Analysis of Social Value Creation in Infrastructure Delivery to Achieve the Sustainable Development Goal 3

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Abstract
Good health and well-being are key indicators and a precondition for sustainable development, allowing people to enjoy fulfilling lives, receive education and be productive members of society. Social value is the positive impact of infrastructure projects on long-term well-being. Infrastructure social value (SV) delivery is a practical national/organisation-level vehicle for realising the United Nations' Sustainable Development Goal Three - ensuring healthy lives and promoting well-being for all ages. However, infrastructure SV delivery is often commissioned when the project is well underway or completed, so mechanisms to collect the required data to quantify SV impact were not set up. By that point, it is usually late. Qualitative and quantitative methodologies are applied using the Goodison Legacy Project (GLP) as a case study. Twenty-five interviews were conducted to analyse the SV commitments of the GLP. A quantitative formula was developed for the definition and estimation of SV components to indicate the well-being status of the end-users before the infrastructure project commences and possible evaluation of infrastructure impact on the community. A framework is developed for the GLP to demonstrate the SV delivery of infrastructure projects to realise SDG 3. The study emphasised that evaluating the well-being status of potential project users before the infrastructure project commences plays a central role in indicating where to invest and maximise resources. Thus, it helps monitor how construction projects impact society's well-being, economic changes, and the built environment. The approach explored would potentially revolutionise how to evaluate effective SV delivery of infrastructure to realise the SDGs.

Keywords
Social value, infrastructure projects, SDG 3

1 Introduction

The SDGs consist of 17 interlinked global goals designed to serve as a blueprint to achieve a more sustainable future for the global community, addressing, among others, critical issues such as poverty, critical hunger, good health, promotion of well-being and quality education, including gender equality. The SDGs apply to developed and developing countries in addressing climate change, clean water and sanitation, global partnerships, and sustainable communities (Filho et al., 2022). To achieve the SDGs,

persistent efforts are required to conserve natural resources, reduce inequality, and protect biodiversity loss and promote peaceful cities (Sun et al., 2024). The emphasis of the SDGs on addressing the dimensions of people, planet, prosperity, peace and partnership is the further assertion that these aspects are crucial to the future of humanity and the planet. The SDGs are essentially a socially driven agenda, projecting—social values and the delivery.

Social values need to be defined in this context to understand the place of values within the sustainability debate. Social value (SV), as set out by the UK government (HM Treasury, 2020), refers to the value of the net impact that a policy, organisation, or project has on the well-being of people in society ('project' is subsequently used as a catch-all term throughout this work). The study used 'well-being' to describe what is ultimately suitable for a person and measure how well a person's life is going (Ojuri et al., 2024). Thus, in our work, our analysis of SV is focused on SDG 3, which contributes to well-being through job opportunities, income, skills, social cohesion, mental health, and increased green space. This aligns with The Social Value Act 2012 (Opoku and Guthrie, 2018). Understanding the SV of infrastructure is essential to delivering socially and technically successful infrastructure projects. Research on SV is increasing in the built environment, and its significance is in the SDGs. SV is an emerging concept; thus, practice varies widely. However, as promising as SV is in contributing to the sustainable built environment and the SDGs, it still needs a long way to achieve its nirvana. A practical framework for delivering and evaluating societal well-being outcomes of infrastructure projects, an essential requirement in the social value literature, is highly needed. This translates to construction professionals delivering infrastructure projects with inadequate research-backed guidance on social value creation in infrastructure. Hence, effective delivery of infrastructure projects is at a disadvantage.

Infrastructure projects are vital for delivering the wide-ranging benefits of the Sustainable Development Goals. Evidence supports the link between infrastructure investment and national economic growth, with infrastructure services such as sanitation and energy systems benefitting all 17 Goals (Parikh et al., 2015). It supports society in functioning and economies flourishing. Infrastructure projects can and should deliver many more benefits for individuals, communities and local economies (Fitton and Moncaster, 2021). The benefits that infrastructure projects generate for society are more comprehensive than delivering basic functionality or engineering outputs (Infrastructure and Projects Authority, 2017). Since the introduction of the UK's Social Value Act 2012, organisations wishing to secure public sector engineering, infrastructure and construction projects need to demonstrate their social value identifications (Watts et al., 2021). Beyond their functional aspects, infrastructure projects play a crucial role in' placemaking' and well-being, which is increasingly recognised in society (Ojuri et al., 2023). For instance, the social value of infrastructure can improve the quality of people's well-being in the host community, help create decent jobs for the unemployed and help address inequalities.

Creating and evaluating SV in infrastructure projects is a complex task. This is due to the multitude of changes in different areas of society that occur during infrastructure delivery (Ojuri et al., 2024). Many of these changes are not recorded by the organisation in charge of the infrastructure project (Freelove and Gramatki, 2022). Moreover, SV creation in infrastructure projects is often commissioned when the project is well underway or completed, so mechanisms to collect the required data to quantify SV impact were not set up. By that point, it is usually late. The study focuses on the ability of data from project end-users, such as health, job, education, and income, among others, to play a role in understanding people's well-being and investigating the delivery of SV in infrastructure projects.

Using project end-users data to analyse information can meet the expectations of project organisations and end-users by anticipating the value to be created (Fujiwara, 2022). The Goodison Legacy Project (GLP), the case study, has committed to providing SV in the host community. Thus, the study aims to

develop an SV delivery framework that could be adopted to understand the well-being status of the potential end-users, which well-being data to collect, which could evaluate the outcomes of the GLP's SV commitments in the project end-users. Based on the stated research problem, the research question is, "How can infrastructure projects be evaluated to indicate improvement in society's well-being"?

There is an intention to create an avenue that would contribute to developing a robust SV delivery framework, which could help project organisations assess social value-creating outcomes against their impact on beneficiaries in the project location. This will shed light on understanding where to invest and maximise resources, thus changing how value is accounted for in infrastructure delivery. These efforts would help us understand the extent to which the concepts of social values and sustainable development have been approached and described within the literature. Our findings would contribute to an understanding of how the SDGs, which include society's well-being, such as health, job creation, income, education, skills, including our natural world, and economic changes, are realised by construction infrastructure projects. The following section is a literature review of social value, 'social value as place-based', SDGs and the built environment. There is a discussion on stakeholder engagement, including the study's theoretical framework – "value co-creation". The data collection was analysed to develop a SV framework, including quantitative interpretations of SV components relevant to the case. Finally, there were conclusions and a few recommendations for a more practical approach for SV in realising SDG 3.

2 Literature Review

2.1 Social value

Literature on social value suggested many definitions of social value. The Social Value Act 2012, which the UK set out, is contextual and not solely concerned with construction infrastructure projects. Opoku and Guthrie (2018) argued that defining social value is as tricky as delivering, measuring, and recognising communities' social, environmental, and economic impacts. Raiden et al. (2019) define social value as above and beyond direct service delivery, which is created when resources, inputs, processes, or policies are combined to improve the lives of individuals or society. The commonality in diverse definitions is that social value broadens the appreciation of value beyond economic terms.

Social value in infrastructure delivery is a concept and a transformative force (Fujiwara et. al, 2022). It represents a creative and resourceful approach to addressing societal well-being, laying the foundation for increased equality, well-being, and environmental sustainability (Opoku and Guthrie, 2018). There is advocacy for a user-centric definition of social value in infrastructure projects, which encompasses the social impact of any organisation, project, or work programme on the lives of the stakeholders affected by its activities (Raiden and King, 2021). Infrastructure delivery can create social value to improve people's lives in the communities, provide career and skills development opportunities and positively contribute to the environment.

Social value can and should be about rethinking how community-based projects are delivered (ICE, 2020, Ye and Sun, 2021). Thus, delivering social value to the community should inevitably involve working with various actors to address societal needs. This approach tends to unify the diffusion and generic definitions of social value in the built environment, a critical missing gap identified in social value literature. Adequate involvement of the broader community in developing infrastructure projects is crucial for doing it right and making it happen in societal contexts (Doloi, 2020), and adequate investigation is needed.

2.1.1 "Social Value as Place-based"

There is a growing recognition that infrastructure should be designed to deliver for society, supporting 'placemaking' and well-being, not just economic profit. It is acknowledged that social value opportunities should be a place-based approach tailored to the needs of the project location (Freelove and Gramatki, 2022). This perspective translates to delivering social value as understood by the beneficiaries - the community people. It is important to note that what counts as social value differs from one location to another. This is where the 'Place-based' concept comes in, as it localises and focuses on helping the project organisation develop the appropriate social value needs for the project location. This philosophy is vital because it provides insights into the type of project user data needed to monitor social value commitments during infrastructure delivery at various project milestones. Adopting the "placemaking" concept is a significant strategy during social value delivery in infrastructure projects that deserves huge attention—which is highly deficient in social value literature. Extensive work on social value has been done during the procurement and construction phases of the project, mainly because procurement is the focus of the social sector (Watts et al., 2021). However, delivering social value is relatively recent in engineering projects, especially legacy projects, with limited studies evidencing how social value is achieved and evaluated and its impact on project locations (Daniel and Pasquire, 2017). The fundamental strategy of social value uptake and evaluation must be improved in infrastructure delivery literature.

2.1.2 Social value, the SDGs and the built environment

The SDGs are socially driven agendas that project social values and trajectories. The importance of the built environment in meeting the SDGs is apparent when one considers that 44% of the 169 targets across all SDGs depend on construction and real estate activities (Raiden and King, 2021, Filho et al., 2022). Built environment plays a significant role in meeting society's fundamental needs, such as sanitation, water supplies, energy supplies, transport and flood protection, to name a few (Fitton and Moncaster, 2021). The built environment has a central role in meeting this expected growth sustainably through the planning, design, construction, and management of urban environments, buildings, and infrastructure. The available literature utilises the existing green ratings, sustainability assessment tools and standards to investigate how construction and buildings can contribute to the SDGs. However, less focus was placed on exploring the broad intersection between the infrastructure's social value, on the one hand, and the SDGs and their targets, on the other (Raiden and King, 2021).

2.2 Stakeholder engagement

Thus, in creating a socially effective delivery of infrastructure projects, the active involvement of stakeholders is critical to understanding the appropriate social value needs of the project location. The social value in infrastructure tends to give a broader understanding of value because it gives an understanding beyond the project cost as the leading indicator of value. Instead, it emphasises people's engagement to understand the impact of decisions on their lives. People's perspectives are critical to the social value of infrastructure delivery. The first step in creating social value in infrastructure delivery is for all stakeholders in the sector to understand that social value goes beyond just delivering employment, apprenticeships and SME involvement during construction (ICE, 2020). There is a need to think broadly about how infrastructure projects can improve the lives of local people and deliver multiple benefits. Stakeholders can influence the decision-making process characterised distinctively by multi-stakeholder governance. Social value in infrastructure delivery can effectively be delivered from the "Social Value as Place-Based" mindset and the involvement of project beneficiaries (stakeholders) in the social value delivery supply chain.

2.3 Value co-creation

Our broad argument is to study social value in infrastructure projects through the lens of value co-creation as-built value defined by the multi-actors. Our central line of theoretical reasoning is that value co-creation is the active involvement of consumers in creating value. This translates to a joint activity of multi-actors in producing benefits for and as determined by the consumer. The term "value co-creation" was coined to denote value production between an organisation and a consumer (Vargo et al., 2008; Ojuri et al., 2018; Ojuri et al., 2023). The concept stresses that providers and consumers share similar roles in generating value. This occurs when resources are integrated, and competencies are applied to collaborate based on trust, continuous interactions, engagement, and adequate knowledge exchange to enhance and maximise benefits for project participants (Rojas et al., 2018).

In value co-creation theory, the consumer is a significant stakeholder and focal point. The importance of a consumer of the service or product in value creation started gaining prominence with the concept of quality improvement and productivity gains (Agrawal et al., 2015). Various researchers have revealed that consumer integration in the firm's value chain is achieved by expanding organisational boundaries. Customers later came to be considered human resources, which were to be managed by the firm to increase efficiency and effectiveness. Also, the role of customers in service settings and creating value have started gaining importance (Ojuri et al., 2018, 2019). Communicating, delivering and creating value are identified as the primary activities of any organisation. Value is the "capacity of goods, services or activity to satisfy a need or provide a benefit to a person or legal entity" (Amit et al., 2015 p.443). Value co-creation requires resource integration - where actors share their resources, distinctive competencies, and linked interests complementarily. The resources are integrated and reciprocally accessed through interaction for the benefit of others (Vargo et al., 2008; Siltaloppi and Vargo, 2014).

The concept has been widely adopted to evaluate the management of construction projects (Chang et al., 2013; Smyth et al.,2017; Esan-Ojuri and You, 2021; Ojuri et al., 2023). Value co- creation application in project management includes the effects of conflicts on value co-creation in project actors' relationships (Ojuri et al., 2018, 2019). It enhances sustainable development and benefits many beneficiaries (Keeys and Huemann, 2017; Rojas et al., 2018). While adopting value co-creation is becoming prevalent in project management literature, sufficient exploration of social value creation in infrastructure projects is still needed. Besides, value co-creation is essential in informing our philosophy of investigating determinants of social value creation in infrastructure projects. The research on value co-creation has extensively been from the consumer business perspective or business to consumer. However, value co-creation studies have recently adopted the stakeholder approach (Agrawal et al., 2015). The study of the co-creation of social value in infrastructure projects remains in its nascent stages.

3 Research Methodology

Social value is often considered subjective, allowing different interpretations to exist simultaneously across numerous stakeholders (Watts et al., 2021). This social construction of meanings determines that a constructivist ontological perspective is adopted in social value research, ultimately dictating a qualitative research design (Bryman, 2016). Furthermore, constructivist philosophy emphasizes the role of social interactions. This paradigm emphasizes participants' constructions, descriptions, and narrations of their lived experiences and the belief that knowledge is co-constructed between researcher and participant (Tashakkori et al., 2021). This viewpoint is on the assumption that reality is socially constructed and knowledge is generated through interactions and interpretations. The case study approach adopted is also suitable for exploring the question, "How does the project end users'

data evaluate social value delivery in infrastructure projects"? It concerns witnessing and not controlling real-world behaviours within a particular context (Saunders et al., 2019; Yin, 2018: p. 9). The case study used is a single case design, which is the most appropriate when the study deals with an exercise that brings a fresh perspective to the problem and challenges existing knowledge and untested assumptions (Yin, 2018). The case study methodology is to explore and understand how social value could be delivered by creating a model from the outset of infrastructure delivery. Additionally, the social value commitments of the GLP can better be understood through qualitative discussions and consultations; thus, in-depth interviews were conducted with key people who set the social value commitments in GLP.

Everton's Goodison Legacy Project (GLP), estimated at £82 million, is a new mixed-use regeneration scheme consisting of ten new development blocks, 51,000 sq ft of offices, six-storey 173 care homes and more than 107,000 sq ft of community uses, and 8,000 sq ft of retail and leisure space on the land currently occupied by the existing Goodison Park Stadium in Liverpool. The Goodison Park Legacy Project allows the Club to build on its official charity's life-changing and life-saving work. The project was designed to introduce new resources into a deprived part of the city. The project organisation's plans for the Goodison legacy project include demolishing the stadium and replacing it with social value commitments to improve the well-being of people in this part of Liverpool. The legacy development at Goodison Park is "The People's Project" and would transform North Liverpool, Liverpool City Region, and the Northern Powerhouse. It would also deliver benefits vital to the city's socio-economic recovery following the Coronavirus pandemic.

The GLP project had yet to start when this research was conducted, making it timely to develop a social value delivery model to evaluate its impact as construction progresses and even after commissioning. The purposive sampling technique was used to select knowledgeable respondents for our investigation. Consequently, the respondents included the client, the project manager, and the planning committee chair. There were fourteen face-to-face interviews with the project manager and planning committees. These interviews were not recorded on any device as the respondents disagreed; instead, notes were taken. However, eleven separate online interviews for the operational committee were recorded as agreed by the respondents. Each interview lasted between 60 and 90 minutes. Among the questions asked included 'Respondents' understanding and intention of providing legacy project in the community?', 'What is the GLP planning to provide in the community, and for what purpose?' 'What approach did the organisation use to explore and interpret the social value needs of the project location? Can you describe how the social value commitments would impact the project users?'

The interview questions were analysed using thematic analysis using Nvivo. It is particularly suited to constructivism since it can illustrate how a particular social construct develops through analysing a wide range of data (Kiger and Varpio, 2020). Constructivist thematic analyses search for more latent, deeper themes within the data. Thematic analysis is relevant to qualitative research. Also, it is an appropriate and powerful method to use when seeking to understand a set of experiences, thoughts, or behaviours across a data set (Clarke and Braun, 2017). Since constructivism is designed to search for joint or shared meanings, it is less suited for examining unique meanings or experiences from a single person. Thematic analysis is used to analyse large and small data sets - from case study research with 1-2 participants to extensive interview studies with 60 or more participants (Cedervall and Åberg, 2010).

4 Findings and Discussion

4.1 Qualitative findings

It was discovered in the analysis that the social value creation of an infrastructure project goes beyond the monetary cost and value of the project but emphasises project location, well-being and improved life. Analysis of the interviews revealed the identification and definitions of the GLP's social value commitments, planned outcomes, and possible evaluation methods, as illustrated in Table 1. The findings revealed the specific SV commitments the project organisation and the stakeholders identified for the long-term well-being of the community people. The analysis unearthed the well-being components (planned outcomes), which detailed the impacts the legacy infrastructure projects would have on the host community. The findings highlighted possible evaluation methods that could help assess the SV commitments in the community. The themes that emerged from the analysis are discussed below.

Table 1: Analysis of social value commitments of the Goodison Legacy Project

S/N	Social value commitments	Well-being components (Planned outcomes)	Possible evaluation method
1	Educational buildings	Lifelong learning	Quantitative – well-being value – school children, career
2	Care homes - residential support for people with dementia	Improved health/life expectancy - Support for people with dementia	Quantitative – well-being value – improved health care and life expectancy
3	Community multi-purpose health centre	Life expectancy, improved health	Quantitative - well-being value of improved healthcare
4	Residential, retail, and green spaces	Affordable housing, income generation	Quantitative – well-being value of affordable housing and having a job
5	A new youth headquarters	Young entrepreneurs - employment and income generation	Quantitative – well-being value of having a job

4.1.1 "Social as Local"

The analysis revealed a strong consensus among all interviewees on the localised and subjective nature of social value creation, which brought about some challenges due to the involvement of wider stakeholders in mapping out the social value commitments of the GLP, given the diverse needs of the host community. This showed the importance of what counts as SV, which differs from one community to another, making localisation of SV extremely essential. It was discovered that the 'Social as Local' concept helps project organisations localise and focus on the relevant SV needs of the project location. This means that the social needs of the project location could be identified when the involvement of potential end-users and stakeholders becomes significant in infrastructure project planning. It showed that this philosophy is vital because it provides insights into the relevant social value commitments at the project planning stage, significantly improving the evaluation of infrastructure projects' delivery outcomes. The analysis also revealed that the professionals involved in the project delivery often had differing interpretations of where the ultimate responsibility for delivering social value rested. However, all the interviewees agreed that effective SV creation and delivery should be a joint effort between the project professionals and potential project end-users.

4.1.2 Educational building

The findings unearthed the project organisation's commitment to deliver educational buildings in the host community. The analysis showed that the children in the community had minimal access to primary education. Thus, the delivery of an equipped educational building was identified to improve primary education. 'Lifelong learning' was revealed as the well-being component based on providing educational buildings. The findings deemed the evaluation method for lifelong learning challenging; however, over two-thirds of the respondents stated that the data on school children's enrolment and activities in the "educational buildings" was a possible evaluation. Nevertheless, it was stated that it could be challenging to determine different classifications of careers the school children tend to pick up, as this may only be evaluated long into the future. Another approach that emerged repeatedly in the analysis on evaluating the 'lifelong learning' component was to collect pupils' data after graduation at different periods. Approximately nine respondents revealed that the evaluation of 'lifelong learning' could also be collected from the literature concerning this context and make educated guesses regarding the success rate of the "lifelong learning" component.

4.1.3 Care homes for people with dementia

The construction of care homes to support people with dementia was indicated as one of Everton GLP's SV commitments. The findings of both face-to-face and online interviews showed that the project location had a substantial number of people living with dementia and that the delivery of residential support from the legacy project. Thus, 'improved healthcare and life expectancy' was stated as the well-being component of the GLP in this context. The evaluation method that emerged from over ninety per cent of respondents for 'improved healthcare and life expectancy' concerning people living with included records gathered from relevant care homes.

4.1.4 Community multi-purpose health centre

It was discovered that the delivery of the community multi-purpose health centre was part of the legacy projects' SV commitments. The respondents revealed that improving the community's health and life expectancy was paramount to Everton Football Club and was an essential legacy for the community. This result was unsurprising because good well-being and health are vital indicators and a prerequisite for sustainable development. It was found that the possible evaluation of the 'good health and life expectancy' well-being component could be gathered from the General Practice using the beneficiaries' postcodes.

4.1.5 Residential, retail, and new youth headquarters

The analysis revealed the provision of residential, retail, and new youth headquarters as an SV commitment of Everton's Goodison Legacy Project. The interviewees revealed the poor situation in northern Liverpool after the coronavirus pandemic and the need to support entrepreneurship in this part of Liverpool City. Thus, 'affordable housing and income generation' was highlighted as the well-being component in this context. Almost all the respondents remarked that 'affordable housing and income generation' could be evaluated from the records of community people with affordable houses and jobs. Furthermore, it was shown that data on entrepreneurship and income generation could be gathered from the youth centre after project completion at different periods in the future.

4.2 Quantitative estimation

Defining and estimating the SV components represent the brunt of the quantitative part of developing the SV delivery framework. This provides an understanding of the possible evaluation of infrastructure

projects' impact on end-users well-being, as shown in the last section in Figure 1. Each of the outcomes in rows 1–5 in Table 1 is valued according to a variation of the following amended formula adapted from Freelove and Gramatki (2022):

$$SVi = (Qi \times QiBi) = (QiLP - UVi) + \varepsilon$$

Where:
SVi = Social value commitments i (i,ii,…,n = GLP's SV commitments)
Qi = Well-being components/data of the end-users before the commencement of the GLP (i,ii…,n =level of education, health status of people with dementia, health status of community people, employment rate, income generate rate, affordable house status)
QiBi = Change in the unit quantity of outcomes i attributable to the GLP's SV commitments
UVi = Estimated social value of one unit of outcome i (unit value)
QiLP = Actual quantity of outcomes i of Legacy Programme in place
ε = Residual

The SVi are the GLP's commitments in Table 1, including educational buildings, care homes to support people with dementia, a community multi-purpose health centre, residential, retail, and green spaces, and a new youth headquarters. Evaluating Qi is fundamental because it describes the community's well-being before the project delivery. Exploring, defining, and estimating the well-being components/data of the potential beneficiaries of the infrastructure project is fundamental because it would provide the well-being status of the community in the project location before the commencement of the infrastructure project. Besides, this helps project organisations to align their intended social value commitments to the well-being needs of potential project beneficiaries. Thus, the multiplication of Qi and QiBi should evaluate if the GLP is impacting the well-being of the community people. Assessing QiBi helps to evaluate the change in specific relevant well-being status of the community based on the legacy project. It was discovered that the GLP had estimated social value outcome in place, denoted by UVi. Therefore, deducting UVi from QiLP, which is the actual quantity of SV outcomes of the legacy project, should monitor the SV commitments of the GLP.

The social value delivery framework, illustrated in Figure 1, was developed based on the analysis and findings, including logical reasoning.

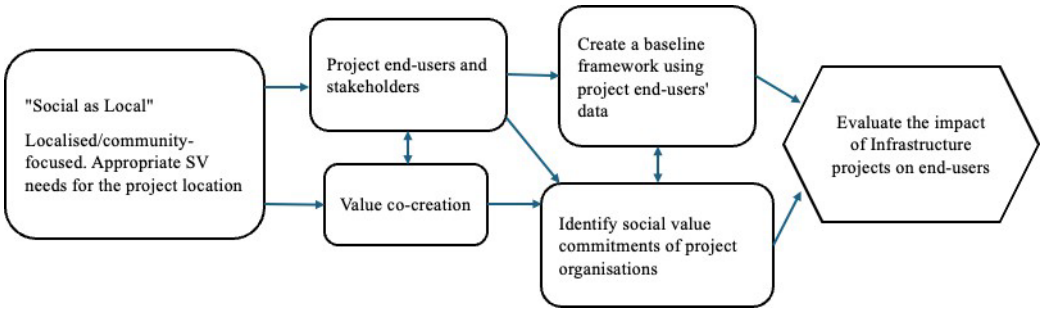

Figure 1: Social Value Delivery Framework

The analysis uncovered that infrastructure projects could improve societal well-being when the project organisation is driven by the "Social as Local" philosophy, as Figure I indicates when social value creation is localised and community-focused. This mindset helps the project organisation identify the relevant social value needs for the project location during infrastructure planning. This means that the social needs of the project location should be co-identified with the involvement of potential end-users and stakeholders in infrastructure project planning. Thus, exploring the social needs of the project location should generate specific well-being components that motivate the project organisation's SV

commitments. Besides, the classification of the project location's well-being needs should emerge from the joint activity of multi-actors in infrastructure to produce benefits for and, as determined by the end-users. Thus, the built-in social value of infrastructure projects should be co-created between the project organisation and relevant stakeholders. This process would help to explore the well-being status of the community, which should help evaluate the well-being impact of infrastructure projects in society.

5 Conclusions and Recommendations

Research on infrastructure social value delivery in impacting societal well-being and realising SDG 3 necessitated this study. Although social value delivery guidance is growing with the release of the report Maximising Social Value from Infrastructure Projects (ICE, 2020), it is still in its infancy compared to the body of social value research, primarily on construction projects. Besides, these suggest inadequate research-backed guidance on effective social value delivery in construction infrastructure projects. The determinants of effective SV delivery were also explored, including "Social Value as Place-based", stakeholder engagement, and value co-creation, including Social value, the SDGs and the built environment. There was an argument that the specific impact of infrastructure social value delivery on beneficiaries' well-being in the project location would help develop a practical SV framework. The findings uncovered specific well-being components of GLP SV commitments, including lifelong learning, improved health for people with dementia, improved life expectancy, income generation and affordable housing. A quantitative formula, $SVi = (Qi \times QiBi) = (QiLP - UVi) + \varepsilon$, was developed to define well-being data that could help evaluate the impact of infrastructure SV commitments on the community.

Our work is positioned on the premise that social value delivery in infrastructure projects could improve societal well-being and help realise SDG 3. It is recommended that to ensure effective SV delivery of infrastructure projects, from the outset, project organisations should ensure that project beneficiaries/stakeholders participate in the identification of specific social value commitments during infrastructure planning. Besides, it is proposed that the well-being status of the potential project end-users be established before the commencement of infrastructure projects and be included in the SV delivery framework. This is essential for monitoring and evaluation purposes in delivering sustainable, socially and technically successful infrastructure projects.

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