found that the majority of contractors sampled favoured the use of traditional Design and Build where the contractor is responsible for the design starting from a conceptual level. Architects' views on novation differed to that of contractors in Akintoye and Fitzgerald's 1995 work. Architects were found to favour novation the highest of all design and build variants, although they encountered the develop and construct variant the most. Architects' preference of novation could be linked to the guarantee of further work at post-tender stage. Bennett, Potheary and Robinson (1996) in their large scale report into design and build reported negative results from using novation:

“The worst outcome, in meeting customers' quality requirements results from design-build approaches where novation is used”.

Their report argued that the conflict stemmed from the change in priorities part way through the design process, in addition to whether the designer's loyalties lay to the contractor or client. In considering cost certainty in design and build projects, it showed that it was greater where the employers' requirements were most detailed. If the employers' requirements were minimal, then cost certainty was worst where novation was used. The penetration of novation is substantial; the Reading report found that 37% of the clients surveyed used novated designers. There exists a need to understand in greater depth contractors' perceptions of novation. This need has been the basis for this research and the choice of methodology discussed below.

METHODOLOGY

The research adopts a qualitative inductive approach (Denzin and Lincoln, 2000) to understand the dynamics of novation from the contractors' perspective. Quantitative approaches were not favoured at this exploratory stage of the research, but remain an option for inclusion later. A grounded theory methodology was used as it allows new themes to emerge from the data gathered (Glaser and Strauss, 1967 and Strauss and Corbin, 1998). The rationale for adopting grounded theory in this study is clearly linked to the gap in literature surrounding the effects of novation on design and build.

Methods

Semi-structured interviews were employed in the research. Being closely linked to grounded theory, they allow new issues to emerge in the data, whilst allowing the researcher to follow an interview guide grounded in previous literature and the initial research orientation. One member of the research team conducted all the interviews to allow a certain amount of consistency and sensitization. This allowed new issues or dimensions to be identified in an efficient manner. Contractors were sampled from a variety of different sized companies and locations. Typically project managers or quantity surveyors within these companies were targeted.

Interviews were mainly conducted in the participant's work environment, this strategy of 'least disruption' has fostered close links between both sides of the research divide and allowed theoretical sampling to be conducted. Theoretical sampling is central to grounded theory. Issues that need further consideration are identified through the analysis of interview transcripts and explored in later interviews. In this research 14 interviews were conducted over a six-month period.

Full use was made of Non-Numerical Data Indexing Structuring and Theorizing software version 5 (NUD*IST). This software allows the complex relationships and evolving abstractions to be recorded and tested. The use of software was interspersed with paper exercises to foster 'closeness' to the data and avoid one of the most potent criticisms of software use in qualitative analysis; that of a distant mechanical process.

For a fuller explanation of the use, and potential abuse, of qualitative data analysis (QDA) software the reader is referred to Coffey, Holbrook and Atkinson (1996) and Kelle (1997).

Grounded theory is characterized by three main coding stages of analysis, open, axial and selective. Open coding fractures the data, and allows meaning to 'spill out'; axial begins the process of rebuilding the data into categories. Selective coding is the higher level of coding and involves theory distillation and sensitization through linking categories. Coding does not take place in a clinical, staged way, but is a messy process, where coding types intertwine and occur concurrently. Analytic 'memos' can be considered the key to theory development, and can be considered both the static link between and within categories, whilst also holding definitions and ideas about the data.

We now discuss the central themes that emerged from the data. These have been presented in a project chronological form starting with pre-contract stages.

CENTRAL THEMES: PRE-CONTRACT

Generally, novation has been found to have a negative impact at the pre-contract stages of a project. The four central themes are summarized in the following diagram (Figure 1).

Contractor information requests to the architect

Dependent on how well developed the employers' requirements are at the tender stage, the contractor may need to develop the design for tendering purposes. Allied to this is the need to fully understand the design implications the employers' requirements. This will typically involve the services of the contractor's designer whether they are in house or not. In novation, the contractors interviewed did not use an external designer to develop their tender. They referred to the client's architect for confirmation of

details, design implications etc. They reported that the client's architect had little time to interact with them, which led to frustrations:

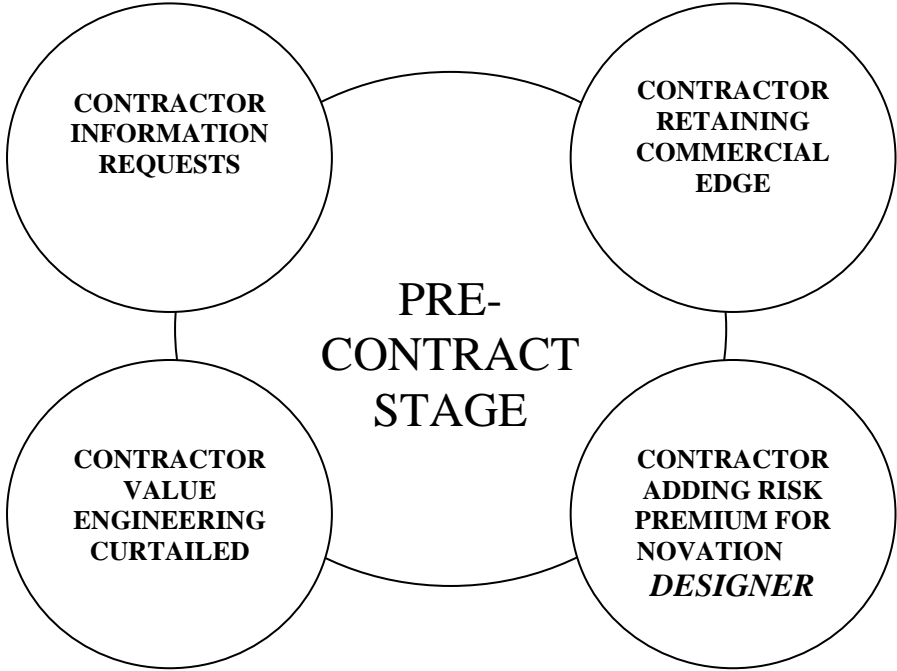


Figure 1: Pre-contract novation themes

'the other big problem we have with novated architects is getting any information out of them at tender stage, because obviously they are novated , they are working for the client at that point in time and they've also got maybe 4 or 5 other contractors all wanting to get dibs on them for asking them similar questions and it is extremely difficult to get information from them. Obviously if you are developing somebody else's design with your own design team you can broaden your knowledge on the design by having internal design team meetings at tender stage, you can't do that with novated architects'

The lack of time that the architect can give to tendering contractors is linked to two main properties. Firstly, as made explicit in the above quote, the notion that architects are approached by a number of tendering contractors, naturally diminishes the time available to each one individually. Secondly, architects are increasingly being made to work at risk by clients. This means they are encouraged to develop a project on a no fee arrangement until a decision is made to go ahead with the project. Not all projects do go ahead and thus a large amount of work is wasted. They are less likely to provide comprehensive information:

'It depends which architect you get and how far he's actually developed the scheme, some of them will actually have worked a long way in the scheme if the scheme is definitely 100% going to go ahead, those that are still working on 'no job no fee' so they are still working at risk until the client says "I want to go" you will get less information out of those practices'

'Whereas if he's got a novated design team onboard and he's consciously said, "I want these designers to do it". If he's confident about doing the job

then there's no reason why they cant produce more information sometimes unless they are doing it on a no-win no fee, in which case they are reticent.

'Where the client has got a novated design team, then there's more design done up front, because we get jobs where you'll get an employers requirement document, dirty great big chunk of contract documents and it will be drawings to follow. And you think "well you've known about this for weeks and months, but you're going to drip feed us information during the tender period which could be 4 or 5 weeks'

The above discussion and quotes have shown how novation affects the tender development in design and build projects. Another way that novation effects this stage of the project is its effect on the commercial concerns of contractors.

Contractor retaining commercial edge

Another theme proving important prior to tender in novation is the contractors wish to retain a competitive edge. They view interaction with the client's architect as potentially leading to their ingenious solutions being passed to other contractors:

'We would use the novated architect and engineer, but obviously in open tender and with just one architect and engineer who's been fed by all the various contractors to retain your commercial edge you would sometimes not be perhaps as open with him which you would if it was your own architect that you have chosen that you know isn't working for anybody else that we come up with a good idea and say "will that work?" You've got to make sure that doesn't get fed back to other tenderers'

This problem of keeping their solutions to themselves is important in all tendering situations in design and build, but this extra dimension is peculiar to novation. It adversely impacts on buildability and constructability, which is widely acknowledged as one of the chief benefits of integrated procurement routes (Griffith and Sidwell, 1997). This directly conflicts with Siddiqui's findings (1996). It appears that the contractor and architect fusion associated with design and build cannot be fully formed when novation is used.

Contractor value engineering exercises being curtailed

Some contractors interviewed will typically carry out a value engineering exercise on design and build tenders. They commented that novation did not allow value engineering to take place to the same degree as when novation is not used. As they did not use their own architect in novated design and build, contractors were reticent to use the clients, partly for fear of losing ideas, partly owing to lack of the client's architect time.

'We have an internal audit and we go through a value engineering process, we look at areas where we think we can improve the design or where we believe we can improve the design, improve the economies of the design, obviously look at the buildability aspects, look at the specification aspects of the job and look at the general design of the job in association with our own designers, obviously if it its novated again it becomes a little more stunted, but if its our own designers obviously we get the opportunity to do that as well and we will often put together a compliant bid and also a bid that we think is going to be more economically viable for the client and hopefully more attractive'

Contractors' inexperience of novated designer affecting risk and tender price

The fact that the clients designer may be an unknown quantity, allied to the designers confused loyalties represents a risk to contractors. Contractors need to price this risk adding to the clients overall contract price:

'I mean obviously our preference is to appoint designers that we know and have worked with previously, the novated side of things is some we know some we don't and it's the don't knows which are obviously the main concern in the tendering process and it might push our tender return up slightly. Obviously you've got to evaluate the risk at that point in time because you are not going to have any opportunities down the line to recover any of that'

The preceding pre-contract discussion of novation has shown that contractors regard it as having a generally negative impact on tender and design development. The findings concur with Akintoye's 1994 survey of contractors' views. The negativity is generated by the lack of time that the architect gives to each tendering contractor, and the more general splintered relationship between the two parties. It may be possible to infer that the fracture of the design and construction elements of the project team at this early stage are contributing to client's views that novated design and build gives the worst quality outcome (Bennett, Potheary and Robinson, 1996). Further to this is the negative outcome that it has on the contractors tender development, both through their wish to retain a commercial edge and their inability to fuse with the architect and conduct value engineering exercises.

CENTRAL THEMES: POST-CONTRACT

The dynamics of novation at a post contract stage are now examined. It is shown that at this stage contractors perceive some more favourable outcomes of novation, for example the learning curve that it develops. The discussion is split into what contractors perceive as advantageous and disadvantageous aspects. The two main themes are represented diagrammatically:

Advantages - Learning Curve

Advantages were identified with novation. For example where a more developed form of design and build was being used, contractors deemed benefits available owing to the fact that the architect had had time to develop the design from first principles were important. It was perceived that the architect knew the job intimately and this helped to stop replication of duties

'A

Would you have preferred them to be novated?

X

I think in that situation yes, because there's a certain learning curve isn't there? They've gone through a certain learning process to get the design to that stage, then we've got to bring in some fresh people to go through the learning process again and take for example, I don't know what the architects field was, but I'm sure there would be some economies of scale in terms of we had to pay an outside firm to come into the team as an architect, I'm sure if the architect who'd done the outline scheme was

willing to be novated, his fee would have as he is doing the whole scheme there would have been some economy of scale'

The above contractor perceived advantages to novation are joined by other more negative factors.

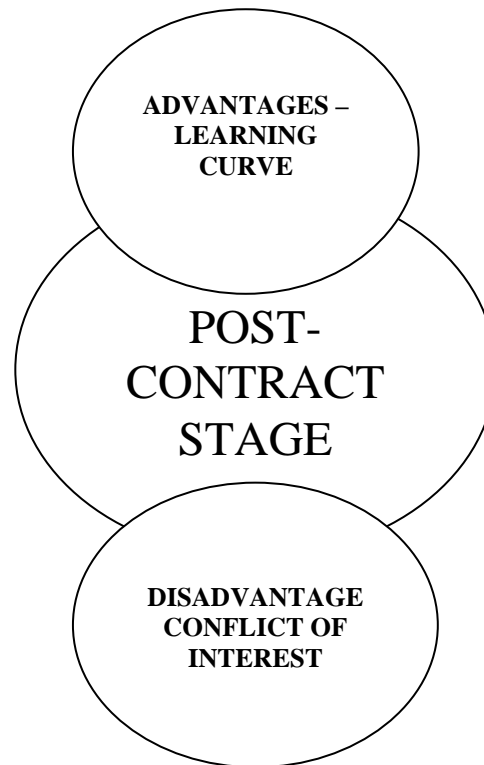


Figure 2 :Post-contract novation themes

Disadvantage - Architect Conflict of Interest

As was seen in the discussion of literature, the issue of conflict of interest is associated with novation. The architect, who has previously served the main client, must now serve the construction contractor. This can lead to friction:

'A

Do you have any problems with novated architects?

C

Yes, I mean the main problem we have with novated architects, in a lot of instances they refuse to believe that they are actually employed by the contractor, they still think they are employed by the client and they still talk directly to the client and in some instances you have got to try and actually try and beat it out of them, because its like "what are you doing? You have no direct communication with our client anymore, everything comes through us" "Oh, but I know him, how can I not talk to him?" " Well you can talk to him all you want you just can't discuss this job with him" and it is difficult'

For example contractors expressed the view that architects tended to over-design the project when working for them. They would try to design over and above the level

agreed in the employers requirements and contractors proposals. Contractors saw this over design as an issue needing control:

'The architect always think they know what the client wants more than what the contractor does, when they are novated to us we can say "hold on a minute, you are working for us now, we will say what the client wants" you know because the architect wants the designer of the year award every year, and may be over designing a facility that the client thinks "great, but you know why has it cost me all this money?" so we can control that'

This issue was expanded in an example given by another contractor:

'You also get the guy who thinks no matter whether he is novated to us he still thinks he works for the developer so we've got a situation on a job in Warwick at the moment whereby he's going off and designing all sorts of gold and marble interiors which are not part of the employers requirements but he thinks the employer wants them and he thinks we are going to pay, think again and that's a big issue. If you get the wrong novated architect it is a real (emphasis on: real) problem'

It would seem that the control issue is rooted in whether the architect continues to develop the design over and above that agreed between the contractor and client. Obviously in design and build, the employers requirements are not completed to a predetermined state. The looser the employers requirements, the greater the potential problems where novation is applied.

The dimensions of the control issue are rooted in the power dynamic between the architect and the contractor and the degree of definition of the employers' requirements. A contractor having weak or inefficient management would be less likely to exert control over the architect. Cecil (1983) argued that architects reverted to their preferred role of design team leader when working on design and build projects. It would seem that this is still the case today.

CONCLUSION

The above discussion has highlighted certain dynamics of the novation agreement in design and build. Certain advantages and disadvantages have been explored. The fact that architects generally work at risk leads to problems for clients. Friction in the project team represents a movement from the integrated nature of design and build. Put simply short-term gains through encouraging the architect to work at risk leads to overall losses for the client. One contractor interviewed gave an example of an architect sending an invoice to the contractor the moment he had won the job, illustrating architects' need to recoup money lost at preliminary project stages. Clients need to take a balanced view before taking up novation, which may be difficult as they may be getting procurement advice from architects who have a vested interest in novation owing to its fee payment. The benefits of guaranteed fees for architects through novation are magnified when one considers the risk that architects are working at. This cycle of risk and lack of resources proves has generally negative effects for clients.

One of the main threads running throughout the above analysis is the fact that contractors have no voice in the choice of the novated architect, which leads to risk premiums being added to the tender. This unknown risk factor can cause problems. If contractors are allowed to build a relationship with their architects they learn to work

together. The architect as an unknown quantity is prevalent in all well developed design and build projects, but is magnified in those novated. The fragmentation between design and construction is underlined, hence morphing design and build into an image of traditional contracting.

The use of grounded theory in the study has allowed detailed issues to arise. Valuing the data on its merits, without forcing issues has allowed six clear themes to materialize. Further research is planned in this area. It will entail gaining other project parties views, namely architects, clients and their agents. This will allow a balanced and detailed view to be presented, with the development of a formal theory pertaining to the dynamics of novation.

REFERENCES

- Akintoye, A. (1994) Design and build: a survey of construction contractors' views. *Construction Management and Economics*, **12**, 155-163.
- Akintoye, A. and Fitzgerald, E. (1995) Design and Build: a survey of architects' views. *Engineering, Construction and Architectural Management*. **2**(1), 27-44.
- Barclay, D. (1994) Design and Build: the consultant switch - or 'novation'? *RIBA Journal*, **101**(3), 57-58.
- Bennett, J., Potheary, E., and Robinson, G. (1996) *Designing and Building a world-class industry*. Reading: Centre for Strategic Studies in Construction, The University of Reading.
- Cecil, R. (1983) Contracts - design and build. *Architects Journal*, (March 30), 61-62.
- Coffey, A.B., Holbrook and Atkinson, P. (1996) Qualitative Data Analysis: Technologies and Representations, *Sociological Research Online*, **1**(1)
<http://www.socresonline.org.uk/socresonline/1/1/4.html>.
- Denzin, N.K. and Lincoln, Y.S. (2000) Introduction: The Disciplines and Practice of Qualitative Research in *Handbook of Qualitative Research*: 2nd Ed. London: Sage.
- Glaser, B.G., Strauss, A.L. (1967) *The Discovery of Grounded Theory*. Chicago: Aldine.
- Griffith, A., and Sidwell, A.C. (1997) Development of constructability concepts, principles and practices, *Engineering, Construction and Architectural Management*. **4**(4), 295-310.
- Kelle, U. (1997) Theory Building in Qualitative Research and Computer Programs for the Management of Textual Data *Sociological Research Online*, **2**(2)
<http://www.socresonline.org.uk/socresonline/2/2/1.html>.
- Meara, C. (1996) Team Transfers. *Building magazine*, **261**, (7940-19), May 10, 33.
- Siddiqui, A.W. (1996) NOVATION: and its comparison with common forms of building procurement, *CIOB Construction Paper* 60.
- Strauss, A., and Corbin, J.M. (1998) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. London: Sage.