

# **Building Data Driven Culture for Digital Competitiveness in Construction Industry: A Theoretical Exploration**

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Despite studies related to big data in construction is growing, most of them have focused more on data application and less on the social element of the big data technology (e.g., data culture). This study aims to explore the key elements of data culture practices, towards providing a deeper insight into how they could drive digital competitiveness in the industry. A total of 136 papers related to big data in construction published in peer-reviewed journals were reviewed and analysed using the well-established systematic literature review (SLR) methodology. The findings indicate that four key drivers of data: data analytics, data literacy, data democratization and data leadership are critical for organisation's competitiveness in digital environment. A framework for data driven culture is proposed consisting of five elements: culture of production, culture of use, cultivation of data, datafication and data infrastructure. As cultural shifts are complicated endeavors, exploring the key elements on what it takes to drive the data culture in construction is necessary for the development of an effective digital ecosystem of the organisation. This study extends the digital literature in the construction context by providing deeper insights into the conceptualisation of data driven culture.

**Keywords:** Beliefs and behaviours, Construction and Engineering, Data-driven, Digital transformation