# Measuring the Value of Design in Singapore

designsingapore

Commissioned by DesignSingapore Council,
prepared by Desire Lines and Oxford Economics

designsingapore.org

2025



# Contents

# Executive Summary

Design plays a key role in shaping how organisations innovate, compete, and contribute to social and environmental goals. Yet too often, it is under-valued by decision-makers and designers struggle to articulate design value in business-centric terms.

## The Challenge

The core problem this study addresses is the articulation of design's value across the many sectors and communities it benefits. Understanding of design's value is fragmented, communication is inconsistent, and evidence is sparse or anecdotal. This leads to missed opportunities for design-led innovation, difficulty for practitioners to justify investments in design, and the lack of compelling evidence for policymakers and clients to base decisions on.

Part of the challenge is that design is used in diverse ways — from product and service development, to marketing, systems change, and environmental planning — by actors who don't always speak the same language or see themselves as part of a common design ecosystem.

## Key Findings

### The Value of Design for Organisations

Through our Design Use Value Survey of 270 Singapore-based organisations, we found strong evidence of design's value:

**Universal positive impact:** Over 90% of organisations using design reported positive outcomes, with more than 75% citing high impact on profitability through revenue growth, cost efficiencies, or both.

**Design maturity drives results:** Organisations adopting a greater breadth of design achieved stronger outcomes—with 52% of those who adopted more than eight disciplines reporting very high impact compared to just 20% of organisations adopting fewer design disciplines. [FOR EXAMPLES OF DESIGN DISCIPLINES SEE P. 19] Maturity is also measured by the ways in which organisations use design from form making to process making, or more strategically. In this dimension, 48% of design-mature organisations reported strong profitability impacts, compared to 13% of their less design-mature peers.



**Leadership amplifies returns:** Senior-level (C-suite) buy-in dramatically improves results—41% of organisations that have design champions in leadership positions reported very high performance impacts compared to only 17% of those that don't.

**Impact extends beyond profit:** Design delivers broad societal benefits, with 85% of users reporting high environmental impact and about 75% noting strong social outcomes, confirming design as a lever for positive systems change.

**Strategic application varies by context:** Organisations use design across marketing and advocacy, stakeholder experience, process efficiency, and product development. Media Design—which involves creating visual identities, building aesthetics, and communicating information—is used by 77% of respondents, making it the most widely adopted. Environment Design, which focuses on shaping physical spaces and structures, is used by 45%, but among those respondents, 86% report high performance, indicating strong outcomes from its use despite lower adoption.

## Next Actions and Recommendations

To embed the value of design more deeply into national and organisational strategies, a Design Impact Framework (DIF) was developed, including real world examples, to support organisations in adopting and measuring the value of design in their work.

**DesignSingapore Council (Dsg) aims to work with industry stakeholders to help them:**

→ Integrate design management at a strategic level, ideally with C-suite representation;

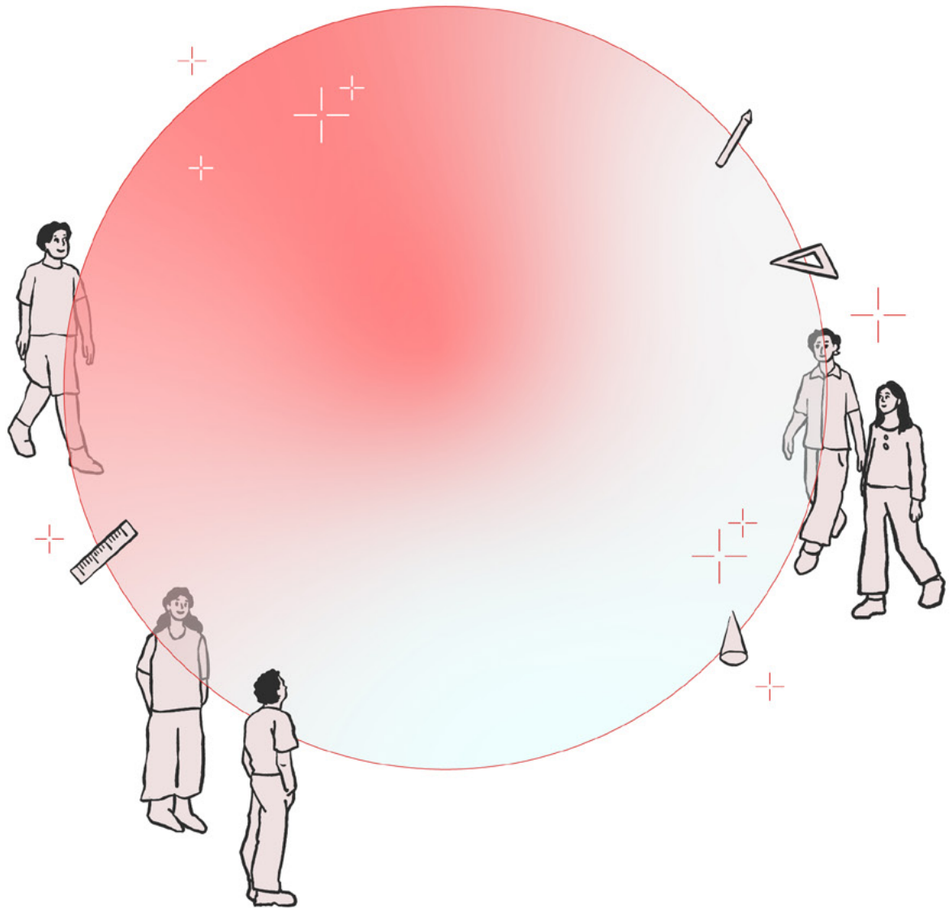
→ Use the Design Impact Framework to plan, guide and assess design initiatives;

→ Apply design across multiple disciplines; and

→ Orient towards broader national agendas of sustainability and care.

# Introduction

Design is more than just an aesthetic practice; designers catalyse transformation. From craft and user-centred design to design thinking, innovation and business strategy, design shapes the world around us. Designers can shape the creation of products, services, systems and programmes that deliver tangible and intangible benefits, improving quality of life, enabling sustainable growth, and advancing societal progress.



## The Global Context

A growing body of international research demonstrates strong correlations between design adoption and positive outcomes. Studies by the UK Design Council, Danish Design Centre, Philippines Design Center, and Organisation for Economic Co-operation and Development (OECD) show that design drives business value, enhances social impact, and fosters innovation. Measurable benefits include stronger brand reputation, increased public engagement, and higher productivity through improved experiences.

## Singapore's Opportunity

In Singapore, design already plays a powerful role in supporting national development agendas. It is embedded across government strategic plans in areas such as sustainability, digital transformation, and social care. Examples include the SG Green Plan (2021), the Digital Enterprise Blueprint (2024), and the Plan for Successful Ageing (2023).

The impact of design across Singapore's economy — from designers and associated spend on design in both design and non-design sectors — is estimated by Oxford Economics to be about five times the direct value-add of the design sector itself. This demonstrates that the economic contribution of design significantly exceeds the footprint of the design sector itself.

Despite this integration, a persistent challenge remains: design's impact is difficult to quantify and communicate, especially regarding broader societal and environmental outcomes that fall outside traditional commercial metrics.

## The Need for a Unified Approach

Design is used in diverse ways — from product development to systems change — by participants who don't always speak the same language or see themselves as part of a common ecosystem. Until now, there has been no unified framework for measuring and articulating how design creates value.

## The Design Impact Framework Solution

To help address the challenge of quantifying design's value, Dsg commissioned the Value of Design Study. Its core output, the Design Impact Framework, is a tool to support Dsg, its partners, and the wider design community in evaluating, articulating and amplifying the impact of design. It enables a more consistent and coherent narrative about design's impact that speaks to economic, societal and environmental outcomes.

The study was led by a consultant team from Desire Lines and Oxford Economics, whose combined expertise in design strategy and economic analysis shaped the study's methodologies and insights.

The Framework provides practical guidance to different audiences — designers, clients, policymakers — on the types of indicators and measurement approaches they can use to gather meaningful data and build a powerful evidence base over time.

## About This Research

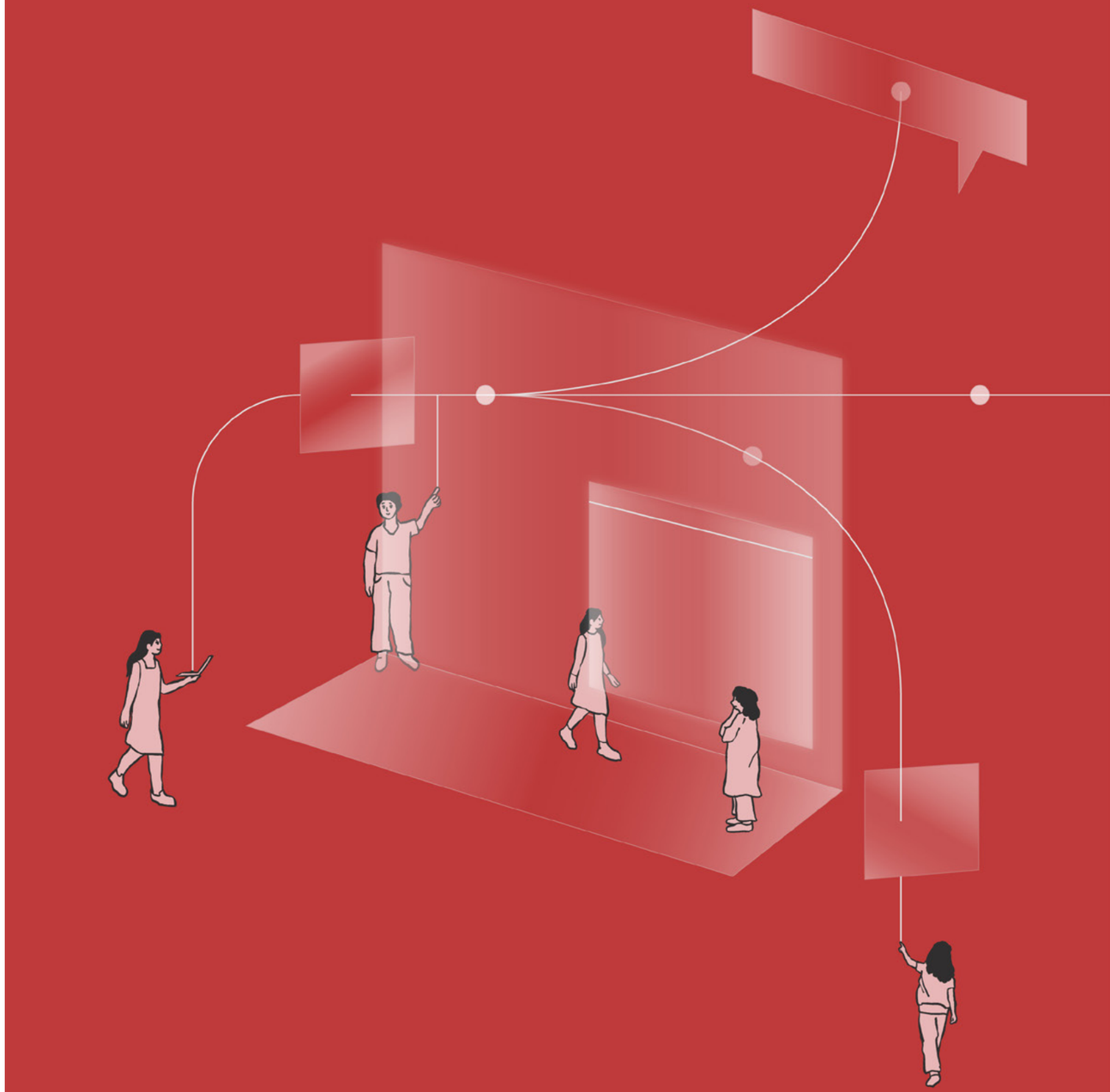
This study is grounded in extensive research into how design is used, the mechanisms through which it delivers value, and the conditions that enable its success. Its development has drawn from international literature and primary research in Singapore, including input from diverse stakeholders and real-world use cases that show the design value chain in action.

**The Design Impact Framework** defines its components, describes how it can best be used by groups, and provides examples of case studies and use cases. It takes the form of a Theory of Change model, tracing design from use to outcomes.

**The Design Use Value Survey** explores the reasons behind and outcomes of design adoption by Singapore-based organisations. It forms part of the evidence base underpinning the Design Impact Framework, generating data on design impact that can be organised within the Framework's structure.



# 1 Methodology



## 1.1 A Mixed-Methods Approach

Taking place over a 16-month period in 2024-2025, the project employed the following methods to collect data:

### Primary Research Methods

→ **Design Use Value Survey**: Surveyed Singapore-based organisations about how they use design and its value to their operations

→ **Stakeholder Engagement**:

  → Sessions with a Methodology Advisory Panel consisting of subject matter experts

  → In-depth interviews with design and business leaders

  → Focus group discussions with potential Framework users

### Secondary Research Methods

→ **Secondary Data Collection**: Collected relevant economic and industry statistics from the Singaporean and international contexts to inform key metrics of the framework

→ **Singapore-based case studies**: Six, spanning key design uses constructed using self-reported data from design project leaders

**International Literature Review:** Studied global best practices and precedent studies to derive evidence-based design impact taxonomies and ensure our methods and findings met international standards.

## 1.2 How the Design Impact Framework Was Developed

The Design Impact Framework is a product of various work streams throughout the Value of Design study, including:

### Literature Review

Our extensive literature review provided the foundational proof points and logical basis for the Design Impact Framework, shaping its structure and defining the impact pathways within the Theory of Change. The diverse sources create a robust foundation that is conceptually sound, contextually relevant, and grounded in both local and international research.



Table 1. Areas covered in the literature review

| SOURCES REVIEWED | HOW INSIGHTS FROM THIS REVIEW INFLUENCED THE FRAMEWORK |
|---|---|
| Studies previously commissioned by Dsg | This review ensured the framework reflects the most current taxonomies of design usage and the latest understanding of design impact in Singapore. |
| International literature on design impact measurement | This review examined a range of prominent frameworks developed by other reputable institutions. They offered comparative perspectives on how design impact is observed, communicated, and tracked. |
| International academic and grey literature on the use and impact of design | This review provided the key themes around the use of design and the ways in which it adds value. The insights from this review have been instrumental in shaping the logic and structure of the Theory of Change, providing valuable source material to support assumptions about impact pathways. |
| Singapore's national development agendas | This review ensured that the framework aligns with broader strategic goals and highlights how the value of design can support and amplify these national efforts. |

### Methodology Assessment

To address the challenge of proving causality in the Design Impact Framework, we assessed various methods typically used to measure impact in disciplines where, like design, outcomes are intangible, complex, or hard to observe in isolation. Demonstrating causality is important to strengthen the credibility of claims about design's value. This can help stakeholders confidently attribute observed changes in outcomes to design interventions, enabling them to advocate for investment, inform policy or scale effective design adoption.

Through this assessment, we recommend a mixed-methods approach to continue to compile evidence of design's impact over time, including, but not limited to:

→ **Strategic data collection:** Enhance and sustain tools like the Design Spend and Adoption Survey to capture change over time, addressing Singapore's nascent and fragmented design data landscape.

→ **Qualitative evidence:** Use case studies and complementary qualitative information to provide in-depth understanding where data limitations exist.

## Methodology Advisory Panel

We assembled a Methodology Advisory Panel (MAP) to provide strategic and technical advice on refining our framework and methodology for assessing the value of design in Singapore.

The panel highlighted that whilst the Framework offers a structured, linear portrayal of outputs and outcomes from design, tracking the broader outcomes identified in the framework requires significant time, and in some cases, substantial investment in data collection. Certain design outcomes may remain difficult to measure and/or require sustained data collection for robust analysis.

Nevertheless, the panel affirmed the value of the Framework for evaluating design programmes even with limited hard data. It guides users to identify where and how design adds value, and how to organise evidence to potentially support future design impact evaluations. The panel endorsed a “mixed methods” approach using surveys and case studies as a practical way to build the evidence base.

To ensure broad stakeholder relevance, for designers, clients and policymakers alike, the Framework must be tested and refined through consistent consultations with industry and policy partners. This collaborative approach raised by the advisory panel will maintain the Framework’s flexibility while grounding it in real-world applications.

## Stakeholder Interviews

We conducted interviews with ten stakeholders from Singapore’s design and business communities, which provided insights into design use, measuring the value of design, the structure of the Framework, potential case studies, and international best practices. Stakeholder feedback played a key role in refining the Framework, leading to:

→ ‘Systems design’ being included as a distinct use category

→ Expansion of design disciplines across other categories

→ Incorporation of ‘design amplifiers’ to better capture enabling conditions such as the presence of design leadership and investments in design education



## International Case Studies

To demonstrate the practical application of the framework in communicating the value of design, we examined a series of international case studies from secondary literature. Each case study analysed how real-world design outcomes aligned with our Theory of Change (ToC) pathways, allowing us to test whether the Design Impact Framework adequately captured design’s impact mechanisms.

Where the Framework did not fully reflect the nature of the impact observed from design use, we refined category specifications and clarified definitions to account for design’s contribution more comprehensively. This process highlighted the practical value of the ToC structure in articulating and evaluating the outcomes of design interventions. It reinforced the framework’s ability to support clear, structured thinking about how design generates value.

At the same time, the international case studies also underscored the complexity of isolating design’s role from other contributing factors. Design is frequently integrated with other disciplines, and its effects may not always be easily measured through traditional data. In many cases, the most relevant insights came from qualitative accounts, emphasising the importance of a mixed-method approach to illustrate design impact.

# 2 Defining Design's Value: Design Impact Framework

## 2.1 Goals for the Design Impact Framework

The Design Impact Framework is a tool for tracing the outputs and outcomes that flow from design activities. It identifies the various pathways through which these impacts take effect, to help stakeholders understand and communicate the value of design investments.

The framework serves multiple purposes: corporate reporting, impact measurement for designers, and supporting policymaking, programme design, evaluation, and public communication. It supports the development of consistent design metrics that can be tracked over time to assess trends and effectiveness of design initiatives. While directly quantifying causality is challenging, the Framework's mixed method approach builds a comprehensive evidence base that stakeholders can then adapt to their specific needs.

## 2.2 Components of the Design Impact Framework

The Design Impact Framework maps how design adds value to the economy and wider society in Singapore, through five levels:

**I. Design Uses:**
How design is typically used within organisations. All the currently-known design disciplines fit within these categories.

**II. Value Drivers:**
The broad areas, or "outputs", through which design adds value for organisations.

**III. Organisational Outcomes:**
The links between value drivers and outcomes for a design-using organisation.

**IV. Wider Societal Outcomes:**
The links between organisational value and societal value.

**V. Futures:**
The broad categories of economic and non-economic national outcomes that are influenced by design.

In addition, the Framework captures **Design Amplifiers** – factors that enhance the value of design and correlate with how mature an organisation's design adoption is.

## The Design Impact Framework

The Design Impact Framework maps how design adds value to the economy and wider society in Singapore, through the following five levels:

### 1 DESIGN USES →

**Media Design**
Advertising
Art and graphic design
Branding design
Digital media design
Exhibition design
Lighting and sound design
Stage / Set design

**Product Design**
Fashion and accessories design
Furniture design
Industrial design
Product design
Software design

**Service Design**
Experience design
Interaction design
UI/UX design

**Systems Design**
Circular design
Design strategy
Design research
Organisational / Business design
Process design
Supply chain design

**Environment Design**
Architectural services
Interior design
Immersive (virtual) environmental design
Landscape design

### 2 VALUE DRIVERS →

Process Improvement

Stakeholder Experience

Product & Service Innovation

Communications (Marketing and Advocacy)

### 3 ORGANISATIONAL OUTCOMES →

Increased Environmental Awareness

Waste Minimisation

More Green Technology Adoption

Stronger Brand Equity

Digital Adeptness

Better Workforce Performance

Cost Savings in Business

More New Technology Adoption

Product and Service Improvements

Increased Awareness

Greater Accessibility and Inclusivity

### 4 SOCIETAL OUTCOMES →

More Sustainable Consumption

Greenhouse Gas Reduction

Circular Models of Production

Digital Economy Growth

Commercial Success

Social Cohesion and Connectedness

Improvements in Public Services

Community Capacity Building

### 5 FUTURES

**Sustainable Futures**

**Economic Progress**

**Caring Futures**

### DESIGN AMPLIFIERS

The factors that enhance the value of design, and correlate with the maturity of design adoption in an organisation.

**Design Education** **Design Management**

Fig. 1. The Design Impact Framework

## I. Design Uses

As part of a broad literature review, we built upon the taxonomy of design use defined by Frost & Sullivan in their 2018 study for Dsg. This taxonomy outlines distinct areas of design spend and adoption:

→ Media Design: Activities to establish identity, build aesthetics, and share information.

→ Product Design: Activities to iterate and improve existing products, or develop new products.

→ Service Design: Activities to structure experiences, user engagements, and service delivery.

→ Environment Design: Activities to shape physical environments and structures.

Stakeholder interviews also led us to create an additional category:

→ Systems Design: Activities that create, integrate, and optimise complex systems in organisations and communities, encompassing design work that addresses system components and their interactions.

This expanded taxonomy aligns with the vertical design sub-sectors outlined in the 2022 National Design Industry and Manpower Study (NDIMS), which represent industries where design is the core function.

Our taxonomy also maps to the design disciplines grouped under each NDIMS category (TABLE 2). These design uses appear not only in design verticals, but also in horizontal sectors — broader non-design domains like education, technology, or manufacturing, where design supports operations and systems across multiple industries.

Table 2. Design disciplines and examples of horizontal sectors that map to each design use category

| DESIGN USE CATEGORIES | EXAMPLES OF DESIGN DISCIPLINES | EXAMPLES OF HORIZONTAL SECTORS THAT ADOPT DESIGN IN LINE WITH EACH CATEGORY |
|---|---|---|
| Media Design (Image Making) | → Advertising<br>→ Art and graphic design<br>→ Branding design<br>→ Digital media design<br>→ Exhibition design<br>→ Lighting and sound design<br>→ Stage/Set design | → Arts and entertainment<br>→ Education<br>→ Publishing, audiovisual, and broadcasting activities |
| Product Design (Object Making) | → Fashion and accessories design<br>→ Furniture design<br>→ Industrial design<br>→ Product design<br>→ Software design | → Advanced Manufacturing<br>→ Electronics<br>→ Engineering<br>→ Information and Communication Technology |
| Service Design (Experience Making) | → Experience design<br>→ Interaction design<br>→ UI/UX design | → Financial and Insurance Services<br>→ Food and beverage services<br>→ Healthcare and social work<br>→ Hotels and Accommodations<br>→ Professional Services<br>→ Retail Trade |
| Systems Design (Process Making) | → Circular design<br>→ Design research<br>→ Design strategy<br>→ Organisational/Business design<br>→ Process design<br>→ Supply chain design | → Logistics<br>→ Public Administration |
| Environment Design (Place Making) | → Architectural services<br>→ Immersive (virtual) environmental design<br>→ Interior design<br>→ Landscape design | → Air, Land, and Water Transport<br>→ Construction<br>→ Environmental Services |

## II. Value Drivers

This level of the framework outlines distinct areas in which design adoption drives value for users, organisations, society and the environment.

Four categories of "value drivers" from existing Singaporean and international literature constitute the basis for understanding how design use and adoption lead to economic, environmental, and social outcomes. These are:

**Communications (Marketing and Advocacy)** *focuses on the external messaging and portrayal of organisations' offerings and/or brand.*

**Stakeholder Experience** *centers on "front-end" interaction, aiming to enhance how users and customers engage with and experience the organisation's products and services.*

**Process Improvement** *focuses on optimising internal workflows, processes, and systems to improve efficiency across staff and collaborating partners.*

**Product & Service Innovation** *focuses on the "back-end" development and refinement of offerings through design-driven innovations.*

## III. Organisational Outcomes

This level of the framework identifies categories of economic and non-economic outcomes associated with an organisation's use of design (TABLE 3). This taxonomy of organisational outcomes is derived from existing academic and grey literature on design impact globally.



Table 3. Definitions of organisational outcomes

| DOMAIN | ORGANISATIONAL OUTCOME | DEFINITION |
|---|---|---|
| **ENVIRONMENTAL** | Increased awareness | Referring to a greater understanding and commitment among individuals and communities to protect and sustain the natural environment. |
| | Waste minimisation | Referring to a higher adoption of measures to conserve natural resources and reduce waste generation, such as using sustainable materials in production processes or implementing recycling efforts. |
| | More green technology adoption | Involving the integration of environmentally-friendly technologies and innovations in products and environments, such as renewable energy and energy-efficient systems and features. |
| **ECONOMIC** | Stronger brand equity | Entailing an increase in value of a place, product or service's brand due to higher satisfaction, trust, and recognition among consumers, causing greater loyalty and competitive advantage. |
| | Digital adeptness | Referring to the proficiency of an individual, organisation, or community in navigating, utilising, and integrating digital technologies effectively in various contexts. |
| | Better workforce performance | Reflecting enhanced productivity, efficiency, and quality of work among employees, and/or better employee collaboration. It also includes higher employee motivation and retention. |
| | Cost savings in business | Representing a reduction in expenses resulting from factors such as optimised use of space, streamlined processes, lower production costs, or increased automation. |
| | More new technology adoption | Signifying a broader integration and utilisation of advanced technology and innovations. |
| | Product and service improvements | Referring to an increased quality and functionality of a product or service for users. |
| **SOCIAL** | Increased awareness | Entails a greater awareness of social issues, needs, and dynamics within a community or society. |
| | Greater accessibility and inclusivity | Relating to the design of environments, products, and services to ensure all individuals, regardless of their abilities or backgrounds, can participate fully and equitably. |

## IV. Wider Societal Outcomes

This level of the framework identifies categories of the broader societal outcomes also associated with design (TABLE 4).

Table 4. Definitions of wider societal outcomes

| DOMAIN | WIDER SOCIETAL OUTCOME | DEFINITION |
|---|---|---|
| **ENVIRONMENTAL** | More sustainable consumption | Involving the promotion of responsible use of resources, such as less waste generation and reduced water and energy consumption. |
| | Greenhouse gas reduction | Involving the reduction of harmful greenhouse gases in the atmosphere, achieved through measures like clean energy use, improved energy efficiency, and the adoption of emissions-reducing innovations that result in a healthier climate and reduced global warming. |
| | Circular models of production | Emphasising designing products and processes for reuse, recycling, and regeneration, where materials are kept in use for longer, reducing waste and minimising the need for new resources, as seen in practices like product re-manufacturing and recycling programmes. |
| **ECONOMIC** | Commercial success | Meaning the achievement of not only financial profitability but also productivity, economic development, job creation, and market activity. |
| | Digital economy growth | Constituting greater economic activity and innovation driven by increased digital competences, as well as increased adoption of digital technologies and infrastructure. |
| **SOCIAL** | Social cohesion and connectedness | Referring to stronger community bonds, mutual support, and a shared sense of belonging among individuals. |
| | Improvements in public services | Referring to the enhanced quality, accessibility, and efficiency of public services, to be more effective and user-friendly. This promotes greater community well-being and social equity. |
| | Community capacity building | Empowering communities to collectively enhance their skills, resources, and resilience to address local needs and achieve sustainable social development, aligned with fostering self-reliance and mutual support. |



## V. Futures

This level of the framework outlines how design activities contribute to Singapore's economic, social, and environmental goals, drawing from the national agendas outlined in the National Design Industry & Manpower Study 2021/2022 - DesignSingapore Council. Collectively, these impacts position design as a strategic enabler of national development.

Design drives Economic Progress by boosting productivity, enabling business differentiation, and supporting economic growth. It contributes to Singapore's digital future by shaping how digital products are created and delivered, enhancing user experience and supporting greater technological literacy.

For Caring Futures, design drives innovation in healthcare, education and social services, while strengthening community bonds and social cohesion through participatory processes. In building Sustainable Futures, design enables greener built environments, supports circular economies, and helps grow green industries by making sustainable solutions more viable and appealing.

### Design Amplifiers

Design amplifiers are enabling conditions that strengthen or enhance the impact of design within organisations. They reflect broader organisational capacities linked to design adoption maturity, aligning with stakeholder feedback and studies by the Design Management Institute and Design Center Philippines. The design amplifiers include:

→ **Design education**, which increases awareness, interest, and competencies in design, driving adoption and demand as organisations recognise its value; and

→ **Design management**, which encompasses strong design leadership and commitment to ethical design practices, enhancing the effectiveness of design interventions. Strong design leadership ensures a clear vision and fosters a design-driven culture in line with the organisation's core strategies, whereas ethical practices ensure both functional and responsible design adoption that supports the broader ecosystem in which the organisation operates.

## 2.3 The Relationships Between Design Use and Outcomes

The following pages illustrate pathways our research indicates exist from each Design Use category to Organisational or Wider Societal Outcomes. While not exhaustive or definitive, these pathways offer an evidence-based foundation for building a deeper understanding of design's impact over time.

# Media Design

Design activities to establish identity, build aesthetics, as well as share information.

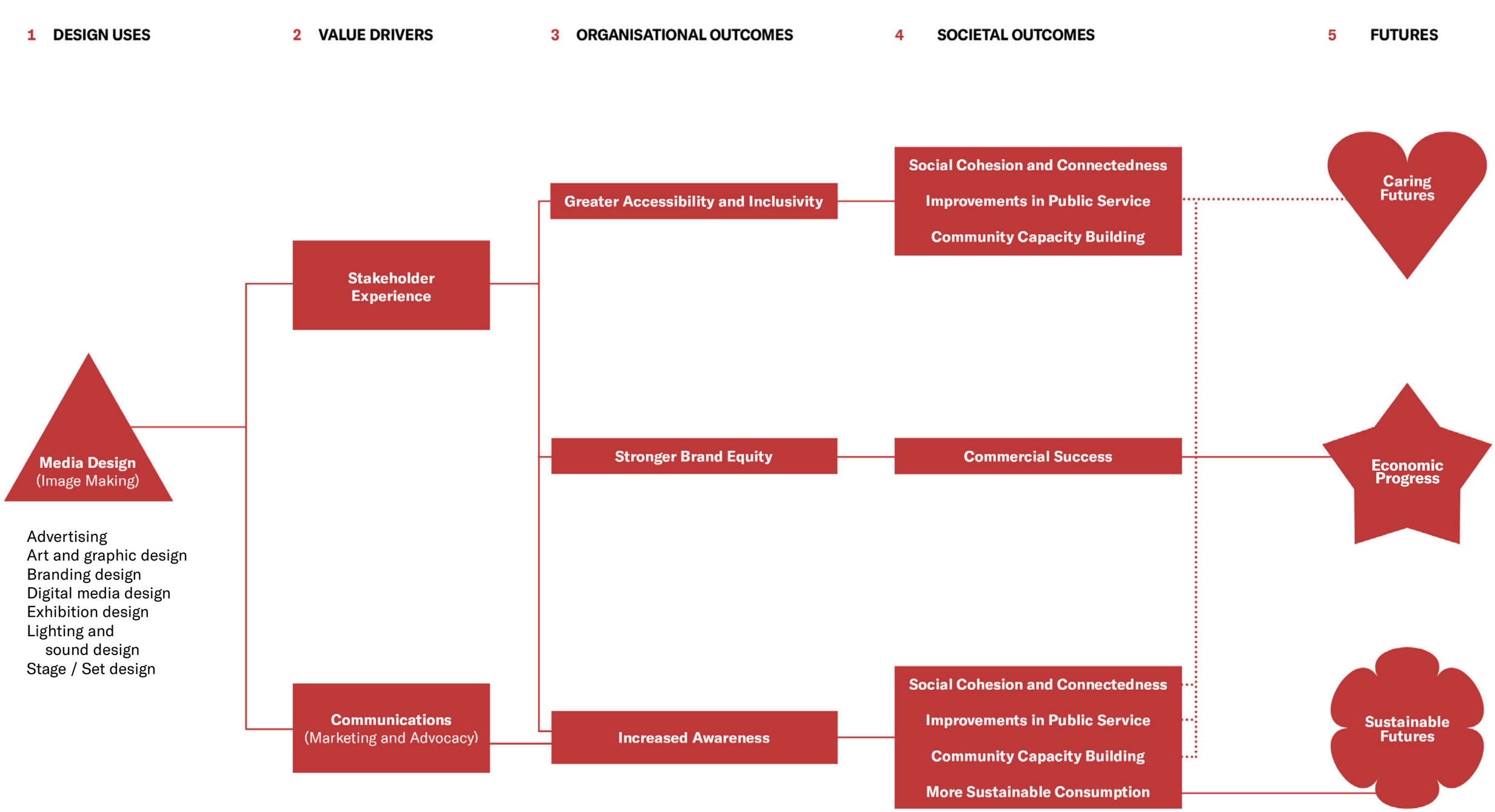



Fig. 2. Pathways from Media Design

# Product Design

Design activities to iterate and improve existing products or develop new products.

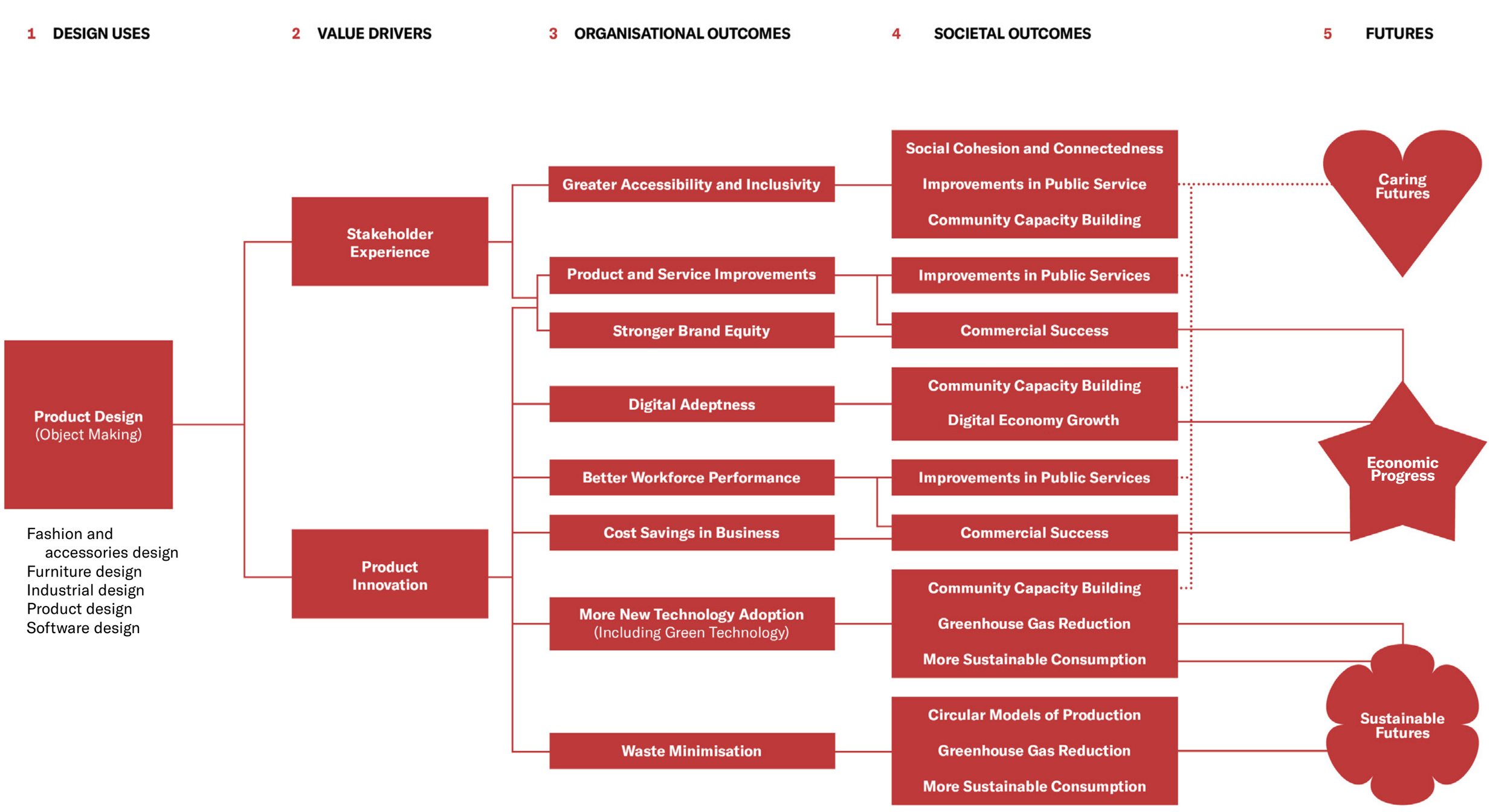



Fig. 3. Pathways from Product Design

# Service Design

Design activities to structure end-user experiences, user engagements, and product and/or service delivery.

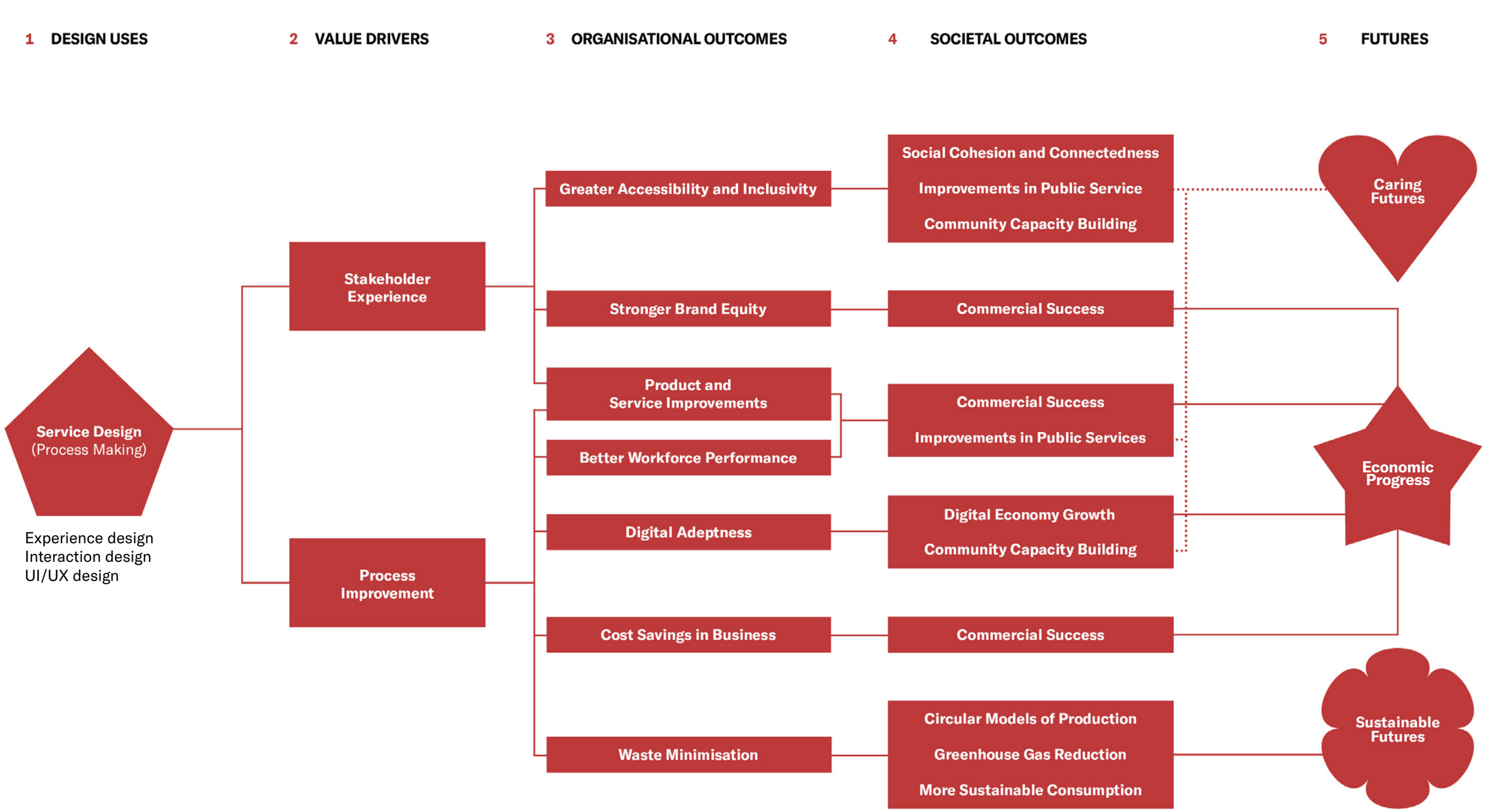



Fig. 4. Pathways from Service Design

# Systems Design

Design activities to create, integrate, and optimise efficient interactions in organisations and communities across process and system components.

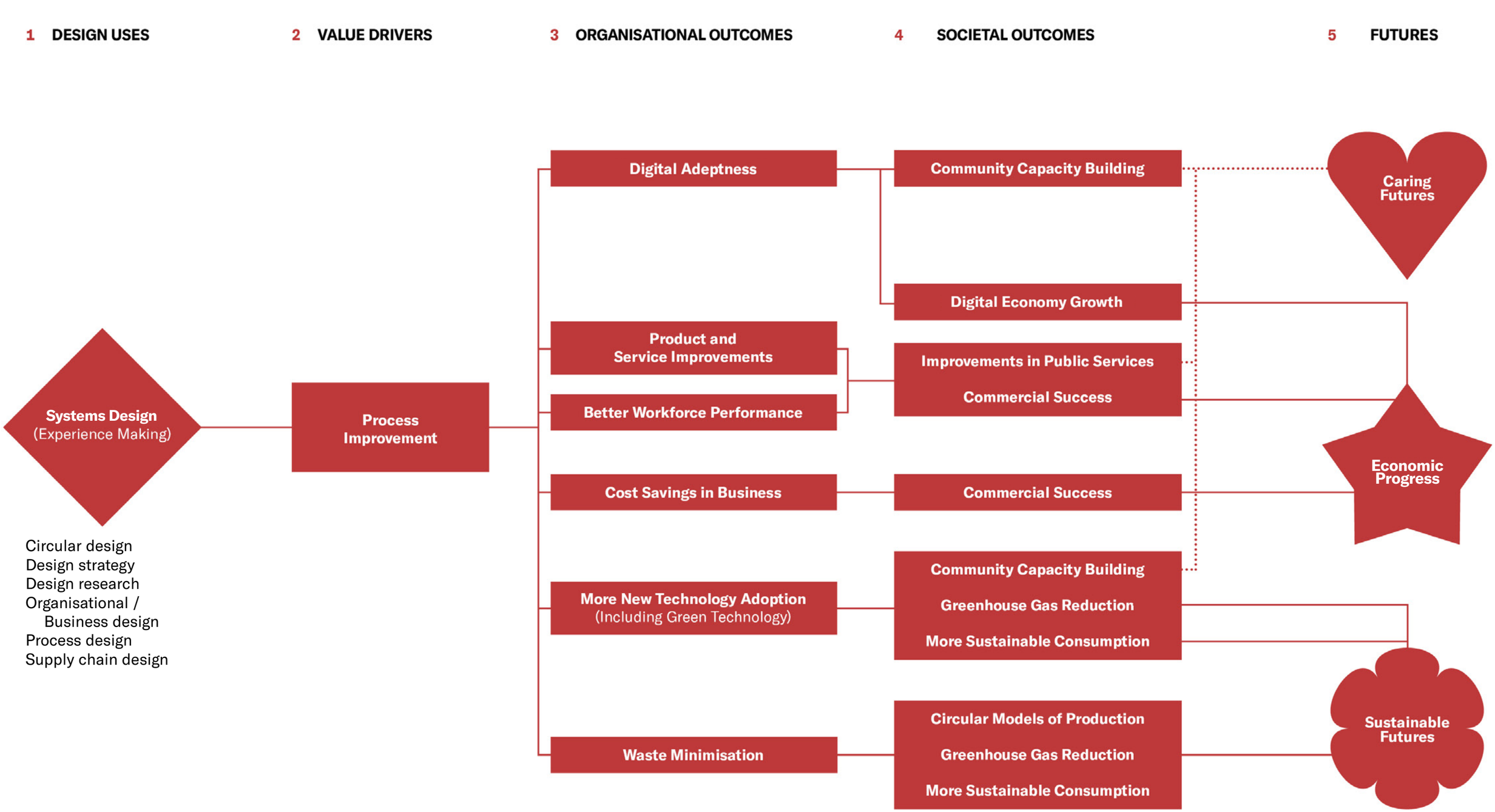



Fig. 5. Pathways from Systems Design

# Environment Design

Design activities to shape physical environments and structures.

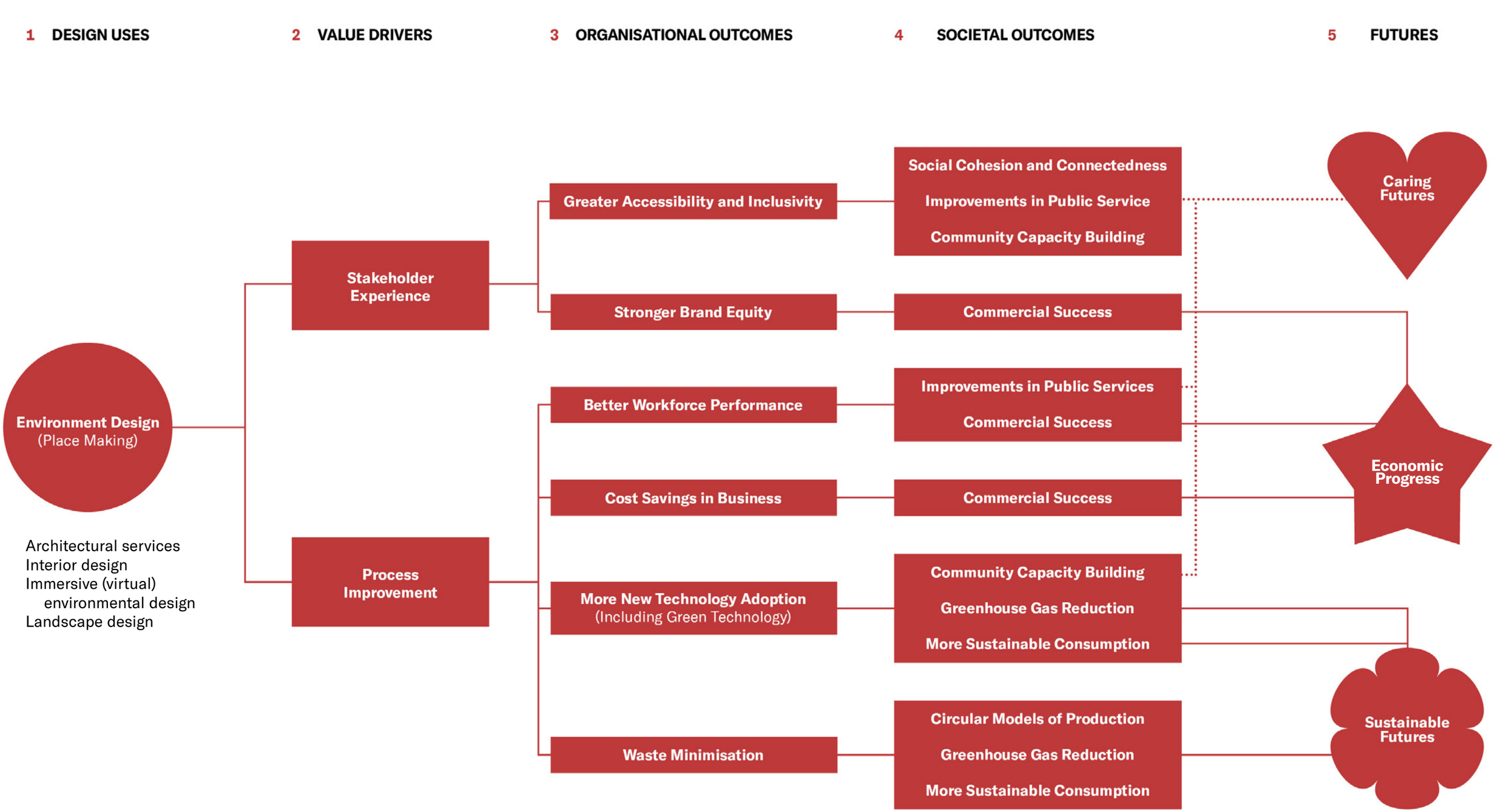
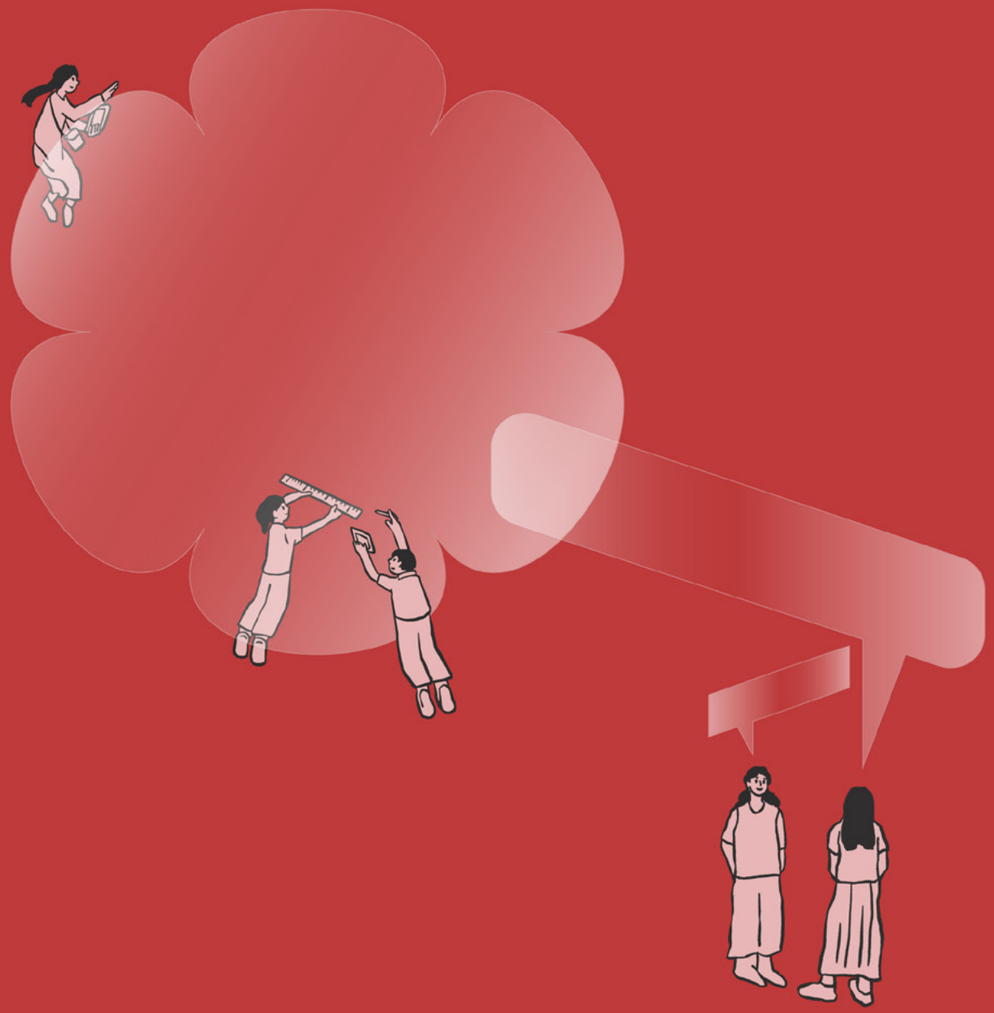



Fig. 6. Pathways from Environment Design

# 3 Measuring Design's Value: The Design Use Value Survey



To further translate the Design Impact Framework into an applicable tool, we launched Singapore's first Design Use Value Survey. The survey explored how 270 Singapore-based organisations across eight key sectors and a selection of public institutions adopt design, their motivations, and the resulting outcomes for business performance, innovation, and societal impact.

The survey enabled us to pinpoint the organisational behaviours and characteristics that are most closely linked to maximising design's value, building upon previous Dsg-commissioned research and following international best practice examples.

## 3.1 How is Design Used in Singapore?

Our survey reveals widespread design adoption across multiple operational areas. The most widely used design discipline is Media Design (77% of organisations), followed by Product Design (62%), but even Environmental Design, the least common discipline, was used by 45% of respondents.

Some 77% of design-using organisations in our study hired in-house designers, compared to 71% that engaged external designers (e.g., design agencies and freelancers), implying significant overlap of organisations using both. Public sector organisations show a slight preference for external designers (73%) over in-house teams (70%).

## 3.2 What Is Design Maturity, and Why Does It Matter?

To understand what drives design impact, we examined design-adopting organisations through the lens of "design maturity" — a multi-faceted concept that can be explored in different ways.

Firstly, we adopted the principles of the Danish Design Ladder framework, created by the Danish Design Centre, which considers design as form-giving, design as process and design as strategy, as levels of design maturity within an organisation. Cross-referencing these three levels, survey respondents were asked to evaluate how the relevant departments of their organisation used design.

This analysis revealed varied maturity levels: more than 10% of organisations demonstrate high design maturity, while 31% are considered to have low design maturity.

We also identified a number of other design maturity markers among our sample of organisations:

→ **Length of design adoption:** More than 80% had used design for three years or more, while 29% had adopted it for six or more years.

→ **Breadth of design adoption:** While 17% employed more than eight design disciplines, nearly half used four or fewer.

→ **Investment in development:** Some 69% invested in design education or training at least once a year, with around one in five investing more than once a year. 4% invested in design training on an ad-hoc basis, only when initiated by employees.

→ **Leadership support:** Over a third had C-suite design advocates within their organisation, including either a design-dedicated C-suite leader (e.g., a Chief Design Officer) or another C-suite executive who supports and advocates for design adoption in the organisation. This senior-level support was particularly common among organisations that use Systems Design (a discipline requiring more strategic planning and management), with half having C-suite advocates for design initiatives.

## 3.3 The Holistic Value of Design

Over 90% of organisations reported that design had at least some impact on their organisational outcomes.

### 3.3.1 Commercial Impact

More than 75% of organisations reported that design had a high or very high impact on profitability, with only 1% reporting that design use had a limited impact. Key factors observed to affect commercial impact include:

→ **Breadth of design adoption:** Among organisations that used more than eight design disciplines, 52% reported very high impacts of design on profitability, compared to just 20% of organisations using eight or fewer disciplines.

→ **Strategic use of design disciplines:** Despite being the least prevalent discipline, 86% of organisations who used Environment Design reported a high impact on profitability, surpassing the sample average of 79%.



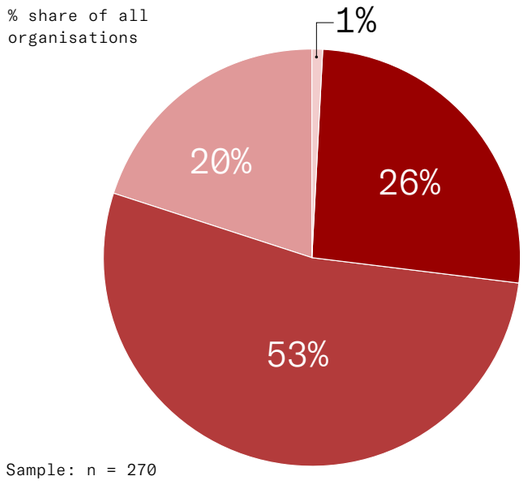
Fig 7. Respondents by profitability impacts

**>90%**

of organisations reported some positive outcomes from design use.

**79%**

reported at a high or very high impact on their profitability/performance.

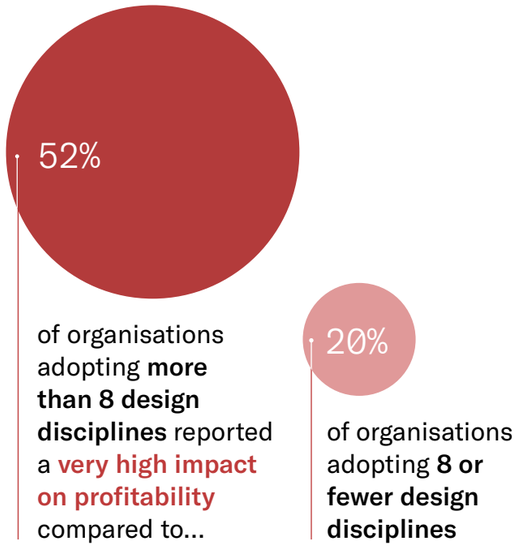



Q20. To what extent has design impacted your organisation's profitability / performance? (SA)

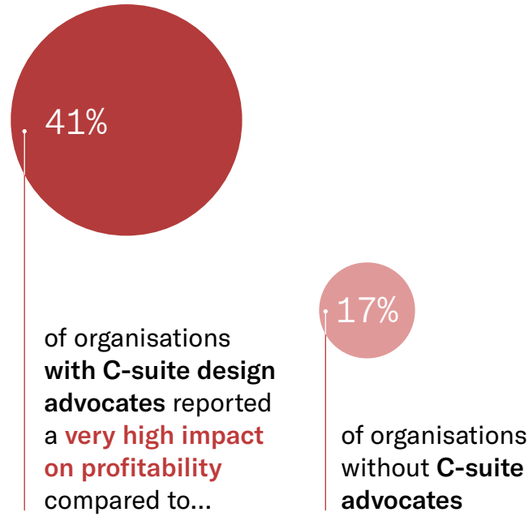
Source: Oxford Economics

- Organisations that reported a very high impact on profitability / performance
- Organisations that reported a high impact on profitability / performance
- Organisations that reported some impact on profitability / performance
- Organisations that reported a limited impact on profitability / performance

**Organisations adopting design more broadly** are more likely to report "very high" impacts:




**Leadership matters: having board-level buy-in** leads to stronger returns from design adoption:



→ **Leadership support:** 41% of organisations with C-suite design advocates reported a very high impact on profitability, compared to 17% of organisations without such senior-level buy-in,

→ **Level of design maturity:** 48% of organisations with high design maturity reported a very high impact of design on profitability, compared to just 13% of those with low design maturity, highlighting the long-term benefits of embedding design principles and strategies into an organisation's operations.

### 3.3.2 Social and Environmental Impact

While commercial benefits were more prominent, organisations still recognised strong social and environmental impact from design use. About 75% of respondents reported a high or very high impact of design use on at least one of their social goals, while 85% reported the same for at least one of their environmental goals.

Design maturity significantly amplified these benefits. High-maturity organisations were nearly twice as likely to report very high impact on their environmental goals (61% vs. 34% for organisations with a less mature design approach). Similarly, high-maturity organisations were more than twice as likely to report a very high impact on their social goals (55% vs. 22%).

Organisations reported positive outcomes spanning waste reduction, energy efficiency, equitable participation, and increased awareness, aligning with past research by the UK Design Council showing design's integral role in sustainability and social inclusivity.[1]

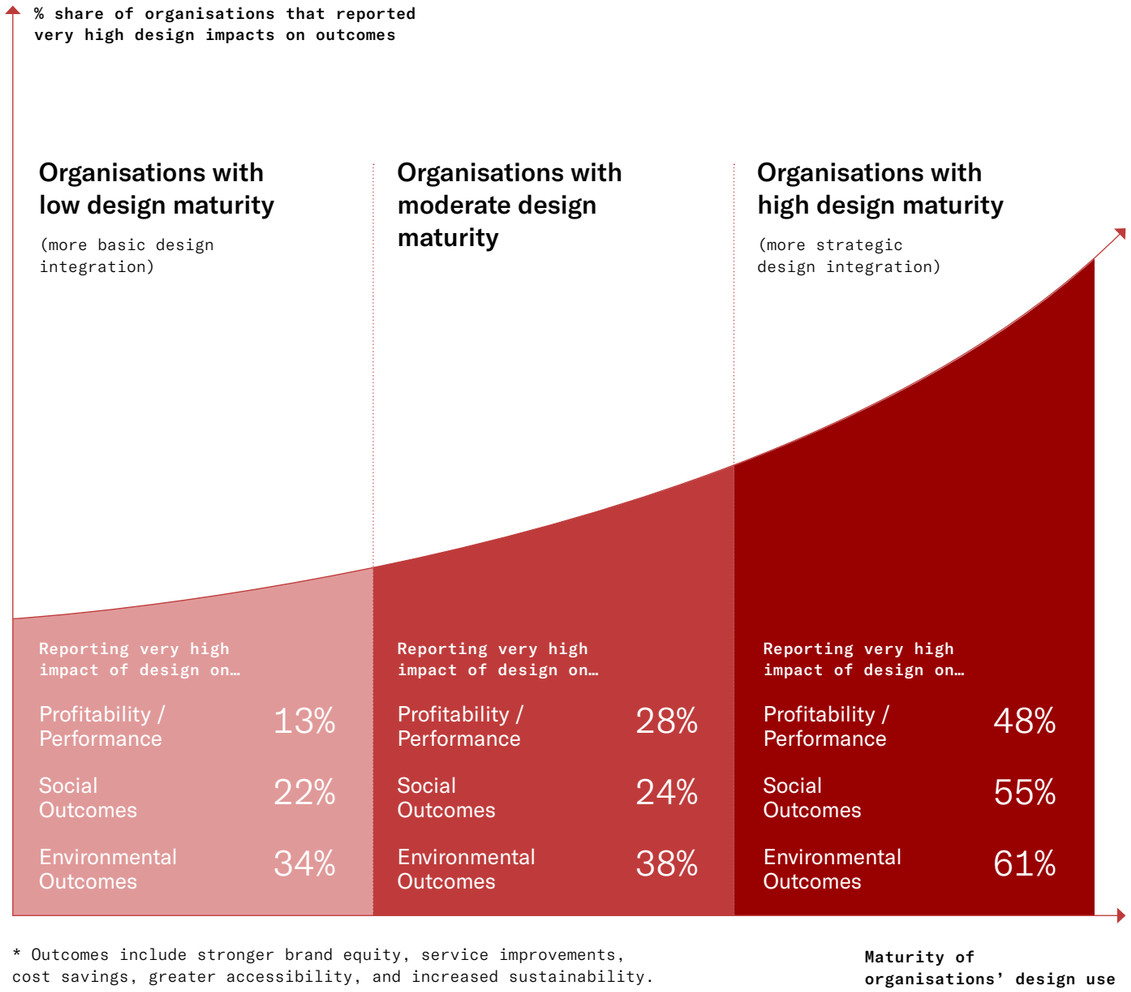
### 3.3.3 Wider Societal Impacts of Design

Respondents were asked a series of questions about how they perceived the use of design to be adding value to Singaporean society. There was a generally positive view of design's contribution to wider societal outcomes,  particularly economic progress, skills development and community building.



Fig 8. Reported impact on outcomes by level of design maturity

## Organisations that are more mature users of design see stronger outcomes*




* Outcomes include stronger brand equity, service improvements, cost savings, greater accessibility, and increased sustainability.

# 4 Design's Value in Action: Singapore Case Studies

The following case studies of recent and ongoing design projects in Singapore illustrate how the Design Impact Framework can be used to understand specific ways in which design creates value. Their evidence base was developed through desk research, a questionnaire, and designer interviews. These six studies, selected to represent all five Design Uses, demonstrate how user-centred design improves processes, products, experiences and places, contributing to sustainable, caring, and prosperous futures.

## 4.1 SaladStop! Experience Masterplan by Eight Inc.


Digital Ledge used in Saladstop's refreshed ordering systems. Image by Eight Inc.

In 2022, homegrown establishment SaladStop collaborated with designers Eight Inc. to develop an Experience Masterplan, a refreshed brand identity, and a reimagined store concept. The project, supported by an Enterprise Singapore grant, leveraged design to streamline the ordering process through the adoption of new technologies — in particular, a Digital Ledge at the salad bar. They also redesigned the interior of SaladStop!'s outlet at Marina Bay Link Mall; the branch, which opened in 2024, is a physical representation of the brand's continued commitment to sustainability and community.

The Digital Ledge was a key intervention designed to enhance the ordering experience by offering personalised menu suggestions and ingredient pairings,  while enabling staff to seamlessly track orders, inventory, and operational efficiency (the time taken to prepare and serve each order). Business costs were also reduced and revenue boosted through a shift to a pay-on-order system, which lowered walk out rates.[2]

Additionally, by monitoring ingredient demand in real time, the brand could better forecast stock requirements and reduce wastage. The data gathered through the Digital Ledge also facilitated tailored health recommendations for customers. Following its implementation, revenue at the Marina Bay outlet increased by 60%, the number of sales per hour doubled, and staff operate at twice their previous speed.[3]


Interior of a Saladstop! outlet, which is designed to reflect the brand's sustainability values. Image by Eight Inc.

Moreover, the redesigned Digital Ledge eased cognitive load for SaladStop!'s staff, allowing them to focus on customer engagement and communicating the brand's sustainability initiatives. The refreshed store interior was designed to communicate SaladStop!'s sustainable values in more intuitive and meaningful ways. Previously, customers would find QR codes on tables linking to information about the brand's impact such as its tree planting initiatives but very few engaged. With the Marina Bay Link Mall outlet, these values are embedded into the physical space itself.

For example, the tables and shelves are crafted by Roger & Sons, a Singapore-based team of ethical makers who specialise in woodworking using local trees felled during urban redevelopment. Importantly, SaladStop! offers an easy way for customers to take action with the option to contribute 23 cents per purchase to offset emissions, supporting a mangrove restoration project in Indonesia. If they are ordering to-go, customers can also choose to use reusable containers from Muuse to avoid using disposables.[4]

Eight Inc.'s design process often starts by identifying desired emotional or social connections, before working backwards to develop ways in which these intentions can be translated into practical business solutions. This approach ensures that every design choice not only aligns with the brand's values, but also contributes to operational goals like cost savings, customer engagement, and long-term brand equity.



**SALADSTOP! EXPERIENCE MASTERPLAN**
**OVERVIEW OF OUTCOMES, AS REPORTED BY PROJECT OWNER**

| 1 DESIGN USES → | 2 VALUE DRIVERS → | 3 ORGANISATIONAL OUTCOMES → | 4 SOCIETAL OUTCOMES → | 5 FUTURES |
|---|---|---|---|---|
| **Media Design**<br>Advertising<br>Branding Design<br>Digital Media Design<br><br>**Environment Design**<br>Interior Design<br><br>**Systems Design**<br>Process Design<br><br>**Service Design**<br>Experience Design | Process Improvement<br><br>Stakeholder Experience<br><br>Communications (Marketing and Advocacy) | Stronger Brand Equity<br><br>Better Workforce Performance<br><br>Cost Savings in Business<br><br>Product and Service Improvements<br><br>Increased Awareness | More Sustainable Consumption<br><br>Commercial Success | Economic Progress<br><br>Sustainable Futures |

**OTHER INPUTS AND ACTIVITIES**
**Goals/Metrics/KPIs**
→ (Company) To make healthier choices more accessible to consumers.
→ No reported target metrics or key performance indicators.
→ Expenditure Includes Enterprise Singapore ESG grant.

Fig. 9. SaladStop! case study, as reported by Eight Inc.

## 4.2 Magical Moments by ART-ZOO

ART-ZOO installation for MGM China Holdings in the Barra District, Macau. Image by ART-ZOO

Using simple shapes and iconic patterns, ART-ZOO designs animals and plants shaped like letters of the alphabet. These are brought to life through inflatable art installations that blend nature, art, and play in imaginative ways.

In 2020, amid the COVID-19 pandemic, ART-ZOO embarked on Dsg's Good Design Research (GDR)[5] initiative to explore how they could evolve beyond pop-up installations and design a more sustainable, educational and immersive brand experience. The grant support kickstarted a research and development (R&D) journey focused on rethinking the bouncy castle's form and purpose.

In particular, ART-ZOO's R&D explored using new services and formats such as workshops and educational tools to infuse their installations with storytelling and educational elements. They also began sourcing sustainable branded merchandise (e.g., crayons made from vegetables) and explored sustainable options for the materials used to create their


ART-ZOO installation in Marina Bay, Singapore. Image by ART-ZOO

inflatables. These activities aimed to strengthen the design quality of installations, while considering scalability and brand development.

Additionally, the R&D experience became a form of professional development, exposing the team  to new ways of thinking and approaching problems. It built team skills and expanded creative possibilities for future projects.

By kickstarting their R&D process, GDR supported ART-ZOO in developing their own intellectual property (IP), a crucial step in moving up the value chain.[6]

The outcomes of this R&D phase became tangible as ART-ZOO began creating sustainability-themed exhibitions and workshops, a move that appealed to clients seeking CSR-aligned initiatives. They subsequently acquired at least two new clients. In 2023, ART-ZOO collaborated with Mandai Wildlife Group, featuring endangered animals in interactive habitats alongside sustainability-focused workshops to bridge the gap between awareness and action.[7] In 2024, they also partnered with MGM China Holdings to bring ART-ZOO: Splashes of Joy, a marine conservation-themed inflatable installation, to Macau.[8] For ART-ZOO, design is no longer a primarily visual or functional exercise, but more importantly, a tool for creating shared meaning, sparking conversations and actions about environmental issues among families and children.

As opportunities like the Mandai and MGM collaborations are direct outcomes of the groundwork laid during the R&D phase, it is clear that design research has been a meaningful catalyst for the brand's continued growth.



**ART-ZOO**
**OVERVIEW OF OUTCOMES, AS REPORTED BY PROJECT OWNER**

| 1 → DESIGN USES | 2 → VALUE DRIVERS | 3 → ORGANISATIONAL OUTCOMES | 4 → SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Media Design**<br>Branding Design | Stakeholder Experience<br><br>Communications (Marketing and Advocacy) | Stronger Brand Equity<br><br>Increased Awareness | More Sustainable Consumption<br><br>Commercial Success | Economic Progress<br><br>Sustainable Futures |

**OTHER INPUTS AND ACTIVITIES**

**Goals/Metrics/KPIs**

→ (Development (and eventual deployment) of expanded products and services.

**Expenditure**

→ The GDR initiated the Research & Development process for ART-ZOO.

→ The team also invested signifcant time over six months to conduct the research.

Fig. 10. Magical Moments case study, as reported by ART-ZOO

## 4.3 CapitaSpring by BIG, CRA and partners

CapitaSpring's facade is designed to showcase the building's green terraces and communal spaces, while maximising daylight and minimising heat gain. Image by CapitaLand

Completed in 2021, Capitaspring is a S$1.82 billion collaborative design project by Bjarke Ingels Group (BIG), Carlo Ratti Associati, RSP Architects Planners & Engineers, and ARUP that showcases how thoughtful design can bring exceptional value across multiple dimensions.

Design innovation has transformed CapitaSpring into a "vertical village" where diverse functions exist in harmony across 51 storeys. Through integrative design approaches, the team created seamless transitions between offices, serviced apartments, eateries, public plazas, sky gardens, and an urban farm. This mixed-use programming generates value by enabling new ways for people to work, live, rest and gather in a single development, creating a more vibrant and resilient asset.

The building's biophilic design elements also challenge conventional boundaries between nature and the built environment while improving environmental and societal awareness. The tropical climate-responsive design reduces aircon dependency through passive ventilation and strategic shading. The rooftop Food Forest created by

Green Oasis in CapitaSpring. Image by ArchDaily

Edible Garden City supplies 70-90 kg of herbs and vegetables monthly to on-site eateries,[9] while food waste is composted into fertilisers — demonstrating a partially circular system even in an urban setting.

Technical excellence in the form of construction innovation and digital technologies dramatically improved efficiency. As Singapore's first integrated development to adopt pre-made mechanical, electrical, and plumbing systems to later install on site, CapitaSpring achieved 43-54% productivity improvements. Digital models for design and engineering further boosted construction productivity by 50%[16] and optimised the building's energy performance.[10]

CapitaSpring's inclusive design creates community value through deliberately accessible spaces. Multiple lifts, barrier-free ramps, and clear sightlines ensure universal mobility throughout the development.

The design's economic value is demonstrated through market performance. Despite pandemic headwinds, CapitaSpring achieved 95% office occupancy upon opening and was fully committed by 2023, outperforming comparable properties.[11] This commercial success, alongside real estate appreciation and market recognition, validates the financial viability of well-designed, sustainable, mixed-use developments.



**CAPITASPRING**
**OVERVIEW OF OUTCOMES, AS REPORTED BY PROJECT OWNER**

| 1 DESIGN USES → | 2 VALUE DRIVERS → | 3 ORGANISATIONAL OUTCOMES → | 4 SOCIETAL OUTCOMES → | 5 FUTURES |
|---|---|---|---|---|
| **Environment Design**<br>Architectue Design<br>Landscape Design<br>Interior Design<br><br>**Service Design**<br>Interaction Design<br>Experience Design<br><br>**Systems Design**<br>Process Design | Stakeholder Experience<br><br>Process Improvement | More Green Technology Adoption<br><br>Stronger Brand Equity<br><br>Greater Accessibility and Inclusivity<br><br>Product and Service Improvements | Commercial Success<br><br>Greenhouse Gas Reduction<br><br>Circular Modes of Production<br><br>Social Cohesion and Connectedness | Economic Progress<br><br>Sustainable Futures<br><br>Caring Futures |

**OTHER INPUTS AND ACTIVITIES**

**Goals/Metrics/KPIs**

→ As reported by design team, future-resilient development that continues to serve society's changing needs.

**Expenditure**

→ Development Cost / Sq Ft: S$1791 (est.)

→ Design Fees: 3% of Total Development Cost (est.)

Fig. 11. CapitaSpring case study, as reported by BIG, CRA and partners

## 4.4 Werable by Claudia Poh

Claudia Poh adjusting the fit of one of Werable's garments. Image by DE51GN

For persons with disabilities, everyday clothing features can pose significant challenges, turning the act of getting dressed into a daily barrier to independence, dignity, and comfort.

Fashion designer Claudia Poh founded Werable in 2019 to address this gap, aiming to design clothing that offers not only style and function, but also a sense of agency and empowerment. While global brands like Tommy Hilfiger and Zappos have raised awareness of adaptive fashion, particularly in the U.S., Werable recognised an unmet need in Asia-Pacific (APAC), especially in the premium and designer space, as many adaptive garments still relied on limited design vocabularies, often prioritising utility over style.[12] In 2020, Werable took part in the GDR initiative by DesignSingapore Council to develop their pilot collection, Easy-To-Wear. This line

Singapore's Paralympian Yip Pin Xiu wearing clothing by Werable. Image by Ethan Lai, courtesy of Werable

included garments such as an off-shoulder top and a cross-back dress that could easily be put on and taken off with one hand, as well as a transformable bolero that reimagined the silhouette of a medical arm sling. Their other products include swimwear, outerwear and activewear suitable for different climates, occasions, and activities.

Evident from these examples, product design and innovation is a key part of Werable's work, and perhaps where the brand is most recognised. The company has earned international accolades like the Shenzhen Design Award for Young Talents and the Vogue Innovation Prize in 2021. In addition to the S$15,000 cash award, the VI Prize likely leveraged paid media exposure.[13]

By marketing this portfolio of work, new partnerships that have subsequently arisen include Toyota's Start Your Impossible campaign, commissioning Werable to design 16 looks with brand ambassador Toh Wei Soong, and adaptive fashion workshops with ArtScience Museum, National Museum of Singapore, and AWWA. Beyond what it puts on the rack, however, the heart of Werable's products is its commitment to co-design. Each garment is created with (not just for) individuals representing its target wearers. The team maintains a detailed database of past clients, recording information like range of mobility and interview notes. When a new client comes on board, the team reaches out, arranges fittings, and brings along garment samples to explore comfort and accessibility — modifying designs as needed.[14] This process recognises that grounded, lived experience drives better product design, and is a testament of the team's respect for each individual's needs and preferences.

Werable's work is embedded in a community-driven network of clients, occupational therapists, social workers, and caregivers. Equipping individuals with knowledge about adaptive fashion, fostering creative collaboration, and creating professional opportunities within fashion and accessibility sectors, Werable contributes to community capacity building and promotes social cohesion.

Finally, Werable also challenges the binary between "disabled" and "able-bodied" clothing. Many of its designs are versatile enough to be worn by anyone, regardless of physical ability — sending a powerful message about normalising disability representation and designing fashion that is inclusive for all. Through its thoughtful, people-centred design process, Werable continues to shift industry norms and expand what fashion can and should be for all.



**WERABLE**
**OVERVIEW OF OUTCOMES, AS REPORTED BY PROJECT OWNER**

| 1 DESIGN USES | 2 VALUE DRIVERS | 3 ORGANISATIONAL OUTCOMES | 4 SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Product Design** Fashion and Accessories Design | Product Innovation<br>Stakeholder Experience | Product and Service Improvements<br>Stronger Brand Equity<br>Greater Accessibility and Inclusivity | Commercial Success<br>Community Capacity Building<br>Social Cohesion and Connectedness | Economic Progress<br>Caring Futures |

**OTHER INPUTS AND ACTIVITIES**

**Goals/Metrics/KPIs**

→ Bring adaptive designer fashion to the masses while co-creating with community.

**Expenditure**

→ Supported by GDR grant. Insufficient information about total budget or expenditure.

Fig. 12. Werable case study, as reported by Claudia Poh

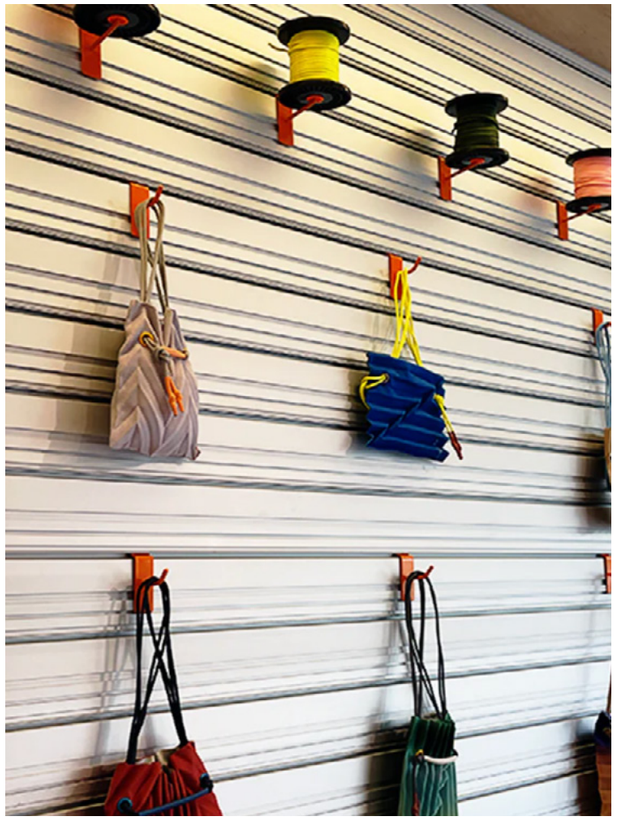
## 4.5 MAKE by GINLEE

MAKE workshop participants customising their bags. Image by GINLEE

In 2020, with support from the GDR initiative, GINLEE launched MAKE, a new concept designed to bring sustainable production and a unique experience together in one retail environment. Traditional retail involves predicting demand and stocking large quantities of ready-made items, which inevitably leads to unsold inventory. Instead of producing garments and accessories in advance, GINLEE's MAKE model introduced on-demand customisation. Customers select from pre-made garment bases that are pleated in-store, resulting in pieces made only when requested. This flexibility reduces wastage while giving customers a memorable experience, where they can either watch or play a part in the production process.

Unsold inventory is a significant challenge for the fashion industry, wasting financial resources and posing environmental concerns as unsold items are generally incinerated or sent to landfills. MAKE by GINLEE is a potential solution to this unmet market need.

To adapt the traditional pleating process for a retail environment, the team designed a pleating machine for in-store use: safer and more energy-efficient than other industrial machines. They also conducted extensive research on paper types and moulding methods. Using offset printing, they modified pleat moulds to make their usage less



Pleated bags that can be created in MAKE workshops. Image by GINLEE

labour-intensive, more precise, and more sustainable. Finally, the team developed retail-friendly products that aligned with the capacities of the machine and the mould, balancing customer appeal with feasibility.

The MAKE model led to a series of tangible organisational outcomes. It transformed the role of retail staff. Sales team members were trained to become makers, and the company began hiring fresh design graduates who may have little prior experience but show passion to share their craft with customers. Additionally, the model has created a live R&D environment — turning retail stores into experimental spaces for service design, including garment repair and upcycling workshops.

MAKE also opened up new market segments. The experience-based model attracted younger customers and more male shoppers, groups not typically in the market for GINLEE's ready-to-wear lines. Today, MAKE is featured in almost every one of their outlets, including a new fifth store at Takashimaya. In 2024, GINLEE had 3,000+ orders for experiences and MAKE products, generating an additional 10% of total revenue. Surveys conducted with participants also show high satisfaction.[15]

Perhaps one of the most powerful impacts of MAKE is how it shows the viability of local production. Rather than outsourcing to reduce labour costs, or buying in bulk to reduce material costs, MAKE shows that by redesigning processes and treating the experience as part of the product, it trains makers, reduces waste and raises product value. In doing so, GINLEE provides a replicable model for brands exploring how design can help rebuild local production ecosystems, blending innovation and tradition to imagine a more sustainable, human-centred future for fashion.



**MAKE**
**OVERVIEW OF OUTCOMES, AS REPORTED BY PROJECT OWNER**

| 1 → DESIGN USES | 2 → VALUE DRIVERS | 3 → ORGANISATIONAL OUTCOMES | 4 → SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Systems Design**<br>Organisational Design<br>Supply Chain Design<br>Design Research<br><br>**Service Design**<br>Experience Design<br><br>**Product Design**<br>Fashion Design | Process Improvement<br><br>Stakeholder Experience<br><br>Product Innovation | Waste Minimisation<br><br>Cost Savings in Doing Business<br><br>Stronger Brand Equity<br><br>Product and Service Improvements<br><br>Better Workplace Performance<br><br>Digital Adeptness | Commercial Success<br><br>More Sustainable Consumption<br><br>Circular Modes of Production | Economic Progress<br><br>Sustainable Futures |

**OTHER INPUTS AND ACTIVITIES**

**Goals/Metrics/KPIs**

→ Bring adaptive designer fashion to the masses while co-creating with community.

**Expenditure**

→ Supported by GDR grant. Insufficient information about total budget or expenditure.

Fig. 13. MAKE case study, as reported by GINLEE

## 4.6 Digital Twin for Emergency Department by Farm, Vouse and Changi General Hospital

On screen view of Digital Twin prototype. Image by Hyperfield (FARM and VOUSE)

In cities around the world, public hospitals remain some of the busiest places, operating around the clock. Emergency departments (ED) face constant pressure, grappling with long wait times, overcrowding, and increasing staff burnout. Singapore's healthcare system is no exception. Changi General Hospital (CGH), one of Singapore's largest public hospitals, saw this as an opportunity to innovate solutions that can address such challenges. In 2023, CGH collaborated with design studios FARM and VOUSE to develop a Digital Twin, a virtual replica technology that creates an immersive simulation environment where staff can test changes in environmental design (spaces), process design (systems), and service experience without real-world risks.


Accident & Emergency department at CGH. Image by Changi General Hospital

This project was driven by three key goals: 1) enhance patient experience, 2) optimise operational workflows, and 3) support staff well-being. At its core, this case study illustrates how Digital Twin technology enables redesign across multiple dimensions. From an environmental design perspective, the virtual replica allows stakeholders to visualise and test spatial modifications such as waiting room layouts or treatment area configurations and understand their impact on flow and efficiency. From a systems design standpoint, the Digital Twin maps CGH as an interconnected system of doctor / nurse / patient stakeholders and sub-departments, demonstrating how changes in one area create ripple effects throughout operations. The service experience design element was integrated through a participatory approach that gathered both design and real-world inputs from stakeholders. FARM and VOUSE employed workshops, work shadowing, and decision-tree mapping to capture the lived experiences of frontline workers. This collaborative process ensured the model reflected real interactions between patients and providers, making the simulation more intuitive and resonant with realities.

This multi-dimensional design approach produced a Digital Twin that functions as a scenario- and decision-testing tool that focuses on adding resources, but also on optimising existing ones. It generates quantitative outputs that represent the effects of different interventions on operational efficiency and human experience, offering a practical lens to evaluate which changes deliver the most impact.



Academic studies confirm that Digital Twins can reduce costs by enhancing facility design and operations through accurate forecasting and resource optimisation.

To date, the CGH team has used the model to simulate different workflows and operational scenarios, some of which were later trialled in the hospital. While the project is ongoing and full results are pending publication, these trials have shown observable improvements.

This first phase served as a proof of concept, laying the foundation for introducing more parameters as the team plans to scale the model. In the next phase, they will test new outcomes and requirements for improved operational, service, and physical design—continuing to leverage the intersection of environmental, systems, and service experience design elements.

**DIGITAL TWIN FOR EMERGENCY DEPARTMENT**
**OVERVIEW OF OUTCOMES, AS REPORTED BY PROJECT OWNER**

| 1 DESIGN USES | 2 VALUE DRIVERS | 3 ORGANISATIONAL OUTCOMES | 4 SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Environment Design**<br>Immersive Environmental Design<br><br>**Systems Design**<br>Organisational Design | Stakeholder Experiences<br><br>Process Improvement | Digital Adeptness<br><br>Better Workplace Performance<br><br>More New Technology Adoption<br><br>Product and Service Improvements | Community Capacity Building<br><br>Commercial Success<br><br>Improvements in Public Services | Economic Progress<br><br>Caring Futures |

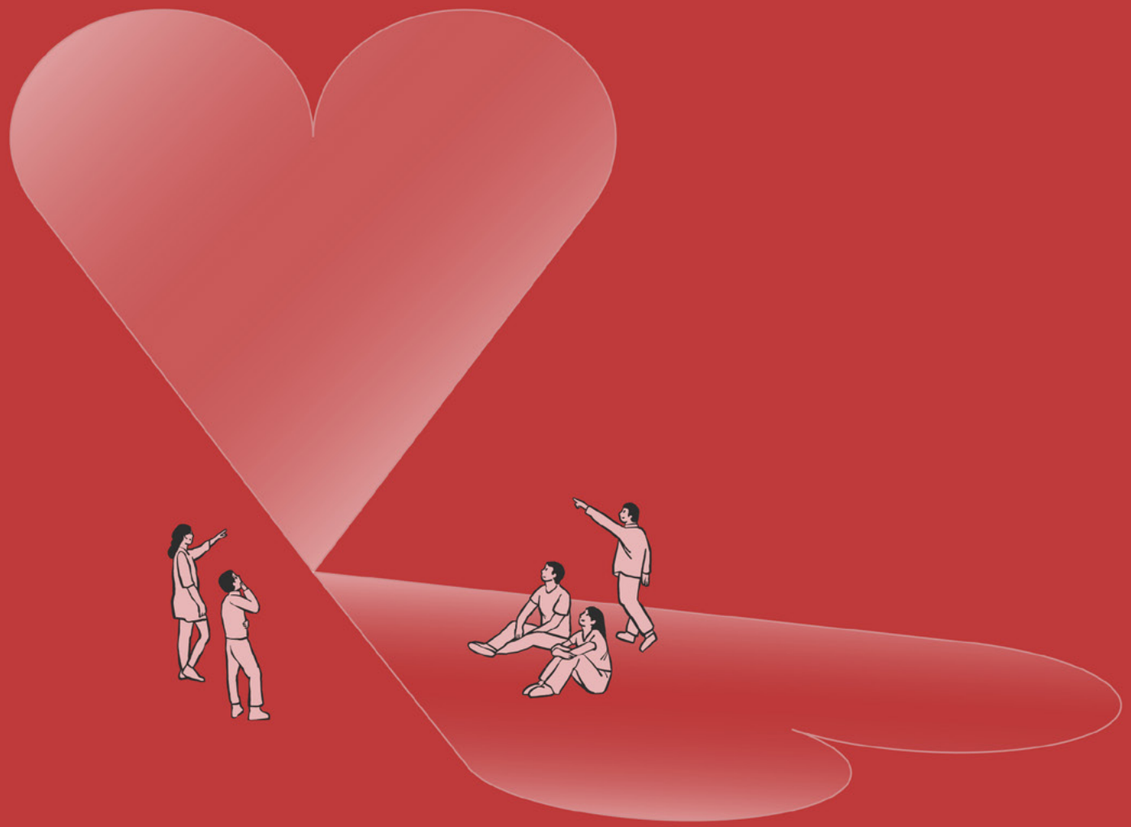
**OTHER INPUTS AND ACTIVITIES**

**Goals/Metrics/KPIs**
- → Enhance patient experience
- → Workflow optimisation
- → Enhance staff well-being

**Expenditure**
- → Insufficient information about budget and expenditure available.

Fig. 14. Digital Twin for Emergency Department case study, as reported by Farm, Vouse, and Changi General Hospital

# 5 Applying the Design Impact Framework



A key takeaway from this research is just how little quantifiable data currently exists on the impact of design in Singapore. The Design Impact Framework offers an opportunity to change that, so when the next generation of designers, clients, and policymakers ask for hard data on the impact of design, there will be evidence to draw from.

## 5.1 The Design Impact Framework: A Living Tool

Anecdotal evidence — if collected consistently and systematically — adds up. Asking the same questions of 30 to 50 use cases over the next few years will build a compelling body of evidence about design's impact — especially when paired with insights from the Design Use Value Survey.

The Framework serves as a multi-functional tool for measuring, articulating and identifying opportunities to improve the impact of design across Singapore's economy and society.  Its structured approach to impact assessment empowers different stakeholders to make informed, data-driven decisions about design. Ultimately, the framework fosters a shared understanding of design's value, supporting Singapore's vision of being a design-driven and innovation-led economy.

The Framework benefits four main audiences in Singapore: DesignSingapore Council (Dsg), public sector agencies, designers and design companies, and businesses and clients of design.

### I. DesignSingapore Council

The Framework supports Dsg in their longer-term efforts to measure and articulate design's value in the many sectors and communities it benefits.

### II. Public Sector Agencies

Building on existing Dsg work, the Framework invites public sector agencies to follow a structured approach to assess the impact of design, through:

→ **Enhanced Policy Outcomes:** Showing how design contributes to economic development, sustainability and social inclusion to support evidence-based policymaking, aligning with initiatives such as the SG Arts Plan and the Singapore Green Plan 2030.

→ **Cross-Sector Collaboration:** Facilitating understanding of design impact across different public sector agencies, enabling civil servants and designers to align their work with national objectives and ensure consistency in measuring and communicating the value of design.

→ **Investment Justification:** Provides structured rationale for how design investments lead to tangible benefits, supporting stronger funding proposals and more rigorous impact monitoring for government agencies' evaluation requirements.

### III. Designers and Design Companies

For designers and design firms, the framework serves as a tool to demonstrate the value of their work to clients and stakeholders, enabling them to differentiate their services in a competitive market.

→ **Client Education:** Helps designers communicate their impact more effectively using evidence-based metrics to justify investment in design services.

→ **Best Practices:** References international case studies and industry data to provide insights into how design has driven success in other contexts, allowing designers to refine metrics and adopt best practices.

→ **ROI Measurement:** Offers designers a structured approach to establish baselines, track and present design outcomes, helping them build more convincing case studies and enhance credibility with stakeholders.

### IV. Businesses and Clients of Design

Businesses, especially those outside of traditional design industries, may be unfamiliar with how design can add strategic value. The framework presents a structured way for businesses to integrate design into their operations and measure its benefits.

→ **Performance Improvement and Innovation:** Companies can track how design contributes to operational efficiency, customer engagement and product and service innovation. By mapping design interventions to business outcomes, companies can more easily justify investments in design.

→ **Risk Mitigation:** When design's benefits seem intangible, businesses struggle to assess the return on investment. The Framework's structured approach helps businesses navigate uncertainty when investing in design and anticipate the benefits of investing in specific design uses.



→ **Strategic Decision-Making:** The Framework can inform contract structuring, briefing for commissions and serve as a leadership tool, helping those who commission and manage design understand "what good design looks like".

→ **Sustainability and Corporate Responsibility:** Businesses can use the Framework to align design strategies with Environmental, Social and Governance (ESG) goals, measuring and reporting how design contributes to sustainability, employee well-being and social cohesion.

## 5.2 Indicators to Consider for Desired Impacts

A key characteristic of the Design Impact Framework should be its adaptability to suit different users' needs, ensuring adoption by diverse stakeholders and supporting longevity. It should integrate with other standards and evaluation tools relevant to users' specific needs. For example, a designer who prioritises social and environmental impacts in their work might choose standard indicators that are used in B Corp certification, whereas a corporate design division might align with sector-specific reporting standards.

Appendix B (Suggested Indicators for Measurement) signposts relevant credible international and Singaporean indicators to prompt initial thinking. The list is not intended to limit designers' choices; many other impact indicators exist for each designer or client to consider and test for fit with their objectives and capabilities. Selection of key indicators would be negotiated between Dsg and initial partners (e.g. design trade association or government agency) when setting up a pilot phase of Framework deployment.

## 5.3 Applying the Framework to Case Studies

As well as providing Dsg with a valuable tool to support strategic planning and advocacy, the Design Impact Framework can be used to support Singaporean designers and clients in building capacities to measure and articulate their projects' value. The Framework provides a starting point for designers to appraise, evaluate and communicate the value of their projects and programmes. Here we provide a practical guide for the design community to use the Framework for these purposes.

While this case study template is written from the design practitioners' perspective, the same process can be adapted by design associations, government organisations, or anyone seeking to predict or measure design's added value to projects.

### Step 1: Establish a Project-Specific Theory of Change (ToC)

This step can take place either during project inception, or during the project approval process, to demonstrate its value to stakeholders. Start by gathering your team and relevant stakeholders. Using the overarching Framework as a guide, establish the following:

**I. Design Use**
The types and disciplines of design being used in the project, as well as the resources involved for that use (i.e., costs, manpower, materials, etc).

**II. Value Drivers**
The value driver(s) or output(s) from the design work.

**III. Organisational Outcomes**
The benefits to the organisation from the design work including reducing costs, increasing revenue and contribution to social and environmental goals.

**IV. Wider Societal Outcomes**
The potential benefits to wider society from the design work, including economic, social and environmental benefits.

**V. Futures**
Link the wider societal benefits to the relevant economic, social and environmental Futures.

You can plot these in a flow diagram starting with the Design Uses on the left hand side and flowing through to Futures on the right hand side. You now have a project-specific ToC which can be used to communicate at a high level the value of your project.



## Theory of Change Template

| 1 DESIGN USES → | 2 VALUE DRIVERS → | 3 ORGANISATIONAL OUTCOMES → | 4 WIDER SOCIETAL OUTCOMES → | 5 FUTURES |
|---|---|---|---|---|
| | | | | |

## Key Metrics Tracking Template

| TOC LEVEL | ITEM | METRIC | DATA SOURCE | BASELINE VALUE |
|---|---|---|---|---|
| Design Use | | | | |
| Value Drivers | | | | |
| | | | | |
| Organisational Outcomes | | | | |
| | | | | |
| | | | | |
| Wider Societal Outcomes | | | | |
| | | | | |

## Case Study Template

| 1 DESIGN USES → | 2 VALUE DRIVERS → | 3 ORGANISATIONAL OUTCOMES → | 4 WIDER SOCIETAL OUTCOMES → | 5 FUTURES |
|---|---|---|---|---|
| *Insert data & commentary* | *Insert data & commentary* | *Insert data & commentary* | *Insert data & commentary* | *Insert commentary* |

**Step 2: Establish key metrics to track success of the project**

Following the ToC template, establish what data would be desirable and feasible to track for the following:

**I. Design Use**
This should include data on resources used, manpower, and other costs.

**II. Value Drivers**
Identify measures of the outputs from the design work.

**III. Organisational Outcomes**
Identify data on the Organisational Outcomes in your ToC that can reasonably be tracked by the project. Ideally, baselines for this data should be collected at the start of the project that can be compared to data collected throughout the project and after completion. Although quantitative data is desirable, it can also be useful to collect qualitative information on Organisational Outcomes where they are challenging to quantify.

**IV. Wider Societal Outcomes**
For sufficiently large and impactful projects, it may be possible to collect data on how they impact on wider society, particularly for public sector projects. As with Organisational Outcomes, identify the data that can reasonably be tracked against the Wider Societal Outcomes in your ToC, establishing baselines at the start of the project.

**Step 3: Track and Report Key Metrics**
Collaborate with stakeholders and data owners to establish tracking systems for key metrics throughout the project – from initiation, through implementation to post-completion. As benefits often materialise beyond the immediate project timeline, post-completion tracking may be necessary to assess total impact.

Prioritise trackable metrics within your budget constraints. Design Use and Value Drivers are typically easier to measure than Organisational Outcomes, which are, in turn, easier to track than Wider Societal Outcomes. Integrate metric reporting into standard project management processes, recognising that some Organisational Outcomes may only be realised after project completion.

**Step 4: Evaluation**
At project completion (or once benefits have materialised), conduct a comprehensive evaluation accounting for all data collected across Design Use, Value Drivers, Organisational Outcomes and, where applicable, Wider Societal Outcomes. This evaluation should make all the data collected transparent and establish clear linkages between Design Use and outcome changes, potentially serving as or informing a case study.



## 5.4.1 APPLICATION EXAMPLE A: NEW STORE DESIGN

By applying the Framework at the outset of a theoretical design project, we can consider how to explicitly measure how design contributes to a company's goals and eventual outcomes.

| | |
|---|---|
| Context | A design company is commissioned by a major retailer to redesign one of their stores in Singapore as a pilot project to create a better customer experience, reduce staff workload and increase profits. |
| Theory of Change | The Framework first helps the project team map out the intended impact pathway of design. Why are they investing in design? What does the project hope to achieve? And what critical steps does that impact depend on? The tool can help clarify and codify that thinking. |

### New Store Design - Theory of Change

| 1 DESIGN USES | 2 VALUE DRIVERS | 3 ORGANISATIONAL OUTCOMES | 4 SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Environment Design**<br>Interior Design | Stakeholder Experience<br>Process Improvement | Better Workforce Performance<br>Cost Savings in Doing Business<br>Stronger Brand Equity<br>Product and Service Improvements | Commercial Success | Economic Progress |

### Key Metrics Tracking

| TOC LEVEL | ITEM | METRIC | DATA SOURCE | BASELINE VALUE |
|---|---|---|---|---|
| Design Use | Interior Design | Project costs | Finance | $0 |
| Value Drivers | Stakeholder Experience | Perceived ease in finding desired products | Customer survey | Medium |
| | Process Improvement | Average length of time visitors spend in store | Customer survey | 5 minutes |
| Organisational Outcomes | Better Workforce Performance | # of customers served per hour | Analytics | 20 per hour |
| | Cost Savings in Doing Business | Staff costs | Finance | $30,000 per week |
| | Stronger Brand Equity | Social media mentions | Customer survey | 50% |
| | Product and Service Improvements | Customer satisfaction rate | Customer survey | 60% |
| Wider Societal Outcomes | Commercial Success | Store profit | Finance | $50,000 per month |

## Evaluation (after 8 weeks)

| 1 → DESIGN USES | 2 → VALUE DRIVERS | 3 → ORGANISATIONAL OUTCOMES | 4 → SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Environment Design**<br>Interior Design | Stakeholder Experience<br>Process Improvement | Better Workforce Performance<br>Cost Savings in Doing Business<br>Stronger Brand Equity<br>Product and Service Improvements | Commercial Success | Economic Progress |
| **Project costs**<br>8 weeks value: $50,000 | **Better Workforce Performance**<br>Number of customers served per hour increased from 20 to 30<br>**Cost Savings in Doing Business**<br>Staff costs remained the same at $30,000 per week<br>**Stronger Brand Equity**<br>Social media mentions per week increased from 10,000 to 12,000<br>**Product and Service Improvements**<br>Customer satisfaction rate increased from 60% to 70% | **Stakeholder Experience**<br>Perceived ease of finding desired products improved from Medium to Easy<br>**Process Improvement**<br>Average length of time visitors spend in store increased from 5 minutes to 10 minutes | **Commercial Success**<br>Store profit increased from $50,000 to $70,000 per month | **See conclusion** |

### Conclusion

The improved layout of the store led to customers spending more time on average in the store and finding it easier to locate the products they were looking for. Staff were able to serve more customers, meaning that more revenue was generated with the same staff costs. No staff members were laid of due to the new efficiencies, so staff costs remained the same. Social media mentions increased over the 8 week period, with a notable number of tweets commenting on the revamped layout of the store. Customer satisfaction rates also increased, reflecting the improved shopping experience. Overall, this project had a high return on investment with profits at the store increasing by $20,000 per month compared to a project cost of $50,000 — meaning that the project would pay for itself within 3 months. With the success of this project, and the data to demonstrate that, the retailer decided to engage the design company to conduct the same redesign of all of its stores in Singapore.





In this case, as part of their project set up, the design company and the retailer have a meeting to establish a Theory of Change, with reference to the VoD ToC framework. They identify the relevant pillars of the ToC for their project:

| | | |
|---|---|---|
| → | Design Use | Interior Design |
| → | Value Drivers | The project is creating value through process improvement and improving stakeholder experience. |
| → | Organisational Outcomes | Improved commercial performance through better workforce performance, cost savings, stronger brand equity and service improvements. |
| → | Wider Societal Outcomes | Economic benefits through the retailer's role as a major employer in Singapore. |
| → | Futures | The wider societal benefits this project can deliver contribute to Singapore's economic development. |

| | |
|---|---|
| Metrics | The Framework also helps plan how to measure those impacts.<br><br>The project team identifies measurable inputs (cost components). They then decide how to capture the effects on user experience and processes, using a customer survey. And finally, they identify measurable outcomes including whether to quantify the incremental increase in customers served per hour, any changes in staff costs and shifts in brand performance or customer satisfaction. Ultimately, they are looking to see a meaningful change in store profitability. If that change in profits is supported and contextualised by supporting evidence, they could say something much more credible about design's role in delivering that profit.<br><br>Using their project-specific ToC, the retailer and the design company identify metrics that will be used to assess the project's success. |
| Metrics Tracking | The retailer aligns the data requirements with the data owners within the organisation. The data required is already collected by the retailer, so they establish an eight-week time frame after project completion to assess whether its success and if it should be replicated across their stores. |
| Evaluation | Data is monitored continuously through the eight weeks after the project is completed and the store is reopened.<br><br>The improved layout of the store led to customers spending more time on average in the store, and finding it easier to locate desired products. Staff were able to serve more customers, meaning that more revenue was generated with the same staff costs. No staff members were laid off due to the new efficiencies, so staff costs remained the same. Social media mentions increased over the eight week period, with a notable number of tweets commenting on the revamped layout of the store. Customer satisfaction rates also increased, reflecting the improved shopping experience. Overall, this project had a high return on investment with profits at the store increasing by $20,000 per month compared to a project cost of $50,000 — meaning that the project would pay for itself within three months. Based on these results, the retailer commissions redesigns for all Singapore stores. |

## 5.4.2 APPLICATION EXAMPLE B: INCLUSIVE FASHION DESIGN

| | |
|---|---|
| Context | A fashion collective, with the support of a government grant, is creating an accessible clothing line for disabled customers, requiring impact articulation and reporting for grant compliance. |

### Inclusive Fashion Design - Theory of Change

| 1 → DESIGN USES | 2 → VALUE DRIVERS | 3 → ORGANISATIONAL OUTCOMES | 4 → SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Product Design**<br>Fashion & Accessories Design | Product Innovation<br>Stakeholder Experience | Product and Service Improvements<br>Stronger Brand Equity<br>Greater Accessibility and Inclusivity | Commercial Success<br>Community Capacity Building | Caring Futures<br>Economic Progress |

### Key Metrics Tracking

| TOC LEVEL | ITEM | METRIC | DATA SOURCE | BASELINE VALUE |
|---|---|---|---|---|
| Design Use | Fashion Design | Project costs | Finance | $0 |
| Value Drivers | Product Innovation | # of new products developed | Project team | 0 |
| | Stakeholder Experience | Perceived quality of new products | Customer survey | N/A |
| Organisational Outcomes | Product and Service Improvements | Customer satisfaction rates | Strategy | 80% |
| | Brand Equity | Media mentions | Strategy | 1 per month |
| | Greater Accessibility and Inclusivity | Disabled customer satisfaction rates | Customer survey | 50% |
| Wider Societal Outcomes | Commercial Success | Revenue | Finance | $100,000 per month |
| | Community Capacity Building | # of other local makers producing accessible clothing | Internet search | 10 |



## 5.4.2 APPLICATION EXAMPLE B: INCLUSIVE FASHION DESIGN (CONT'D)

### Evaluation

| 1 → DESIGN USES | 2 → VALUE DRIVERS | 3 → ORGANISATIONAL OUTCOMES | 4 → SOCIETAL OUTCOMES | 5 FUTURES |
|---|---|---|---|---|
| **Product Design**<br>Fashion & Accessories Design | Product Innovation<br>Stakeholder Experience | Product and Service Improvements<br>Stronger Brand Equity<br>Greater Accessibility and Inclusivity | Commercial Success<br>Community Capacity Building | Caring Futures<br>Economic Progress |
| **Project costs**<br>6 months value: $10,000<br>12 months value: $12,000 | **Product Innovation**<br>5 new products developed<br>**Stakeholder Experience**<br>Perceived quality of new products is highly favourable | **Product & Service Improvements**<br>Customer satisfaction rates increased from 80% to 90%<br>**Brand Equity**<br>Media mentions increased from 1 per month to 7 per month<br>**Greater Accessibility and Inclusivity**<br>Disabled customer satisfaction rates increased from 50% to 95% | **Commercial Success**<br>Revenue increased from $10,000 per month to $17,500 per month<br>**Community Capacity Building**<br>Number of local makers producing accessible clothing decreased, 10 to 9 | **See conclusion** |

### Conclusion

The project proved to be mostly successful against each of the outcomes it aimed to achieve. The fashion collective improved its customer satisfaction rates and media mentions over the 12 month period and was making 75% more revenue per month than before the project started. Its disabled customers had higher customer satisfaction, likely due to the accessibility of the new product line. However, the awareness raised by the project did not appear to contribute to other local makers producing accessible clothing lines, with a slight fall in the number of other makers producing accessible clothing in the 12 months following this project. The project may still have contributed to capacity building but finding quantifiable data to support that was challenging.

**5.4.2 APPLICATION EXAMPLE B: INCLUSIVE FASHION DESIGN (CONT'D)**

With key stakeholders, the fashion collective references the VoD Design Impact Framework to create a project-specific ToC, identifying the relevant components for each pillar:

| | |
|---|---|
| → Design Use | Fashion Design |
| → Value Drivers | The project is creating value through product innovation and improving stakeholder experience. |
| → Organisational Outcomes | Increased revenue through product and service improvements and stronger brand equity. The project will also contribute to their social goals of fostering greater accessibility and inclusivity for disabled customers. |
| → Wider Societal Outcomes | Industry development by engaging overlooked customer segments and community capacity building via engagement with disabled customers and improving overall understanding of how to make fashion more accessible. |
| → Futures | The wider societal benefits this project can deliver contribute to Singapore's economic development and caring future objectives. |
| Metrics | Using the framework provided by the ToC, the project team identifies the metrics they will use to measure the success of the project, starting with those listed in Appendix B (Suggested Indicators for Measurement). |
| Metrics Tracking | The project team liaises with data owners to establish the baseline figures for each of the key metrics for the project, and creates a short, anonymous, questionnaire for customers of the new product line. The team sets up a reporting cadence for 3 months and 6 months after the new product line is launched to track the metrics. These metrics are reported to a new peer accountability circle set up within the Singapore Fashion Council in which fashion businesses support one another in efforts to track design value, so they can understand whether and how the project was delivering value. |
| Evaluation | 12 months after the new product line was launched the project team evaluates the project to understand whether it has been successful. They review the value of each metric at the 6- and 12-month intervals.<br><br>After 12 months, the project showed mixed success. The collective achieved 75% higher monthly revenue, improved customer satisfaction, and increased media mentions. Disabled customers reported higher satisfaction with the accessible line. However, the awareness raised by the project did not appear to contribute to other local makers producing accessible clothing lines, with a slight decrease in such offerings. While community capacity building likely occurred, quantifiable evidence proved challenging to obtain. |



## 5.4 Reversed Framework for Strategic Planning

Many organisations approach design backwards—starting with solutions rather than desired outcomes. "We need a new logo" or "let's redesign the website" are familiar refrains that put tactics before strategy. Our reversed version of the Design Impact Framework seeks to flip this paradigm.

In addition to the Framework's primary intended use as a way to collect and collate evidence of design's value, we have created a "reversed" view of the Framework, organised from strategic futures, to measurable Outcomes and finally to attributed Design Uses. This version is intended to help design leaders and clients of design strategise how to achieve desired outcomes through their bespoke use of design.

The reversed approach ensures design investments are purposefully connected to meaningful organisational outcomes from the outset.

**How to Use the Reversed Design Impact Framework**

This version of the Framework guides its users through three key phases:

**Phase 1 Find Your Why**
Start by identifying and aligning high level motivations and ambitions through a workshop with an experienced facilitator. These may be a broad Futures objective, or specific Societal or Organisational Outcome. This foundational step prevents downstream misalignment and ensures all stakeholders share a common vision of success.

**Phase 2 Map Evidence-Based Pathways**
Reference the documented evidence base in `FIGS. 2-6` (section 2.3) showing relationships between Design Use and Outcomes to identify which categories of Design Use are most likely to achieve their desired Outcomes.

**Phase 3 Build Your Theory of Change**
Based on School of X's[16] work with (mostly) public service clients, it is recommended that this version of the Framework be used to identify a maximum of four or five strategic focus areas, and that each organisation using it be prepared to build and iterate their own theory of change over time.

## The Design Impact Framework

The Design Impact Framework maps how design adds value to the economy and wider society in Singapore, through the following five levels:

### 1 FUTURES →

**Sustainable Futures**

**Economic Progress**

**Caring Futures**

### 2 SOCIETAL OUTCOMES →

More Sustainable Consumption

Greenhouse Gas Reduction

Circular Models of Production

Digital Economy Growth

Commercial Success

Social Cohesion and Connectedness

Improvements in Public Services

Community Capacity Building

### 3 ORGANISATIONAL OUTCOMES →

Increased Environmental Awareness

Waste Minimisation

More Green Technology Adoption

Stronger Brand Equity

Digital Adeptness

Better Workforce Performance

Cost Savings in Business

More New Technology Adoption

Product and Service Improvements

Increased Awareness

Greater Accessibility and Inclusivity

### 4 VALUE DRIVERS →

Process Improvement

Stakeholder Experience

Product & Service Innovation

Communications (Marketing and Advocacy)

### 5 DESIGN USES

**Media Design**

Advertising
Art and graphic design
Branding design
Digital media design
Exhibition design
Lighting and sound design
Stage / Set design

**Product Design**

Fashion and accessories design
Furniture design
Industrial design
Product design
Software design

**Service Design**

Experience design
Interaction design
UI/UX design

**Systems Design**

Circular design
Design strategy
Design research
Organisational / Business design
Process design
Supply chain design

**Environment Design**

Architectural services
Interior design
Immersive (virtual) environmental design
Landscape design

### DESIGN AMPLIFIERS

The factors that enhance the value of design, and correlate with the maturity of design adoption in an organisation.

**Design Education** **Design Management**

Fig. 15. “Reversed” Framework for strategic planning

# Conclusion and Next Steps

This research provides fresh insights into the role design plays in delivering positive outcomes to Singapore-based organisations and wider society, contributing new evidence to the global stock of knowledge in this field.

## Future Outlook

Our key findings highlight that organisations with higher design maturity, a concept aligned with the Design Ladder Index, experience significantly better commercial, social and environmental outcomes. The systematic use of design, coupled with strategic investments in design education and management, emerges as an important driver of these positive impacts. Notably, organisations with C-suite representation for design reported markedly higher benefits, underscoring the importance of leadership advocacy in maximising design's value.

However, the study also identifies critical gaps in the formal measurement of design outcomes, especially social and environmental outcomes, echoing Dsg's conclusion that standardised measurement practices would be beneficial. Addressing this gap will be essential for organisations to fully capture and communicate design's holistic value.

**Dsg aims to work with a range of stakeholders to support diverse organisations as they undertake the following key actions:**

→ Integrate design management at strategic levels ideally with C-suite representation.

→ Whether implementing design internally or commissioning design, organisations can use the Design Impact Framework to plan, guide and assess.

→ Invest in design education within organisations. Ideally, apply design across multiple disciplines whether internally or when commissioning designers.

→ Orienting towards broader national agendas of sustainability and care, measure the impacts of design beyond commercial outcomes.

→ Build opportunities to partner with Dsg for support and peer sharing to build the national evidence base for the Value of Design.

## Closing

Advocates for design can now make a strengthened case for the value it adds, using the evidence base that this study can help build, to speak to the many stakeholders whom design touches.

The actual design work is already there, changing lives, impacting society, contributing to the economy. Now the future of design in Singapore — of investment that supports it and its continued development towards holistic goals, including urgent social and environmental responsibilities — lies in making its value tangible, and sharing it widely.

# Credits

## Research Team

**Desire Lines**

**Oxford Economics**

## Survey Administration

**Phronesis Partners**

## Graphic Design

**Crop.sg**

## Methodology Advisory Panellist

**Dr. Sharon Chang**
Chief Research Officer
National Arts Council

Director of Research
Ministry of Culture, Community, and Youth

**Dr. Emi Kiyota**
Associate Professor
NUS Yong Loo Lin School of Medicine

Associate Professor
College of Design and Engineering

**Dr. Thomas Schroepfer**
Full Professor, Founding Programme Director,
Associate Head of Pillar of Architecture and
Sustainable Design,
Singapore University of Technology and
Design

**Kate Shieh**
Deputy CEO (AT TIME OF PARTICIPATION)
Tri-Sector Associates

## Stakeholder Interview Participants

**Peter Chew**
Chief Operating Officer
Eight Inc.

**Leonard Augustine Choo**
Director
Industry Development & Internationalisation
Singapore Fashion Council

**Dr. Lavie Golenberg**
Program Director
Global Education Tech Strategy
Medtronic

**Ben Hamley**
Data-Driven Design, Innovation, and Strategy
JLL

**Terence Heng**
Vice President
Shaw Organisation

**Cecilia Hough**
Lead, Impact Management
B Lab Singapore

**Pann Lim**
Co-Founder, Creative Director
Kinetic Singapore

**Jue Lu**
Chief Experience Officer
Singapore Tourism Board

**Ong Ker Shing**
Co-Founder, Director
Lekker Architects

**Chek Liang Teo**
Research Analyst
National Volunteer & Philanthropy Centre

**Jeremy Walker**
Co-Founder, Director
Craig Walker

**Dr. Wong Sweet Fun**
Senior Consultant, Geriatric Medicine;
Deputy Chairman, Medical Board;
Clinical Director, Population Health &
Community Transformation;
Khoo Teck Puat Hospital & Yishun Health

## Focus Group Discussions Participants

**Chee Su Eing**
President (AT TIME OF PARTICIPATION)
Design Business Chamber Singapore

**Immanuel Goh**
GovTech UX Designer
Design Practice

**Srilalitha Gopalakrishnan**
President (AT TIME OF PARTICIPATION)
Singapore Institute of Landscape Architects

**Gabriel Lim**
Director (AT TIME OF PARTICIPATION)
Corporate Communications & Design
Singapore Furniture Industries Council

**Emily Lim**
2nd Vice President
Singapore Institute of Landscape Architects

**Ho Ai Ling**
Member
Singapore Institute of Architects

**Gavin Liow**
Deputy Director
Retail and Design
Enterprise Singapore

**Djoko Prihanto**
Member
Singapore Institute of Planners

**Celia Sia**
Senior Vice President
Digital Economy and Hub Services
Economic Development Board

**Yvonne Tan**
1st Vice President
Singapore Institute of Landscape Architects

**Yongfeng Ye**
Director
Public Service Transformation
Public Service Division

**Clara Dyeo**
Director, Policy & Planning
National Arts Council

## Case Studies Respondents

**Peter Chew**
Chief Operating Officer
Eight Inc.

**Karen Hay Kai Xin**
Deputy Director, Innovation
Changi General Hospital

**Tamir Niv**
Co-founder
GINLEE

**Jaxe Pan**
Associate
FARM

**Claudia Poh**
Founder
Werable

**Yanjie Shi**
Director
Vouse

**Jackson Tan**
Founder
ART-ZOO

**Dr. Lee Shu Woan**
Senior Associate
Changi General Hospital

**Brian Yang**
Partner
Bjarke Ingels Group

**Hwee Li Yeo**
Assistant Manager, Innovation
Changi General Hospital



# Notes

1 “Design Economy: The Environmental and Social Value of Design”, UK Design Council, 2025.

2 Interview with Peter Chew (Eight Inc.) by Desire Lines.

3 “Eight Inc. was proud to partner with SaladStop!...”, Eight Inc., 2024.

4 “Net-zero”, SaladStop!

5 GDR is a funding and mentorship support initiative that supports both design and non-design companies in building a practice of design research that strengthens business sustainability and drives impactful innovation through design.

6 Interview with Jackson Tan (ART-ZOO) by Desire Lines.

7 “Singapore Zoo celebrates its Golden Jubilee”, Mandai Wildlife Reserve, 2023.

8 “ART-ZOO Splashes of Joy: Macau”, ART-ZOO.

9 “Sky gardening”, Roots and All, 2023.

10 “Singapore’s newest biophilic skyscraper CapitaSpring marks completion with 93% in leasing commitment”, CapitaLand, 2022.

11 “Capitaspring”, ARUP.

12 “CapitaLand Annual Report 2023”, CapitaLand, 2023.

13 “Claudia Poh of Werable is where to make great fashion design democratic,” Folio, 2021.

14 Estimate derived from global market valuations and APAC’s typical 25-30% share of fashion markets.

15 “People with disabilities want a dignified way of dressing and living life”, Her World, 2023.

16 Interview with Tamir Niv (GINLEE) by Desire Lines.

17 A public education initiative by Dsg to help members of the public come together with subject matter experts, public service officers, and practitioners to tackle the issues that matter to them. It is a a classroom without walls to equip anyone and everyone with collaborative design skills to solve real-world social and business challenges.

# Appendix A: Glossary of Key Terms

**B**

→ *B-Corp*: Certified B Corporation, a for-profit company that meets high standards of social and environmental performance, accountability, and transparency as assessed by the nonprofit B Lab. These companies aim to balance profit with purpose, considering the impact of their decisions on all stakeholders, including employees, the community, and the environment.

**C**

→ *Circular Design*: A design approach focusing on sustainable product lifecycles, creating systems that keep materials in use for as long as possible to minimize waste and pollution.

→ *Customer Lifetime Value*: The total net profit a business can expect to earn from a customer over the entire duration of their relationship. This is a metric that helps organisations understand the long-term value of acquiring and retaining customers, guiding strategic investments in customer experience, marketing, and product development. It is commonly measured as *(customer revenue per year) * (duration of relationship with the business) - (total costs of acquiring and serving the customer).*

**D**

→ *Design Activity*: The range of tasks, processes, or projects that involve the application of design thinking, methods, or outputs. This application can come in the form of product design, media design, service design, systems design, environment design, and other creative or strategic design efforts undertaken within or by an organisation.

→ *Design Amplifiers*: Design Amplifiers, as characterised by the Design Impact Framework, are features that enhance the adoption, integration, and effectiveness of design within organisations. In our Framework, the two key Design Amplifiers identified are Design Education (including design training) and Design Management (including design leadership).



→ *Design Education*: Design Education covers both depth and breadth of understanding of design. Education initiatives that either increase the number of people with an understanding of design, or increase design skills, may lead to higher impacts from design use.

→ *Design Impact Framework*: A tool to support Dsg, its partners, and the wider design community in evaluating, articulating and amplifying the impact of design.

→ *Design Ladder Index*: An index developed for this report, to assess design maturity. It accounts for both the number of steps of the ladder in use by organisations (in different departments), and the maturity of those steps.

→ *Design Management*: Design Management within organisations at senior levels can allow for greater advocacy for adopting design, for allocating more money to design and for greater strategic direction of design use.

→ *Design Strategy*: A systematic approach aligning design research, development, and implementation with business goals and user needs to contribute to objectives.

→ *Design Research*: A systematic study of contexts, problems, and opportunities informing design work that users appreciate.

→ *Design Uses*: The ways in which design is typically used within organisations. All the currently-known design disciplines fit within the five categories identified in this report: Systems, Environment, Service, Product & Media Design.

→ *Design Use Value Survey*: A voluntary survey on key points of interest, gathering insights from a large sample of businesses in Singapore that are users of design. It explores the reasons behind and outcomes of design adoption by Singapore-based organisations.

**E**

→ *Economic footprint*: The total contribution of design activities to Singapore's economy, in terms of the gross value-added contribution to GDP, and the employment contribution to the country's workforce. It includes three components:

  → The activity of organisations in the core design industry, in terms of the employment they support and their Gross Value Added (GVA) contribution to GDP;

→ The value added by design practitioners working across other sectors of the economy, for organisations outside the core design industry; and

→ The indirect impact design activity has on the Singaporean economy through designers' spending in local supply chains, driving demand across multiple sectors.

**F**

→ *Futures*: As used in this study, refers to the broad categories of economic and non-economic outcomes identified as National development priorities for Singapore, that are influenced by design, namely Sustainable Futures, Economic Progress, and Caring Futures.

**M**

→ *Mature Design Use*: The maturity of an organisation's design use refers to the degree to which design is embedded in the organisation's image, operations, processes, strategy, and culture. Some indicators of design maturity can include the duration of its design use, the amount of investment in design, presence of senior-level design champions, the breadth of design use, and the frequency of design training. Organisations with mature design treat design as a core part of its business function or strategy, actively measure its performance, and often demonstrate higher impact from design on innovation, customer satisfaction, and market competitiveness.

→ *Methodology Advisory Panel (MAP)*: Four Singapore-based applied research experts who provided strategic advice and technical feedback on the Value of Design research methods.

→ *Mixed Methods*: An approach that integrates or combines rigorous quantitative and qualitative research methods to draw on the strengths of each.

**N**

→ *Net Promoter Score (NPS)*: A metric used to assess customer loyalty and satisfaction. It measures the likelihood of customers recommending a business, product, or service on a scale of 0 to 10, and responses are then categorised into Promoters, Passives, and Detractors. The NPS is calculated by subtracting the percentage of Detractors from the percentage of Promoters. Users of this metric usually have two points of focus to track customer satisfaction: how their NPS compares to that of their competitors, and how their NPS improves over time.

**O**

→ *Organisational Outcomes*: The impacts that an organisation achieves as a result of its design activities and strategies. These can include impacts on business performance, customer satisfaction, energy efficiency, and service accessibility. In the context of design, organisational outcomes may reflect how design has enhanced brand perception, facilitated more immersive user experiences, more creative product innovation, and enabled operational efficiency.

→ *Organisational/Business Design*: Designing an organisation's structure, roles, and systems to support its strategy, goals, and context.

**P**

→ *Process Design*: Design activities to create, integrate, and optimise processes within and for organisations and communities.

**S**

→ *Supply Chain Design*: Strategically structuring a supply chain to manage efficient manufacturing, inventory, and transportation of goods and services.

**T**

→ *Theory of Change*: A tool often used in policy planning and assessment contexts to provide a comprehensive, graphic account of how a desired change can be realised from a particular intervention. Widely recognised in the evaluation of public sector programmes around the world, a ToC is particularly useful for "filling in the missing middle"—outlining the mechanisms and assumptions that connect interventions to broader impacts.

**V**

→ *Value Drivers*: The broad areas, or "outputs", through which design adds value for organisations, namely, Process Improvement, Stakeholder Experience, Product and Service Innovation, and Communications (Marketing and Advocacy).

**W**

→ *Wider Societal Outcomes*: The broader, long-term effects of activities and interventions on society as a whole. These can include improvements in public health, education, environmental health, social cohesion, and overall quality of life. In the context of design, wider societal outcomes may reflect the positive impact of design on communities, inclusion, and sustainable development.



# Appendix B: Suggested Indicators for Measurement

These Suggested Indicators for Measurement have been selected to signpost to a range of relevant credible international and Singaporean indicators in order to prompt initial thinking and stir the imagination. The list is not intended (or desired) to delimit designers' choices; there will be many other impact indicators for each designer or client of design to consider and test for fit with their key objectives and capabilities.

Table 5. Suggested Organisational Outcome indicators for measurement

| ORGANISATIONAL OUTCOME | MOST RELEVANT DESIGN USES | INDICATORS |
|---|---|---|
| **Stronger brand equity** | **Media** | → Engagement: Views, likes, followers.<br>→ Media mentions: Keyword rankings, conversions, reviews.<br>→ Customer survey metrics: Net Promoter Score (NPS), customer feedback and satisfaction scores.<br>→ Retention metrics: Customer return rates, repeat purchase rate, customer lifetime value.<br>→ Brand perception: Brand reputation scores and ranks, brand recognition rate.<br>→ Valuation metrics: Asset value, property value, brand value. |
| **Increased awareness** | **Systems** | → One or more annual executive deliverables, incentives, and accountability structures for social / environmental goals. A survey of worker perception around these goals. (BCorp Purpose & Stakeholder Governance).<br>→ Full tax and lobbying disclosures for transparent systems to support government action toward other goals. (FFB Tax and FFB Lobbying) |
| **Digital adeptness** | **Systems** | → Return on digital investments.<br>→ Digital investment rates (investment in digital infrastructure, software, and/or training as a percentage of total spending).<br>→ Number/rate of technology integrations.<br>→ Growth in online engagements (e.g. customer interactions/ impressions on digital channels).<br>→ Digital literacy metrics of employees (e.g. digital training hours, certifications for digital skills). |
| **Greater accessibility and inclusivity** | **Service, Systems, Product** | → Hiring and onboarding documents that detail wages and benefits; annual improvement in addressing wage gaps. (BCorp Fair Work; UN Living Wage Analysis Tool)<br>→ Annual discussions, surveys, trainings, and principle development around Justice, Equity, Diversity, and Inclusion (JEDI) resulting in annual increases in underrepresented groups in executive and non-executive roles. (BCorp JEDI; Project Include Measuring Progress)<br>→ Company guides on inclusive language and design. (BCorp JEDI; Oxfam Inclusive Language Guide; University of Cambridge Inclusive Design Toolkit; Inclusive Design Research Inclusive Design Guide).<br>→ Utilisation rates for products and services across various user demographics. |

Table 5. Suggested Organisational Outcome indicators for measurement (Cont'd)

| ORGANISATIONAL OUTCOME | MOST RELEVANT DESIGN USES | INDICATORS |
|---|---|---|
| **Cost savings in doing business** | **Environment, Systems** | → Annual cost reductions in product creation and destruction, operation and maintenance, and resource-related bills. (SGFIN).<br>→ Process efficiency metrics (e.g. Process automation rates, cycle time reduction, shorter service/wait times, etc.). |
| **Waste minimisation** | **Environment, Systems** | → Resource efficiency and waste management. (SGFIN).<br>→ Waste policy and documentation around waste production, its route, and destination. (BCorp Environmental Stewardship & Circularity; SCS Standards Certification Standard for Zero Waste Facilities, LEED Certification, BREEAM) |
| **More new technology adoption (including green technology)** | **Systems** | → Annual spending increases in green financing (SGFIN).<br>→ Technology integration rates (e.g. Number of technologies, user adoption rates, etc.).<br>→ Number of tech-driven process changes (i.e. modifications to process).<br>→ Technology integration rates (e.g. Number of technologies, user adoption rates, etc.).<br>→ Number of tech-driven process changes (i.e. modifications to processes or strategies based on technology and data insights). |
| **Product and service improvements** | **Service, Systems, Product** | → Increased revenue.<br>→ Revenue from products serviced by accessible, transparent, and metareflective feedback systems. (FFB Product Concerns).<br>→ Reducing share of products that involve dangerous / polluting substances. (FFB Product Harm).<br>→ Product quality metrics (e.g., defect rate, churn rates, customer review ratings).<br>→ Number of new product and service innovations. |



Table 6. Suggested Wider Societal Outcome indicators for measurement

| WIDER SOCIETAL OUTCOME | DESIGN USE | INDICATORS |
|---|---|---|
| **More sustainable consumption** | **Systems** | → Increasing share of products that protect ecosystems from production impacts and promote natural and community restoration. (FFB Natural Resources).<br>→ Increasing share of products that screen procurement for a sustainable value chain: energy, water, natural resources, harmful emissions, and waste (FFB Procurement). |
| **Digital economy growth** | **Systems** | → Growth in output of digital economy.<br>→ Increased digitalisation across sectors. |
| **Commercial success** | **Systems** | → Increasing asset value and operating profit. |
| **Social cohesion and connectedness** | **Systems** | → Increase in strategic decisions consulting stakeholders. (BCorp Fair Work; AccountAbility Stakeholder Engagement Standard; Doughnut Design for Business) |
| **Improvements in public services** | **Environment, Systems** | → Increases in local air and water quality and human, animal, and plant health and well-being. (SGFIN)<br>→ Enhanced aesthetics. (SGFIN)<br>→ Health outcomes.<br>→ Educational outcomes.<br>→ Public transport improvements. |
| **Community capacity building** | **Systems** | → Increasing networks to collaborate with and mentor others in the same industry or value chain to advance other goals. (FFB Financial Assets).<br>→ Increasing products with due diligence and advocacy in procurement. (FFB Financial Assets)<br>→ Research spending strategies incentivizing social and environmental solutions. (BCorp Government Affairs and Collective Action) |
| **Greenhouse gas reduction** | **Systems** | → Increasing share of renewable energy use, decreasing greenhouse gas emissions, decreasing overall energy use. (SGFIN)<br>→ 1.5C master planning incorporating traditional ecological knowledge, climate scenario analysis, third-party emissions audits, climate advocacy, and executive incentives for reaching climate goals. (BCorp Climate Action; Greenhouse Gas Protocol Corporate Standard; Greenhouse Gas Protocol Corporate Value Chain Standard) |
| **Circular models of production** | **Product, Systems** | → Increasing average product recoverability rate, user access to recovery facilities, and safety of recovery process. (FFB Products Repurposed)<br>→ Systems analyses of asset value, operating revenue, and salvage value from raw material to processing, manufacture, distribution, and use. (BCorp Environmental Stewardship & Circularity; Cradle to Cradle Certified Product Standard; World Benchmarking Alliance Nature Benchmark) |

DesignSingapore Council (Dsg) is Singapore's national agency for design, established in 2003 to champion the use of design to grow business, spur innovation, and improve lives. As a subsidiary of the Singapore Economic Development Board, Dsg plays a key role in developing the creative culture and ecosystem in Singapore to fully integrate design and creativity into everyday life.