Flaunting Convention: An Issue of Leadership

Introduction

So here's the rub: we have a growing economy and the prospect of a fairly healthy construction sector but there is genuinely less skilled resource to service demand than 6-7 years ago. It is commonly accepted that recessions tend to take a toll on the construction sector, and the most recent has proved no exception to this rule. Whether the appetite in current Government circles is for more house building or more "shovel ready" infrastructure projects, or the necessary funding for private sector development is once again flowing, the capability of the construction industry to respond today and generate some decent returns could be considered to be found wanting compared to pre-recession times. Quite rightly, in order to safeguard their own personal interests, much traditional resource has moved out of the construction sector to find gainful employment elsewhere, with little interest in returning irrespective of the new opportunities that might exist. Despite the wide scale migration of this traditional, "shovel ready" trade resource, the irony is that a substantial amount of untapped offsite capability and capacity remains. Notwithstanding that the recession has also had a detrimental impact on the offsite sector, the evidence suggests that it has historically been and remains under-utilised. From a Government perspective, it is likely that this is particularly frustrating given that more take-up would also have helped address the separate political dilemma regarding the balancing of the economy with a more substantive contribution from manufacturing.

oOffsite products for the construction sector can take many forms, but there are few examples of offsite facilities in the UK that have been or are currently operating near or at full capacity. Whether these supply fully volumetric modules, structural insulated panels, cross-laminated timber framing systems or mechanical/electrical plant skids, the fact is that much of the offsite sector has long-yearned for higher levels and better-balanced throughput. From the many manufacturers' perspective, the challenge has never been to win a single project, rather it has been to persuade the end-client, consultant and main contracting communities that long-term commitments best serve the interests of all parties. Sensible commercial terms, consistent volumes and surety of workload are all pre-requisites for manufacturers to take an holistic view and make investments to improve production capability and capacity; further train and develop their workforce; and innovate. Yet despite an obvious willingness of many private investors across the offsite sector to make further investment to grow capability and capacity so as to help leverage the productivity of the construction industry, the simple fact is that trading conditions have actually become increasingly difficult.

All of which begs the question as to why?

Issues of Self Interest

It would be impossible to cover all the facets of this argument here but it is worth starting with a short debate of what consultants and main contractors are typically trying to sell to end-clients.The purpose of bidding for a project is for these parties to present their own compelling argument elaborating how they are best placed to deliver against the client requirements. This process is largely a matter of instilling confidence and demonstrating expertise and experience, whilst being able to evidence that commercial and programme risks can be minimised or eliminated. But consultants and main contractors are effectively service providers, and so in bidding for new work they are also just trying to secure an income stream to sustain their ongoing overhead commitments.

Since the value-add that is effectively being sold is effectively the know-how of human resource, then the longer the project the better. Accordingly, having been appointed to a project, it is somewhat counter intuitive for consultants and main contractors to behave any differently and pro-actively seek out those alternative build methodologies that might involve more offsite solutions (unless there is a specific end-client or project driver for pursuing such options). The reason for this is fairly straightforward, that is, having sold their expertise and experience as a differentiator then the obvious thing for consultants and main contractors to do is to ensure that this expertise and experience is deployed on the project and utilised in full.

In respect of potentially configuring a new paradigm for design development and co-ordination, or embracing a fast-track build methodology that exploits offsite solutions, it makes little sense to consultants and main contractors to upset the status quo if these decisions detrimentally impact on their project headcount so as to have a negative bearing on their income stream. Furthermore, the form of design and build contracts helps perpetuate this mode of working because they do not typically reward an improved outcome (e.g. better performing building for the same cost, earlier completion to allow earlier revenue realisation, etc.) rather they pay a set amount for delivery of the scope to particular deadlines.

Perceptions on Risk

Notwithstanding the fact that the construction sector in the UK is capable of designing and producing some stunning, incredibly sophisticated buildings, a second thread worthy of interrogation relates to why methods employed have remained the same for decades. The logic behind this appears simple enough: the sector is populated with a lot of people who implicitly understand the processes underpinning the same, and they know the capabilities and limitations of the traditional trade resources comprising the supply chain. Most importantly, they also comprehend how to use the form of design and build contracts to transfer risk to the lowest tiers in this chain. Regarding this latter point in particular, providers of commoditised trade services are typically multiple, so when there is an inevitable failure in the supply chain it is relatively easy to source an alternative. Albeit then that many projects are delivered over budget, late to the agreed programme, or the performance of the final building is to be found wanting, consultants and main contractors tend to default to tried and tested methods because the perceived risks associated with the same are low. This is somewhat surprising when these same parties frequently report a low return for what typically amounts to a considerable effort.

Contrast this world of operating in a comfort zone to an alternative where potential providers in the supply chain might offer an entirely bespoke service, and such providers are not so easily substituted. As beneficial as that this option might be, the radical nature of the departure from tried and tested methods often proves too great a challenge for consultants and main contractors to contemplate giving any serious time to. Essentially, it constitutes hard work as it forces people to have to think, not just about the option itself but also because there is always a broader impact of adopting any particular solution on other packages of work. So, in simple terms, it is easy to empathise with people who take the view that innovation carries higher risk. Of course, the construction sector is populated with plenty of people who can conjure a convincing argument as to why some innovative option should not be utilised, these arguments typically being based on a perception of higher risk combined with an artificial cost comparison versus a tried and tested method. Of course, the Government has set some big challenges as part of its Construction 2025 industrial strategy yet the fact is that their cost, delivery, sustainability and export performance targets will not be met if the sector continues to exhibit such innovation averse behaviour.

Issues of Time

Timelines and deadlines are important themes in construction, so it is only right to briefly consider these as a final point of debate. It could easily be argued that the amount of wasted energy expended by multiple parties across the entire supply chain comprising the construction industry working on projects is enormous. Those tried and tested methods commonly employed by consultants and main contractors can be considered to present obstacles to a much leaner model. While people feel compelled to stick with the extant rules of the game because these reflect decades of custom and practice, the inefficiency of the old working model is perpetuated. The intriguing counterpoint to this logic is that the offsite sector offers the opportunity to shake everything up and re-define the rules of the game, because the essence of the solutions being presented by this community implies a very different methodology in terms of time required and methodology for design and build.

Consider from the design perspective, despite the multiple advances in technology and data management, building information modelling is largely used for the purpose of defining what needs to be built and how this will be maintained. Somewhat unfortunately, building information modelling is not really used to capture and define how something will be built, and also when the precise series of activities that need be performed by the multiple specialist contractors should take place.It is the case that the appointment of a specialist contractor who will provide some form of offsite solution might mean that a consultant would not have to perform the same level of detail design work on a project, but it should also mean that the project planning by the main contractor is more straightforward. By definition the specialist contractor is best placed to generate modelling information for the purpose of manufacture of the offsite solution, so there would appear to be real benefit in appointing the same early on to avoid the need to duplicate work and incur unnecessary costs with consultants. Equally, this specialist contractor will plan the entire series of activities and milestones that constitute design inputs, approval, design freeze, procurement, manufacture, delivery and installation, which means the main contractor can capture the same information and co-ordinate the contributions of other parties in accordance with these fundamental requirements so as to optimise information flows and save unnecessary cost spend.

Consider, by way of alternative, the management of the build perspective, and the potential need to question the resource that might be needed to be engaged by the main contractor to co-ordinate and control the supply chain. Today it is no longer the case that main contractors are builders as such, rather they are integrators and so their long-standing resource planning heuristics relating to which roles need to be performed by which party and how much of this resource is really required should come under renewed scrutiny. Clearly, it is the case that the appointment of a specialist contractor who will provide some form of offsite solution might require the main contractor to engage some additional design resource to co-ordinate packages of work, but equally it might logically imply a more substantial reduction in project and commercial management resources. Furthermore, embracing an offsite approach might mean that the requirements for accommodation, storage and welfare facilities to be provided by the main contractor at a site will change as a direct result of the likely reduction in physical numbers of personnel, and also the much more limited amount of time this resource will typically spend at site. By definition, the purpose of producing offsite solutions is to aggregate packages of work together that would otherwise be undertaken insitu in a more traditional, piecemeal manner, so there is always a direct consequence on the number of personnel and material movements to/from a physical site.

T|his very different logic in terms of time to design and build using offsite solutions potentially has contractual implications too. Consider that the form of design and build contracts commonly used

by end-clients and main contractors carry conditions pertaining to damages to be paid in the event that certain deadlines are missed. From an offsite perspective, these potential penalties are somewhat meaningless and it would be really beneficial to have a mature conversation about the real risk of failure and how all parties could collaborate to ensure such real risks are mitigated or nullified. In essence, when the majority of design and manufacturing activity is taking place away from site the potential for the late installation of product is greatly reduced, though there is a direct correlation with the timely receipt of design inputs, generation of design outputs and their subsequent approvals in order to allow sufficient lead time to procure and expedite materials. Indeed, this shift supports the notion of the main contractor bolstering design resource so as to ensure successful co-ordination of design inputs from the various other parties engaged on a project. Furthermore, it makes complete sense to give consideration to agreeing some sign-off protocols for factory inspection and testing of finished product, and agree a window as opposed to specific day for the installation of a product so as to create small amounts of float in the overall construction programme.

Summary

I started out posing the question as to why the capability and capacity made available by offsite providers has been historically under-utilised by the construction sector. In truth, there has not been sufficient space here to prepare a full treatise explaining all the reasons for and against greater take up, but what if the question had been posed in another way. What if, for the sake of simplicity, the question was framed along the lines of what would the construction sector do if the appetite of the many private investors who sponsor and support offsite providers was subject to a wholesale shift? In other words, what if these parties simply decided to invest their energy and money elsewhere, and the capability and capacity of the offsite sector was effectively zeroed? Such a shift would carry a cataclysmic impact and likely elicit a significant response from a variety of agents from across the broader construction community.

Consider, whilst it may be the case that at operational levels there may be some parties from this community who would not be remotely concerned, the more strategically minded might express a little more concern. The explanation for this concern would be fairly obvious: the growing economy and those healthy prospects for the construction sector, which has already suffered some attrition, would start to represent risk as opposed to opportunity. Without the necessary confidence in an ability to service the potential demand, the likely upshot would be a further contraction in the overall capacity of the construction sector. The corollary for those end-clients possessing the capital and a desire to generate returns from the same by building out new schemes would simply be that it would cost more, and it would potentially take longer.

So, any sense of foreboding that consultants and main contractors might have in this new world about the withdrawal of offsite capability and capacity, and the impact that this may have on their respective reputations and ability to deliver to the bottom-line, might force a different conversation to that regarding under-utilisation. Indeed, the non-availability of capability and capacity to help support the construction sector would likely become a true leadership issue and subject to strategic debate, as opposed to the more tactical and farcical cost comparison arguments that have historically stifled take up. And this gives rise to the main point of contention: when will the thought leaders in the construction sector grasp that it is for them to set the agenda?

Of course, if the matter did become a leadership issue and a proper dialogue took place regarding the strategic importance of offsite in the construction sector, the medium-to-long term benefits of leveraging productivity and growing export potential could be pursued. Rather sadly, the hypothesis

of the many private investors unilaterally withdrawing from their offsite interests is unlikely to become a reality because they have so much skin in the game. But in a sense this does not dilute the argument for leaders across the construction sector to rise to the challenge and seek ways in which their businesses can look to flaunt conventions to create a better, more holistic approach across the industry so it is better placed to serve end-clients and better able to generate healthier returns.