Strategic positioning of IT in construction: the way forward

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In light of the aforementioned ICT challenges facing the industry, and in order to bring about construction IT-based innovation to contribute to the improvement of the industry’s productivity, it was crucial to identify the current gaps in the industry’s core decision makers – as these decision makers either directly, or indirectly have an impact on ICT investment. In this respect, it was also important to understand the needs for change and successful implementation of IT within these organisations, in order to “Assess the state of executive thinking towards IT investment for continuous improvement and competitive advantage”. Thus, the following objectives were identified:

1. To understand the evolving use and uptake of IT in relation to the industry’s past and current understanding of the value of IT to innovation and continuous improvement;
2. To identify the shift in executives’ thinking in terms of:
   • Understanding the role of IT for improving performance;
   • The impact of continuous innovation in technology on their enterprises;
   • Their awareness on the relationship between IT, process management and people.
3. To identify the difference in understanding of IT priorities between business executives and IT/innovation directors;
4. To determine disparities in IT awareness between contractors and consultants;
5. To identify future patterns in creating IT-based business core capabilities.

The “acceptable” level of IT that can be successfully utilised in an organisation, i.e. ensuring its business benefits are realised, depends on assessing a range of critical issues needed to ensure a balance between the organisation’s readiness (mainly factors required to adapt to the proposed change) against the level and complexity of the proposed IT (which often hinders or limit success). This balance often includes many issues such as: capital expenditure, resource availability, organisation’s maturity and readiness, culture and vision, and available IS/IT skills.

In this context, the term “e-readiness” is coined to measure the degree to which an organisation may be ready, prepared, or willing to obtain benefits, which arises from the digital economy. It is concerned with the organisational soft issues such as business processes, management structure, change management, people and culture. The importance of organisational e-readiness to successfully embrace IT into work practices is gathering pace both in academia and industry due to the large investments in IT over the past decade of which a large percentage have failed to meet their intended business objectives.

The results from this questionnaire clearly demonstrate a polarised position regarding thinking between “what the industry thinks needs to be done” to achieve IT-based innovation and competitive advantage and “how best to achieve it”. With participation of over 100 respondents from the UK’s
Top 100 Contractor and Consultants, this strategic study assessed the thinking of Industry Executives, Chief Executives and IT/Innovation Directors to report on the gaps that need to be addressed. The results from this questionnaire clearly demonstrate a polarised position regarding thinking between “what the industry thinks needs to be done” to achieve IT-based innovation and competitive advantage and “how best to achieve it”. This gap is significant and needs to be addressed. From an investment perspective, investments in IT over the past decade have raised serious concerns about its contribution to the performance of organisations. These concerns have generated a growing prerequisite to more robustly link IT investments with organisational business objectives; furthermore, to measure the contribution IT has to businesses. In this context, there is a need to better understand the current status of industry towards IT investments – specifically, to identify the gaps that could hinder or act as a barrier to IT-based innovation and competitive advantage.

Whilst it is acknowledged that results from this study demonstrate a high level of awareness regarding the strategic benefits of IT to achieve innovation and competitive advantage, there is however a lack of unanimity and agreement between CEOs and IT directors on how best to achieve these benefits in their organisations. The former was evident through the overwhelming agreement on the importance and the need for the development and implementation of the following three critical elements of IT success: IT strategy; Process management and re-engineering, and; IT skills and competence. In this context, this is a clear misalignment between “what the industry thinks is necessary” and “what has actually been practiced”. Therefore, this intransigence highlights the clear deviation from “what needs to be done” to achieve IT-based innovation and competitive advantage, to one that is somewhat laissez faire, and relatively risk-free. For example, IT strategies are often inward looking; mainly to improve individual business processes or projects in spite of the high recognition of importance of such strategies to achieve innovation and competitive advantage. In this respect, whilst financial return on investment is still an important factor (particularly among contractors) in spite of the overwhelming belief that this should not be the case. Added to this, business process management/reengineering is still not being aligned with IT, even though there is a strong belief that process management is critical to achieving success. Which leads to the importance of skills, as IT skills still seem to be developed for internal business improvement, yet their perception is that such skills should be developed across the organisation? These issues are also reinforced when the triggers for IT investments are investigated further. For example, the outcomes indicate that the main investment drivers are still client or activity-focused, particularly within contracting organisations which are often cautious and risk adverse. However, evidence from this questionnaire revealed an overwhelming belief that such investments should be directed towards achieving competitive advantage and innovation at the organisational level. Moreover, the main inhibitors to IT investment seem to be the lack of “know-how” or mechanisms that can guide managers to successfully absorb new technologies into their work practices towards achieving competitive advantage. In this respect, technology absorption and diffusion seems to be a core barrier that needs to be addressed. In addition, although there is recognition of being proactive to continuously investigate and invest in new technologies, it does not however appear to have a significant impact on decisions regarding investment as much as the need to replace existing “ageing systems”. This demonstrates that the gap between “what is necessary to be done” to achieve IT-based innovation and competitive advantage and “how best to implement it” is significant or pronounced. Clearly, the industry appears to understand the strategic benefits that can be realised through IT, which, with some degree of confidence, is in line with “best practice” in other industries. However, the mechanism to realise these benefits and maximise the likelihood of success of IT investment is not yet fully understood. This is not uncommon among other industries, and indeed among the IT community – which highlighted such a problem down to several organisational factors, mainly: people and process; the enabling work environment; and the IT infrastructure.