

BARRIERS TO E-BUSINESS ADOPTION IN CONSTRUCTION: INTERNATIONAL LITERATURE REVIEW

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ABSTRACT

The adoption of e-business by the Australian construction industry lags other service and product industries. It is assumed that slow adoption rate does not reflect the maturity of the technology but is due to adoption barriers peculiar to the nature of construction. This paper examines impediments to the uptake of e-business nationally and internationally. A systematic and extensive literature search of barriers (also referred to as obstacles, impediments or hindrances) to adoption has been undertaken and the findings discussed in this paper. This review included more than 200 documents and these have been published in a searchable database as part of a larger research initiative funded by the Cooperative Research Centre for Construction Innovation.

The influence of levels of e-business maturity seen in other sectors such as retail, tourism and manufacturing was also captured and a number of major barriers were identified some including: privacy, trust, uncertainty of financial returns, lack of reliable measurement, fraud, lack of support and system maintenance. A total of 23 barriers were assessed in terms of impact to organisational type and size across reviewed documents. With this information it was possible to develop a reference framework for measuring maturity levels and readiness to uptake e-business in construction.

Results have also shown that barriers to e-business adoption work differently according to organisational type and culture. Areas of training and people development need to be addressed. This would include a more sensitive approach to the nature of construction organisations, especially to those small and medium enterprises. Raising levels of awareness and creating trust for on-line collaboration are other aspects that need attention, which current studies confirm as lacking. An empirical study within construction, to validate these findings, forms the subsequent phase of this research.

Keywords: electronic business, maturity levels, technology adoption, cluster analysis.