Royal Institute of British Architects response to the Proposal for a New Approach to Building: Call for Evidence

General

Q1. How can the government best encourage the adoption and implementation of this approach in its capital programmes?

The successful adoption and implementation of this approach will be dependent on the government's willingness to adopt a longer-term view in assessing the benefits of development. This requires a step change in its approach to procurement. Our members have reported that government contracts are weighted heavily in favour of the bidder who can offer the best price. This makes it very difficult for companies looking to operate using more innovative methods to compete, as many of the benefits that result from a manufactured approach aren't recognised in the awarding criteria.

The consultation document recognises the need for "an evolution of procurement". It's crucial that this is centred around a more holistic view of best value, including design quality, sustainability, alongside cost and speed of delivery. Once it becomes clear to the industry that there has been a genuine shift in the way that government assesses bids and awards contracts, it's likely that there would be rapid change as organisations recognise the financial incentives for adapting.

Q2. Within your organisation or sector what changes are needed, including in relation to technologies, skills and commercial models, for this approach to succeed?

Adopting the proposed P-DfMA approach will inevitably require all professionals across the built environment to develop the necessary skills more widely. While the skills required do exist within some architecture practices, this is not necessarily widespread. The RIBA is well placed to take a leading role in developing understanding in the architecture sector and working to ensure this is built into training.

Government can support this transition by committing to this approach through its funding programmes, including investing in skills training and R&D. Once it becomes clear that these skills are required to win public contracts, organisations and education institutions will respond accordingly.

Q.3 How should government engage with industry to make sure this approach succeeds?

Understanding of this approach is patchy across the sector and changing this will not be an immediate process. There is an important exercise to undertake engaging with all professional groups within the sector to improve understanding of P-DfMA and demonstrate the government's long-term commitment to this approach. The primary way that government should undertake this engagement is through industry representative bodies,

such as the RIBA and RICS, which are best placed to engage their own membership and improve professional understanding.

It will also be important to engage educational institutions to ensure that newly qualified professionals are developing the required skills and knowledge of best practice to work within a P-DfMA approach.

Q.4 How can the benefits of this approach best be measured?

The government must develop its own benchmarking data on public projects to properly measure the benefits and limitations of the proposed approach. Some of the important benefits that a DfMA approach can provide are certainty of cost and timeline of the project. The Modernising Construction report produced for the National Audit Office in 2001 identified that 70% of construction projects procured by government were delivered late and 73% were delivered over budget[1]. While it might be difficult to access existing data, by building its own evidence base the government will be able to assess where this approach provides the most benefit.

Effective post occupancy evaluation of all projects is crucial to measuring this. We currently have a poor understanding of how projects are performing against their original targets due to the failure to effectively collect data.

While public bodies have developed good mechanisms for scrutinising cost, time and scale (i.e. 'on time and on budget'), this is not the case when measuring projects against their initial targets. This may be due to ill-defined initial objectives, but could also be because the current system tends to value delivery above all else.

Departments should set clear objectives and identify evaluation criteria before commencing construction projects. This would enable better evaluation, which would underpin better analysis of their wider costs and the benefits of projects, and feed back to ensure better infrastructure decisions are made in the future.

Q.5 What risks and costs (including hidden and associated costs) would this approach create for your organisation or sector?

A risk of this approach to architecture is that it becomes prescriptive and as a result becomes a constraint on design. There is an existing issue with public perception when it comes to offsite construction that will be exacerbated if projects delivered through the P-DfMA approach are a poor standard of design. An approach that treats design as of secondary importance carries the risk of stifling creativity in new buildings and creating a drab and uniform built environment.

It's crucial that the government's approach builds in flexibility and facilitates the creativity of designers. The platform must be responsive enough to allow innovation where it can improve outcomes. Consulting closely with architects through the development of the platform will be central to this.

[1] https://www.nao.org.uk/wp-content/uploads/2001/01/000187.pdf

Q.6 How can this approach best be used to support the economy on a local and a national level?

Moving to a P-DfMA approach could create significant benefits for British manufacturing. An important way of making this approach more acceptable to communities would be to ensure that the benefits are captured by local suppliers. There will inevitably be concerns about losses to traditional construction jobs through a new approach. If this can be met with reassurances that local manufacturers will be prioritised where possible in making up the new supply chain this will be a positive story and present an important avenue for boosting local economies.

Conversely, while it may be necessary to import certain materials where the supply chain has not yet adapted to meet demand in this country, in the longer term there will likely be concerns raised about the benefits of a manufactured approach being accrued abroad if it is cheaper to import components than use local suppliers. The government should move to reassure people on this point.

If successful, a P-DfMA approach could also provide a boost to the economy at a national level as British companies begin to export their skills abroad. Architecture in the UK is a global success story, contributing £4.8billion to the UK economy per year with £1 billion a year embedded in the exports of the other industries it supports[2]. The international revenue received by architects in this country far exceeds that of any other European country. If the P-DfMA approach proves a success, UK companies will be well placed to export their services abroad to countries looking to adopt a similar approach. A central part of this will be the quality of delivery, as this is how the success of the approach will be viewed internationally.

The language used in the consultation in this regard in somewhat concerning. The reference to compromises in design 'such a simplified building standards' needs further clarity as to what this means in practice. The RIBA would not support any attempts to strip back building regulations to accommodate a P-DfMA approach. There is already a concerning lack of trust in the sector, albeit predominantly in relation to housing, as a result of general poor-quality delivery and some high-profile failures, such as the Grenfell Tower tragedy. Moving to a P-DfMA approach must not result in a reduction in standards.

For example, the RIBA has concerns that not enough is known about fire performance of the junctions between modular systems. The Edinburgh Schools Inquiry, Grenfell Tower fire and various industry groups on build quality have highlighted the serious problem of poor compartmentation even in the simplest of construction forms. This is an area that requires greater attention if this approach is to be adopted on a large scale.

Technical and commercial

Q.7 How would current contracting models and building requirements need to change, in order to best facilitate procurement from a product platform?

As the platform doesn't currently exist, suppliers remain thin on the ground. For a new approach to be a success, the government needs to become more of a hands-on partner in the development process. This will require investment, as an important way of developing the supply chain will be to underwrite smaller suppliers. This would be a significant

[2] https://www.architecture.com/-/media/gathercontent/core-cpd/additional-documents/ribaglobaltalentglobalreachreportpdf.pdf

departure from the traditional construction model, where clients have increasingly abdicated responsibility for the outcome of projects by handing risk down the supply chain. For a manufactured approach to be a success it requires a move away from this approach, with clients having a better understanding about their products and their supply chains. In order to achieve this most effectively, it would likely require a commitment from the Treasury.

The government's approach to procurement requires a radical overhaul. Existing preferred methods of procuring through design and build contracts will need to be replaced with something new that is appropriate to a P-DfMA approach. A key feature of this will be moving away from the current focus of procurement being centred on securing best price, making a comparison of upfront capital cost to capital cost. Government must lead in developing a new way of procuring that focuses on a holistic view of value, including social outcomes, over best price.

Ultimately, there is a need for government to respond to the future skills shortage in the sector or risk public projects being impacted. It has been estimated that there will be 20-25% reduction in the sector workforce over the next decade[3]. There is also uncertainty over how the construction sector will be impacted by the outcome of the Brexit process. In addition to helping counter the workforce shortage, moving to a manufactured approach also enables a more diverse range of people to enter into the employment market and creates a more inclusive work environment, for example, by enabling more women to enter the sector. Women currently make up just 12% of the construction workforce[4]. Helping to remedy this is something that the government should strongly support.

Q.8 What unique requirements, including security, do different government departments currently specify that could (not) be rationalised or simplified?

Different departments currently specify in different ways, but they are often out of date and inconsistent. Much of the problem stems from an existing mentality of trying to develop from first principles, which isn't necessary under a P-DfMA approach. Government will need to help facilitate a move away from the traditionally siloed approach of departments if it is to make a platform approach a success.

Q.9. How and by whom should product, process and interoperability standards be set, validated and maintained over time?

Government is best placed to undertake this role for the public sector. Once the process and interoperability standards have been set then each department would need to undertake a rationalisation exercise to determine its own product standards. Once this information has been cumulated, centralised standards could be set by government. While providing a high level of standardisation, it's crucial that there is room left for flexibility to continue to encourage innovation. It would then be left to the industry to deliver the products working around the government's fixed parameters on standards. The Core Innovation Hub could undertake this role for the government.

[3] http://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2016/10/Farmer-Review.pdf
[4] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes#datasets

Q.10 What should the balance be between the core Intellectual Property (IP) which is retained and available to companies in the sector, and the proprietary IP that should be owned by individual firms?

There are issues in the context of individual small components as it's difficult to say where the IP lies. The key consideration should instead be on how each company exploits these components to deliver optimum results, which should be their IP. The value of an organisation should lie in how components are used, not the components themselves. This is an environment within which architects have long been working.

There is currently a protective instinct within the industry that needs to be overcome. No individual company should be able to capture the market for components. However, it will be crucial to have standards in place so that new entrants to the market are required to demonstrate technical compliance, and to prevent firms from taking shortcuts and allowing undercutting at the expense of quality.

Q.11 Are there any other issues that you believe need to be considered if this approach is to be successfully implemented?

While benefits like improved cost and speed of projects are important, it's crucial that the government recognises the primary importance of also improving the quality of what is delivered. We have seen in the past that delivering buildings that are poor quality will erode public trust and act as a massive setback to the progress of this approach.

Architects are well placed to take a central role in embedding the government's new approach into the design process. They can act as the bridge to suppliers and are in a strong position to improve the public understanding of the potential benefits of a manufactured approach. The RIBA has a number of programmes aimed at improving awareness and understanding of the role of design in the built environment. The government should work with the RIBA to help improve the perception of non-traditional methods of construction and demonstrate its commitment to design being at the heart of its approach.