

Built environment – Value-based decision making – Specification

March 2023 Version 2



BSI Flex 390 v2.0:2023-03

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Foreword

This BSI Flex was sponsored by the Construction Innovation Hub. Its development was facilitated by BSI Standards Limited and it was released under licence from The British Standards Institution. It came into effect on 31 March 2023.

Acknowledgement is given to Flavie Lowres of Green Thinking Ltd. as the technical author, and the following organizations that were involved in the development of this BSI Flex as members of the Advisory Group:

- Akerlof
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- Stantec
- UK Green Building Council

Acknowledgement is also given to the identified broader stakeholders who were consulted in the development of this version of the BSI Flex.

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The content in this version is part of an iterative process. It is likely to change from time to time with subsequent iterations.

Supersession

This version of BSI Flex 390 supersedes BSI Flex 390 v1.0:2022-06, which is withdrawn.

Relationship with other publications

BSI Flex 390 v2.0:2023-03 focuses on the value-based decision-making process; it may be used alongside the many existing standards in the built environment, construction, procurement, project management and related fields and industries.

Information about this document

The Construction Innovation Hub (CIH) brings together expertise from Building Research Establishment (BRE), the Manufacturing Technology Centre (MTC) and the Centre for Digital Built Britain (CDBB) to transform the UK construction industry. In close collaboration with government, academia, industry and partners across the Transforming Construction Challenge, CIH is guiding a collaborative programme to create a market with the capability and capacity needed to deliver the UK's construction and infrastructure needs. The Value Toolkit [1], which is one of CIH's primary projects, provides a structured approach for value-based decision making across the investment lifecycle of a project, programme or portfolio, leading to better outcomes, a more sustainable built environment and a more sustainable model for industry. Developed in partnership with more than 200 experts from across government, industry and academia, the Value Toolkit is a government-backed initiative designed to change the way the construction industry thinks about and measures value.

This BSI Flex builds on the extensive collaboration that has supported the development of the Value Toolkit [1], which supports *The Green Book* [2] process and delivers on the objectives of *The Construction Playbook* [3].

This is Version 2 of BSI Flex 390, which is the last planned version of the document. All comments received will be reviewed to inform the future direction of this standard. Interested parties are encouraged to check the BSI website for any updates regarding any future plans.

This is a full update of the document and introduces the following principal changes.

- The text in **0.1** has been amended to emphasize the focus on the need to embed sustainability in the value-based decision-making process.
- Figure 1 has been amended to align with definitions in the Value Toolkit handbook [1].
- This version makes clear links with the Value Toolkit (see **0.1** and Clause **1**).
- Standards mentioned in **0.2** of version 1 have been reviewed and links made to appropriate ones within this version.
- The Scope has been amended to clarify the targeted audience.
- The figures in version 1, Annex B have been integrated in the appropriate sections of this version, and Annex B deleted.
- Clause **4** in version 1 has been incorporated into Clause **7** of this version.
- Definitions in Clause **3** have been revised to align with the Value Toolkit definitions.
- Clause **9** has been revised to reduce the number of notes.

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Presentational conventions

The provisions in this BSI Flex are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the *Shorter Oxford English Dictionary* is used (e.g. "organization" rather than "organisation").

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¹⁾ Table A.1 is a simplified reproduction of the Value Definition Framework. Users are encouraged to make use of the full version available at www.value-toolkit.com, which contains a live version.

0 Introduction

0.1 Background

The principle of value-based decision making is already used in both government and private sector investment policy. In particular, H.M. Treasury’s *The Green Book* [2] and private sector environmental, social and governance investment criteria encourage this approach.

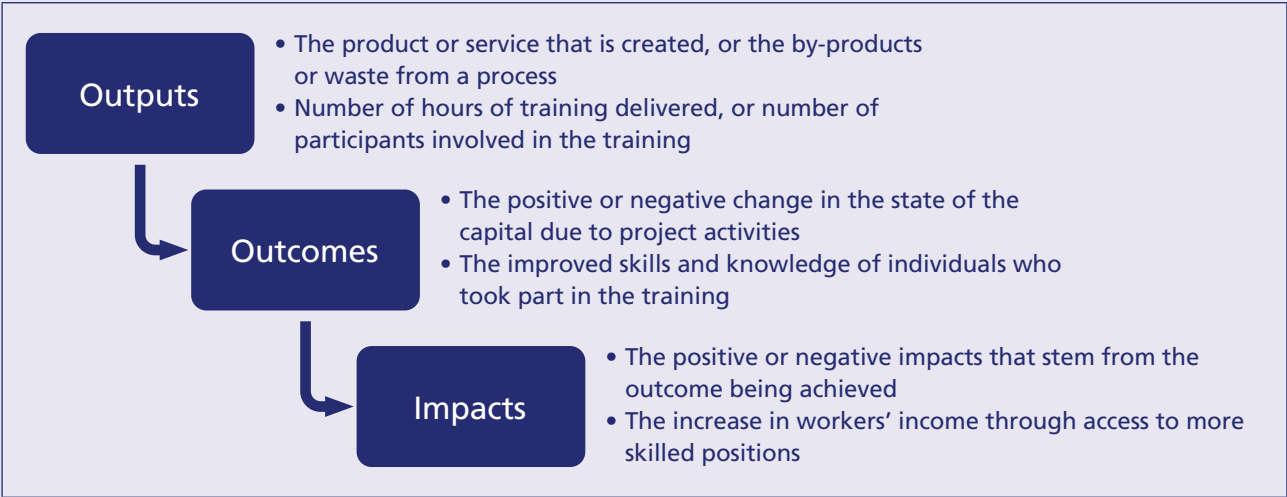
The value-based decision-making process described in this BSI Flex shows how to make and implement value-based decisions and close the gap between strategy, policy and outcomes. This BSI Flex enables clients and policymakers to work with their supply chains and stakeholders to make informed, value-based decisions based on the four capitals approach (*The Capitals Approach* [4]) or similar to drive better natural, social, human and produced outcomes to define value and to move away from purely cost-driven decisions. The process supports users of this BSI Flex in making meaningful value choices and trade-offs using the 17 value categories (see Annex A) referred to in the Value Definition Framework [5] developed by the CIH based on the four capitals approach.

For value-based decision making to be achieved within the built environment, the principles of the four capitals approach should be adopted within wider management processes.

This BSI Flex recognizes that value-based decision making should be collaborative; encourages the development of a transparent approach; and enables the identification of benefits through measurable improvements resulting from an outcome (see Figure 1).

This BSI Flex defines key roles essential to delivering maximum value and outlines a mechanism to demonstrate that a robust, value-based, decision-making process has been developed and applied throughout the whole life of the programme or project.

Figure 1 – Identification of benefits



1 Scope

This BSI Flex specifies the requirements for implementing a consistent approach to value-based decision making (throughout the lifecycle of an asset) within the inter-related processes undertaken in the management of a built environment project. There is a particular focus on the definition of value that integrates sustainability and moves away from purely cost-based decisions.

NOTE 1 *The Value Toolkit [1] provides a suite of tools and guidance to align with the requirements set out in this BSI Flex.*

This BSI Flex is intended to:

- be applied to and implemented in project investment, procurement planning, optioneering and design decisions relating to all types of assets, regardless of size, complexity or chosen procurement strategy;
- enable objectives to be developed and validated to establish a clear, sustainability-based, performance-related brief for any programme or project;
- enable policy objectives to be identified, validated and delivered more effectively, to enable the delivery of sustainable outcomes;
- operate in the context of wider management processes, including project, value and change management and whole lifecycle intervention decisions; and
- supplement competencies in many existing roles within organizations, their supply chains and teams.

NOTE 2 *It is for the client to decide how the process is implemented on a project or in a programme.*

This standard specifies an approach to how value can be defined, created, delivered and measured. It specifies a framework within which clients can explore their required outcomes, but does not specify what value means on any particular programme or project.

This BSI Flex does not specify all elements required in the delivery of a project.

This BSI Flex is complementary to existing processes that assist with the wider management process of a programme or project, such as outlined in BS EN 12973.

NOTE 3 *For example, BS EN 12973 details the value core method/tools involved in function analysis, which is key to identifying stakeholders' needs and in prioritizing them to realize outputs, outcomes and benefits.*

This BSI Flex is intended for use by those with responsibility for making or implementing interventions in relation to built environment assets. While everyone has a role in value-based decision making, this BSI Flex is primarily intended for client organizations and their advisers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS ISO 31000, *Risk management – Guidelines*

3 Terms and definitions

For the purposes of this BSI Flex Standard, the following terms and definitions apply.

3.1 built environment

building, structure, external works, infrastructure or assets

NOTE *This includes all interventions, including construction, maintenance, operation, refurbishment and end of life.*

[SOURCE: BS EN 15643:2021, modified]

3.2 core outcomes

areas of value that are critical to the successful achievement of the mission

NOTE *For example, for a school, improving educational attainment.*

3.3 concept team

team responsible for using their expertise in the value categories and the project context to produce viable options that will deliver the client's strategic objectives

3.4 delivery organization

organization contracted by the client to deliver a solution

3.5 delivery model

model that defines how a contracting authority structures the delivery of a programme or project

[SOURCE: *The Construction Playbook* [2]]

NOTE *According to The Construction Playbook [3], there are five delivery models:*

- *conventional: transactional.*
- *conventional: hands-on leadership.*
- *transformational: product mindset.*
- *transformational: hands-off design.*
- *transformational: trusted helper.*

3.6 design team

team responsible for using their expertise in the value categories and the project context to develop the solution to the stage where there is sufficient information available to commence procurement of the delivery organization(s)

[SOURCE: Value Toolkit [1]]

3.7 facilitator

named individual within the strategic team responsible for the value-based decision-making process

3.8 four capitals approach

approach that empowers organizations to make decisions that offset the greatest value across natural, social, human and produced capitals

[SOURCE: *The Capitals Approach*, modified [4]]

NOTE 1 *A capitals approach enables organizations to understand how their success is directly or indirectly underpinned by the four capitals.*

NOTE 2 *Natural capital is defined as the stock of renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people.*

NOTE 3 *Human capital is defined as the knowledge, skills, competencies and attributes embodied in individuals that contribute to improved performance and wellbeing.*

NOTE 4 *Social capital is defined as the networks together with the shared norms, values and understanding that facilitate cooperation within and among groups.*

NOTE 5 *Produced capital is defined as the man-made goods as well as all financial assets that are used to produce goods and services consumed by society.*

3.9 mission

overall aim of a programme or project to meet a need for an intervention in the built environment, often but not always by building something

NOTE For example, the need to meet the demand for primary school places as forecast by birth rates and other factors.

[SOURCE: Value Toolkit [1]]

3.10 outcome drivers

statement that describes the actions and priorities that can be embedded within the scope of the programme or project to support the achievement of one or more strategic objectives

NOTE Outcome drivers translate the strategic objectives into context specific and meaningful objectives. Outcome drivers should be within the sphere of influence of the client, and measurable.

[SOURCE: Value Toolkit [1]]

3.11 programme or project

process of delivering and/or operating an individual or series of built environment assets

NOTE This includes all interventions in the built environment, including construction, maintenance, operation, refurbishment and end of life.

[SOURCE: Designing Buildings, modified²⁾]

3.12 stakeholder engagement

activity undertaken to create opportunities for dialogue between an organization and one or more of its stakeholders, with the aim of providing an informed basis for the organization's decisions

[SOURCE: BS EN ISO 26000:2020, 2.21]

3.13 strategic objectives

objectives that combine the mission and the core and value outcomes that the programme or project must deliver

NOTE Strategic objectives help build a strong evidence base that will inform the value-based priorities underpinning the programme or project.

[SOURCE: Value Toolkit [1]]

²⁾ www.designingbuildings.co.uk

3.14 strategic value drivers

document that describes a policy, strategy or corporate values and aims that shape the strategic objectives of the programme or project

NOTE These drivers could describe national, regional and organizational influences, as well as feedback from stakeholder engagement.

[SOURCE: Value Toolkit [1]]

3.15 strategic team

team that implements the value-based decision-making process and oversees the delivery of outcomes to satisfy the business case

[SOURCE: Value Toolkit [1]]

3.16 value

quantifiable financial and non-financial outcomes which are important to clients and their stakeholders in the context of a programme or project informed by the four capitals approach

3.17 value outcomes

areas of value that are critical to the short-, medium- and long-term priorities of the client that can be leveraged through the delivery of the mission

NOTE Value outcomes relate to value beyond costs and refers to the four capitals approach. For example, delivering net zero by 2030 or creating long-term employment opportunities.

[SOURCE: Value Toolkit [1]]

4 Strategic objectives

4.1 Stakeholder engagement

The principles of value-based decision making shall be incorporated into the stakeholder engagement process so that stakeholder requirements, assumptions, concerns, constraints, risks and opportunities, benefits, uncertainties and/or complexities are taken into account when defining value.

The stakeholder group shall include internal and external stakeholders as appropriate to the programme or project.

NOTE 1 *Stakeholder engagement is a crucial element of the process of defining value, such as the values in the Value Definition Framework [5]. It helps maximize value through the delivery of investments in the built environment.*

NOTE 2 *Stakeholder engagement should first be carried out in the early stages of the value-based decision-making process (the need phase, see 8.1) and continued throughout the whole life of the programme or project, and whenever the definition of value and associated outcome drivers is being reviewed.*

NOTE 3 *Feedback from stakeholder engagement is fed into the development of strategic objectives.*

4.2 Developing the strategic objectives

COMMENTARY ON 4.2

The application of function-based thinking enables a common understanding of which outcomes are required. It supports the clear identification, prioritization and agreement of the mission, i.e. the need, strategic objectives and outcome drivers.

4.2.1 General

Strategic objectives (3.13) shall be identified using the process outlined in *The Green Book* [2] (in which case, 4.2.3 and 4.2.4 may be disregarded). For projects that do not follow *The Green Book* process, the policies which define the value requirements to which the client is committed shall be mapped to enable the core and value outcomes to be defined (see 4.2.3 and 4.2.4).

4.2.2 Identifying mission

The strategic team shall identify the mission of the programme or project.

NOTE *At the early stage of the value-based decision-making process, this might only be a high-level understanding of the client and the need to be addressed.*

4.2.3 Collating strategic value drivers

Strategic value drivers (3.14) shall be collated to define the strategic objectives for the programme or project to deliver the mission.

The process of identifying strategic value drivers shall include input from experienced decision makers from the strategic team with an overarching strategic view of policy landscape and understanding of the programme or project in order to deliver against the business case.

For any programme or project of work, national, regional and organizational influences shall be taken into account when identifying strategic value drivers.

Strategic value drivers shall take into consideration feedback from stakeholder engagement.

NOTE *For each strategic value driver document, the following information should be captured:*

- a) *document title;*
- b) *date of publication;*
- c) *publishing organization; and*
- d) *strategic objectives to be achieved.*