# How is, and how can, digital technology be used to maximise the social value delivered through major infrastructure projects?

## Introduction

The primary aim of this research is to inform as to what best practice and opportunities exist, to use digital technology, to maximise social value through major infrastructure projects. This dissertation fills the research gap around the intersection between social value and digital technology, and the use of digital technology to maximise social value in the infrastructure sector.

This research methodology is the collection of qualitative data from 12 interviews with participants in 12 organisations during August 2020. The research findings and recommendations are structured around seven questions.

1. *How is social value defined?*
2. *What are the current challenges in social value?*
3. *What are the current non-digital approaches to improve social value?*
4. *What best practice exists in the use of digital technology to maximise social value?*
5. *What are the opportunities for the use of digital technology in maximising social value?*
6. *What are the risks and barriers to the use of digital technology to maximise social value?*
7. *Should digital technology be included in policy for social value?*

## Conclusions

An extension of the research, to tap into a more global picture of the use of digital technology for social value, and to use a much wider sample base would be beneficial.

For those digital systems that are being developed there will be a need to track their progress and implementation. The use of digital technology in stakeholder management, and the impact on social value would also be a beneficial area for further research.

Government and industry are already responding to the challenges identified with an acceleration in policy focus, an increase in the embedment of social value into contracts and leveraging the benefits of sustainable finance. Digital technology is an enabler to social value and needs incorporation into policy and can then be used to drive requirements through the supply chain.

There is currently no effective definition for social value and the definition needs to be sector and context specific. Social value should not be viewed in isolation and current practice takes insufficient account of the beneficiaries. The following definition is proposed:

> Social value for infrastructure projects is the indirect benefits and outcomes that the nation seeks to achieve, through investment in the built environment, and beyond the direct benefits of the asset itself. Considering the good achieved for beneficiaries and stakeholders.'

Many of the challenges facing the industry identified in this research, can be addressed with the application of digital. This includes improving measurement, accountability, and knowledge. However, if digital technology is to be used to its full benefit then the industry will need to overcome the barriers of system proliferation, a lack of understanding of data, fears over the use of social media and of digital security and address digital poverty amongst stakeholders.

There is strong evidence of the current use of digital measurement of social value, but concern over the use of simplified methodologies and an over reliance on quantitative data. The monetized metrics used are not investable.

There has been a significant shift is the use of digital engagement and consultation with stakeholders and some developments in the use of AR and VR to change the public perception of value. There is a significant opportunity to improve stakeholder engagement, using digital apps and mobile, and integrate that improved engagement with social value measurement, reducing the cost of analysing real outcomes using primary data.

## Recommendations

1. An up to date, context specific, definition for social value in the infrastructure sector, should be agreed and embedded into policy and practice.
2. A holistic approach to the implementation of social value. Using a digital framework, based around the capitals model, for the achievement of policy objectives on major infrastructure projects (Construction Innovation Hub 2020). This approach needs to be embedded into the whole life cycle of the asset including planning.
3. Policy makers should specify social value requirements that cannot be delivered without the use of digital tools, for example, real time management information on outcomes. Policy should be system agnostic, flexible for different sectors and incorporated into all stages of the project lifecycle.
4. Policy makers should consider interventions to address market failure that has led to systems proliferation, siloed approaches, and system exclusivity.
5. Develop an ethical and methodological framework of good practice for the use of social media to maximise social value.
6. A standardized digital framework of social value metrics is developed for the infrastructure sector and recognised by government. The metrics should incorporate both qualitative and quantitative data and the impact on stakeholders. These metrics are developed together with regulators and the financial sector to move to investable metrics linked to societal wellbeing.
7. Embed social value data into digital twin development, enabling better decision making on social value across the whole life cycle of infrastructure assets.

8. Explore the use of DLT to increase transparency and drive accountability in the maximisation of social value.

9. Leverage digital tools, including AR, VR, and apps on mobile devices, to make the collection and measurement of primary outcomes data, context relevant and proportionate to the benefits.
10. The industry builds on the shift to digital, in engagement and consultation with stakeholders, to design standards for a new normal approach using a blend of digital and face to face to increase understanding and build trust.
11. Digital tools, including ESSPs, AI and mobile devices, are used to enhance stakeholder engagement and present the 'data voice' in real time, creating a continual transparent conversation around 'place'. Integrated with social media and using the wisdom of crowds to improve decision making.
12. Upskill managers, using digital learning, to maximise social value including contracting, accountability and management processes, risks and opportunity of data management, and digital security.

**Jeremy Galpin C.Eng MICE Chartered FCIPD MAC**

**Digital and Social Value Consultancy**

Mob: 07799 435539

**www.costain.com , https://www.linkedin.com/in/jeremy-galpin/**

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