



OMOTAYO BILEWU

EXPLORING THE POTENTIAL OF IMPACT INVESTING TO
CATALYSE TRANSITIONING TO A CIRCULAR ECONOMY

SCHOOL OF MANAGEMENT

PhD THESIS
Academic Year: 2016 - 2022

Supervisors:
Professor Joe Nellis
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ABSTRACT

There is an overwhelming need to address global social and environmental challenges, alongside an increasing recognition that ‘good business’ is intertwined with ‘doing good’. The emergence of impact investing as an investment vehicle to ‘intentionally’ tackle societal challenges, such as those captured within the United Nations Sustainable Development Goals, alongside generating financial returns is proving attractive to investors and asset managers.

This doctoral thesis seeks to provide insights in response to calls for rigorous academic studies towards building institutional legitimacy that should increase market confidence and capital allocation. It starts by investigating the connections between impact investing and the circular economy - two concepts that have generated increased interest in parallel over the last decade. The review reveals that the attributes of impact investing suggest it could play a pivotal role in accelerating the transition to a circular economy.

Using a social exchange theory lens, the evolving exchange modalities between investors, intermediaries, and investee companies in the impact investing ecosystem is examined. The results show that a nexus of activities influenced by formal and informal norms govern behaviours and expectations. These norms are crucial in the relational exchange between impact investors, intermediaries and investee companies. A conceptual framework emerges from the study to guide impact investing practice.

Furthermore, a single embedded case study is conducted to explore how the exchange partners engage with behaviour change interventions that substitute trust with a mutual opportunity to incorporate sustainable development initiatives in the delivery of an affordable housing development. The findings indicate that mutual goals increase collaboration and cooperation, but are curtailed by the outcome of cost benefit analysis which impinges on trust. Nevertheless, there is scope for impact investors to encourage the uptake of circular economy principles through education and awareness with learning reinforced in project specific facilitated workshop settings.

Keywords:

Impact investing, institutional legitimacy, sustainable development goals, circular economy, business-to-business, social exchange theory, impact investing practice

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“Besides, who would patch old clothing with new cloth? For the new patch would shrink and rip away from the old cloth, leaving an even bigger tear than before. And no one puts new wine into old wineskins. For the wine would burst the wineskins, and the wine and the skins would both be lost. New wine calls for new wineskins.” (Mark 2:21-22)¹

Parables illustrate moral attitudes and teach moral lessons. The story recounted above stimulated my thinking and deepened my engagement with the nascent fields of impact investing and circular economy. For me generating new insights is only meaningful when they contribute solutions to solve societal challenges.

My learning journey has been eased by those who have kindly invested their time in me - the long list deserves a dedicated section. However, most of the research participants have requested anonymity. I would like to formally record my gratitude to you all for contributing to my learning experience.

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¹ *Holy Bible*, New Living Translation, copyright © 1996, 2004, 2015 by Tyndale House Foundation.

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENTS.....	iii
LIST OF FIGURES.....	ix
LIST OF APPENDICES.....	x
LIST OF TABLES	xi
LIST OF ABBREVIATIONS	xii
CHAPTER ONE	13
1 INTRODUCTION.....	13
1.1 Background and Drivers	15
1.1.1 Tackling Global Social, Environmental and Economic Challenges ..	15
1.1.2 Impact Investing Practice	18
1.1.3 Temporal Business-to-Business Relationships	20
1.2 Aims and Objectives	22
1.2.1 Study Aims	22
1.2.2 Study Objectives	22
1.3 Thesis Structure.....	25
REFERENCES.....	27
CHAPTER TWO.....	37
2 IMPACT INVESTING AND THE CIRCULAR ECONOMY: A LITERATURE	
REVIEW	37
ABSTRACT	39
2.1 Introduction	41
2.2 Methodology and data	43
2.2.1 Data criteria and collection	43
2.3 Results.....	49
2.3.1 Impact Investing: Definition and Gaining Momentum	49
2.3.2 Definitional and Terminological confusion	51
2.3.3 Market Growth.....	53
2.3.4 Impact Investing and Venture Capital.....	55
2.4 Circular Economy.....	56
2.4.1 Drivers and Key Concepts.....	56
2.4.2 Circular Business Models.....	59
2.4.3 Barriers to circular economy transition	61
2.4.4 Theoretical models used in the identified literature	65
2.4.5 Post 2018 Study – Field Evolution	68
2.5 Discussion	70
2.5.1 Impact Investing and Circular Economy.....	70
2.5.2 A role for Social Exchange Theory	72
2.5.3 Embedding Impact Investing - Research Gaps	76
2.6 Conclusions	77

REFERENCES.....	81
Appendix A	99
CHAPTER THREE	105
3 WHAT'S IN IT FOR ME? A SOCIAL EXCHANGE THEORY PERSPECTIVE ON IMPACT INVESTING PRACTICE	105
ABSTRACT	107
3.1 Introduction	109
3.2 Social Exchange Theory	113
3.2.1 SET and the potential for impact investment.....	115
3.2.2 SET in Business Settings: a review.....	118
3.2.3 The Lambe, et.al., SET framework.....	122
3.2.4 Social Exchange Theory in Practice.....	126
3.3 The Impact Investing Ecosystem	127
3.3.1 Key Relationships	128
3.3.2 Exchange Structures	131
3.3.3 Study Aims	132
3.4 Methodology and Data.....	133
3.4.1 Knowledge Acquisition	133
3.4.2 Context.....	137
3.4.3 Sampling	138
3.4.4 Ethical Considerations.....	142
3.4.5 Data Collection	143
3.4.6 Data Analysis	145
3.5 Findings	150
3.5.1 Mission Alignment	153
3.5.2 Due Diligence	157
3.5.3 Active Engagement	160
3.5.4 Key Learnings	169
3.6 Discussion	170
3.6.1 Emergent Relational Dynamics in Impact Investing Practice	174
3.6.2 SET's Foundational Premises and Impact Investing Practice	176
3.6.3 SET's Operational Variables in Impact Investing Practice.....	176
3.6.4 Convergence of Principles	180
3.6.5 Impact Investing Practice Model	181
3.6.6 Policy and Practice Implications.....	187
3.6.7 Limitations and Areas of further research.....	190
3.7 Conclusions	192
REFERENCES.....	195
Appendix B	219
CHAPTER FOUR	223

4 TOWARDS A CIRCULAR ECONOMY: SUBSTITUTING TRUST WITH MUTUAL OPPORTUNITY IN EXPEDIENT BUSINESS-TO-BUSINESS RELATIONSHIPS (A CASE STUDY)	223
ABSTRACT	225
4.1 Introduction	227
4.2 Background.....	230
4.2.1 Social Exchange Theory and Temporal Business-to-Business Relationships.....	230
4.2.2 Trust in Business-to-Business Relationships	232
4.2.3 United Nations Sustainable Development Goals.....	234
4.2.4 Impact investing in Real Estate	235
4.2.5 Circular Economy in the Building Sector	238
4.2.6 Study Aims	242
4.3 Research Design	243
4.3.1 Research Philosophy	243
4.3.2 Research Paradigm.....	244
4.3.3 Research Methodology	246
4.3.4 Research Strategy	248
4.3.5 Research Methods	249
4.3.6 Case Description.....	259
4.3.7 Ethical Considerations.....	264
4.3.8 Data Collection	265
4.3.9 Data Analysis	271
4.3.10 Data Validation	272
4.4 Findings	273
4.4.1 Pre-commencement Stage: Mini-Ethnographic Workshop.....	273
4.4.2 Post-Contract Stage: Design Development and Construction.....	276
4.4.3 Post-Completion Stage: Feedback/Close-out interviews.....	279
4.4.4 Key Learnings	286
4.5 Discussion	291
4.5.1 Mutual opportunity as a substitute for trust.....	291
4.5.2 Adoption of circular economy principles	296
4.5.3 Insights for Impact Investors	297
4.5.4 Limitations and Areas of further research.....	300
4.6 Conclusions	301
REFERENCES.....	305
Appendix C	331
CHAPTER FIVE	369
5 CONCLUSION	369
5.1 Introduction	371
5.2 Study Framework and Methodology	371
5.2.1 Study Aims	373

5.2.2 Study Objectives	375
5.2.3 Crafting Research Questions	377
5.2.4 Significance of the Research Methods	377
5.2.5 Reflections on the Research Methods.....	378
5.3 Summary of Key Research Findings.....	381
5.3.1 Potential for integration and transformative impact	381
5.3.2 Building blocks for a resilient ecosystem.....	384
5.3.3 Harnessing the power of trust substitutes	388
5.4 Knowledge Contribution.....	391
5.4.1 Financing the circular economy.....	391
5.4.2 Impact Investing Ecosystem: Motivation, Attitudes and Behaviours	393
5.4.3 Emerging Relational Exchange Modalities in Impact Investing	395
5.4.4 Trust Dynamics in temporal B2B Exchange	397
5.5 Key Research Outcomes	400
5.5.1 Bridging the funding gap	401
5.5.2 Paving the way for ‘doing good’	402
5.5.3 Building trust and breaking barriers.....	403
5.5.4 Synopsis.....	404
5.6 Ideas for Future Research	405
5.7 Limitations.....	408
5.7.1 Navigating uncharted waters.....	408
5.7.2 Unravelling Exchange Modalities	410
5.7.3 Behaviour Change Interventions	412
5.8 Reflections	414
5.9 Final Thoughts	416
REFERENCES.....	419

LIST OF FIGURES

Figure 2-1: List of Relevant Journals in the literature review and number of articles per journal.....	49
Figure 3-1: Annual citations of Lambe et al., 2001	119
Figure 3-2: Top 10 Journal citations of Lambe et al., 2001	120
Figure 3-3: Leading Academic Journals citations of Lambe et al., 2001	121
Figure 3-4: SET's Foundational Premises & Operational Variables	123
Figure 3-5: Impact Investing Ecosystem	128
Figure 3-6: Participants' Primary Role Distribution	142
Figure 3-7: Coding Protocol.....	147
Figure 3-8: Interplay of SET's operating variables, Macneil's common contract norms and emergent impact investing norms	177
Figure 3-9: Proposed Model derived from evidence from interviewees	185
Figure 4-1: Dwyer et. al.'s Five Stage Relational Cycle Model	233
Figure 4-2: United Nations Sustainable Development Goals	235
Figure 4-3: Contractual relationships within project delivery team.....	294

LIST OF APPENDICES

Appendix A-1 Pilot Journal search	101
Appendix A-2 Combined database search results.....	103
Appendix B-1 Semi-Structured Interview Guide	221
Appendix B-2 Data Analysis and Coding Strategy Design	222
Appendix C-1 Workshop Briefing Document	333
Appendix C-2 Workshop Agenda	343
Appendix C-3 Extended Abstract	346
Appendix C-4 Circular Economy Workshop Report.....	351
Appendix C-5 Business Case – Circular Economy Value Engineering	363

LIST OF TABLES

Table 1-1: Summary of Objectives, Methods, Key Findings and Contribution..	24
Table 2-1: Search Strings/Terms for the Systematic Literature Review	45
Table 2-2: Literature Research Questions.....	46
Table 2-3: Number of articles identified for review after deduplication	47
Table 2-4: Some circular economy definitions.....	58
Table 2-5: Theoretical understanding of concepts in literature analysed.....	65
Table 3-1: Leading Academic Journal citations of Lambe et al., 2001 by discipline	121
Table 3-2: Philosophical dimensions and research paradigms.	134
Table 3-3: Research Participants Attributes	140
Table 3-4: Definition of SET Operational Variables	146
Table 3-5: Macneil's Common Contract Norms.....	149
Table 4-1: Common Biases and Heuristics influencing H&S in construction..	254
Table 4-2: Facilitated Workshop Participants	266
Table 4-3: Workshop Feedback Summary	274
Table 5-1: Summary of Objectives, Research Questions and Methods	376

LIST OF ABBREVIATIONS

B2B	Business-to-Business
EMF	Ellen MacArthur Foundation
EU	European Union
FCA	Financial Conduct Authority
GIIN	Global Impact Investing Network
IFC	International Finance Corporation
PRI	Principles for Responsible Investment
SET	Social Exchange Theory
TCA	Transaction Cost Analysis
UNEP FI	United Nations Environmental Programme Finance Initiative
UNSDGs	United Nations Sustainable Development Goals
WEF	World Economic Forum

CHAPTER ONE

1 INTRODUCTION

1.1 Background and Drivers

1.1.1 Tackling Global Social, Environmental and Economic Challenges

The World Economic Forum (WEF) Report '*From the Margins to the Mainstream*' published in September 2013 was effectively a clarion call for the investor community to effectuate the potential of impact investing² to support actionable solutions to global social, environmental and economic challenges. Whilst acknowledging the need for definitional alignment, as the sector evolves, the WEF report clarified that the key distinction with other traditional investing practice is the intentionality "...to create positive social or environmental value on the onset..." (Drexler *et al.*, 2013).

The WEF report identified a clear role for impact investment funds, impact enterprises, philanthropists and foundations, governments, and a wide range of intermediaries. Surprisingly, there was no recognition or mention in the report of the role academic institutions could play in building legitimacy and credibility in a nascent field through rigorous peer-driven studies (Clarkin and Cangioni, 2016; Daggers and Nicholls, 2016; Höchstädter and Scheck, 2015; Lehner *et al.*, 2019).

The Ellen MacArthur Foundation (EMF) launched "*Towards the circular economy Volume 1: an economic and business rationale for an accelerated transition*" in January 2012, making the business case for investments in circular businesses to address scarcity, and promote sustainable production and consumption of natural resource by 'mainstreaming' the circular economy. The report, published by EMF in 2013 was followed by "*Towards the circular economy Volume 2: opportunities for the consumer goods sector*" (Ellen MacArthur Foundation, 2013).

The first two volumes on the circular economy published by EMF culminated in a collaborative publication of a third volume between EMF, WEF and McKinsey &

² Impact investments are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return. (Source: <https://thegiin.org/impact-investing/need-to-know/#what-is-impact-investing>)

Company in 2014 *“Towards the circular economy Vol 3: Accelerating the scale-up across global supply chains”* (WEF et al., 2014) that has promoted the circular economy (Blomsma and Brennan, 2017). The collaborative publication explicitly recognises the important role of academics, within a multi-stakeholder community, in the provision of robust evidence and education through academic research and teaching (WEF et al., 2014).

Transitioning to a circular economy is considered by many proponents as the solution to 21st Century challenges - societal, economic and environmental - arising from over exploitation of the world's natural resources. However, businesses must change their operational mode and will subsequently face financial barriers in the introduction of the enabling circular innovations (Achterberg et al., 2016; Ritzén and Sandström, 2017)

The Ellen MacArthur Foundation report (Ellen MacArthur Foundation and Systemiq, 2017), *“Achieving Growth Within”*, identifies circular economy investment opportunities worth €320 billion in the automobile industry, food system and built environment through to 2025 within the European Union. Access to private sector investment is identified in the report as a barrier to unlocking these opportunities, hampering an effective transition towards a circular economy and presenting a risk to realising its benefits.

Companies and investors require an economic return on investment to stimulate interest in financing the transition to a circular economy (Ghisellini et al., 2016). However, the risk profile, depreciation periods, the cost-benefit balance of investments in products and services developed using circular economy business models and principles are different from products developed using traditional economic principles (Government of Netherlands, 2016).

Papers on the implications of circular business models for the financial sector concluded that these include the requirement for multiple forms of capital; emphasis on cash flow timings; pivotal role of contracts; creation of value in second hand market; increased product residual value; increase in supply chain

finance to unlock financial resources; and increased finance requirement arising from optimisation of cash flow (ING Economics Department, 2015).

The universally recognised global effort to tackle pressing global social and environmental problems, through innovative ideas and unorthodox approaches, is captured in the set of 17 United Nations Sustainable Development Goals (UNSDGs) (Eisenhardt *et al.*, 2016; George *et al.*, 2016; Jarzabkowski *et al.*, 2019).

Academic literature on the implementation of the UNSDGs detailed through 169 targets, adopted by 193 United Nations member states in September 2015, identify a role for private funding and private capital (Dolumbia and Lauridsen, 2019; Niculescu, 2017). In response to the financing challenge, impact investing is emerging as a platform for investors to generate and deploy capital through debt and equity instruments, and contribute to the achievement of the UNSDGs by 2030 (Carroux *et al.*, 2022; Phillips and Johnson, 2021; Rizzello and Kabli, 2020; Weber, 2019).

The upward trajectory is illustrated by a study undertaken by the Global Impact Investing Network (GIIN) in 2022 that estimates the current impact investing market stands at \$1.164 trillion in assets under management (AUM) (Hand *et al.*, 2022) – breaking through the trillion dollar mark for the first time. The estimates are based on the strict GIIN definition of impact – intentionality – and is approximately 50% of the 2020 estimates of \$2.3 trillion reported by International Finance Corporation (IFC) that is equivalent to approximately 2% of global AUM (Volk, 2021). This indicates there remains a huge capacity for investors to allocate funds to contribute towards achievement of the UNSDGs by 2030 (Islam, 2022).

The potential to adopt circular economy principles and business models coupled with disruptive new technologies presents an opportunity to balance economic growth with sustainability (Ellen MacArthur Foundation, 2016). The transition to a circular economy requires an exploration of how private investors could deploy capital. The characteristics of impact investing indicate it could be an appropriate

vehicle. The potential prompted the systematic literature review described in Chapter 2 of this thesis.

1.1.2 Impact Investing Practice

Although there is growing academic interest in the impact investing market (Agrawal and Hockerts, 2019; Bandini *et al.*, 2022; Bengo *et al.*, 2021; Busch *et al.*, 2021; Chen and Harrison, 2020; Hockerts *et al.*, 2022; Krombholz *et al.*, 2022; Lehner *et al.*, 2019; Tekula and Andersen, 2019) the landscape is remains largely dominated by practitioners (Agrawal and Hockerts, 2021). A rigorous exploration of the field (Clarkin and Cangioni, 2016; Daggers and Nicholls, 2016; Drexler *et al.*, 2013; Jackson, 2013) is essential to build institutional legitimacy (Hockerts *et al.*, 2022; Lehner *et al.*, 2019).

With increased regulatory interest and calls for greater transparency, evaluation, and measurement (Bandini *et al.*, 2022; Bengo *et al.*, 2021; Block *et al.*, 2021; Busch *et al.*, 2021; Geczy *et al.*, 2021), a deeper understanding of the actual practice of impact investing is critical. A study of impact investor motivation, attitudes and behaviours will provide valuable insights to the impact investing landscape (Carè and Wendt, 2018) and help create a theoretical framework, drawing on actual experience from the perspective of both impact investor and investee companies (Carè and Wendt, 2018; Daggers and Nicholls, 2016; Höchstädter and Scheck, 2015).

Social exchange theory (SET) involves exchange between parties who possess either tangible and/or intangible resources that are valued by others (Molm, 2014). SET appears to reflect the social and economic reciprocity obligations that underpin impact investing and could provide a meaningful theoretical construct from which to examine the relational exchange modalities between the impact investor and investee companies seeking to deliver measurable social or environmental impact alongside optimal financial returns. It is a paradigm that captures the essence of the transactional and relationship arrangement in business-to-business settings (Chen and Harrison, 2020).

SET has its origins in psychology, sociology and economics (Chen and Choi, 2005; Mitchell et al., 2012; Stafford, 2008). It is a conceptual paradigm involving interactions that generate interdependent obligations contingent on the actions of another party (Cropanzano and Mitchell, 2005). The theory explains human relationships and interactions from the perspective of social behaviour driven by results; using cost-benefit analysis and evaluating alternatives in an exchange process (Cropanzano *et al.*, 2017).

In effect, it argues that individuals make constant calculations about relationships and look to maximise their own benefits. The conventional idea, built on rationality, is that individuals are inherently self-interested and determine value by subtracting costs from benefits. Rationality suggests that decisions made by individuals are usually based on maximising utility for the greatest possible number of beneficiaries: philosophical thinking captured within utilitarianism (Renouard, 2011; Zafirovski, 2005).

Deemed to be an important part of pro-sociality governed by reciprocal norms (Diekmann *et al.*, 2014; Simpson *et al.*, 2018), SET is seen as successive interdependent interactions that create obligations between exchange partners. The relational benefits arising from the interactions deliver both social and economic outcomes (Cropanzano and Mitchell, 2005). The interdisciplinary nature and application of SET suggest that it is a broad umbrella theory that encapsulates several conceptual models with shared characteristics (Cropanzano *et al.*, 2017).

In business-to-business settings, SET is often employed to describe the bilateral, interdependent and rewarding transactional process between organisations. Despite its wide application it remains a prevalent mechanism amongst scholars used to explain the theoretical foundation underpinning exchange and relationships (Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001).

From the social theory perspective, exchange is viewed as a social behaviour leading to both economic and social outcomes. Although individuals expect rewards, material value cannot be placed on valuable social rewards such as

social approval and emotional satisfaction (Lambe *et al.*, 2001). Nevertheless, governance of business-to-business relationships requires the use of SET in conjunction with transaction cost analysis (Lambe *et al.*, 2001).

The quest to understand how the norms that govern business and social outcomes of exchange are affected by formal contracts, interactions with third parties, and potential opportunism is the primary driver for the study captured in Chapter 3 of this thesis.

1.1.3 Temporal Business-to-Business Relationships

The role of trust in business-to-business relationships has been extensively studied (Blois, 1999; Gil-Saura *et al.*, 2009; Khalid and Ali, 2017; Scheer, 2022) and could be defined as the willingness of exchange partners to be vulnerable to each other, predicated on positive expectations of each other's intentions and behaviours (Akrouf and Diallo, 2017; Coyle-Shapiro and Diehl, 2018; Zheng *et al.*, 2019). SET suggests that these positive expectations are derived from a cost-benefit analysis of the proposed relationship compared to alternatives based on self-interest (Cropanzano *et al.*, 2017; Scheer, 2022).

Studies illustrate that trust develops through repeated positive and rewarding interactions over a period of time to create mutual dependence and satisfaction (Cropanzano *et al.*, 2017; Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001; Mitchell *et al.*, 2012). Consequently, early stage or short-term business-to-business relationships tend to rely on transaction driven contractual documents to guide and control behaviours, with provisions for strict monitoring and sanctions for breaches (Mouzas *et al.*, 2007). Lambe *et al.*, (2000) posit that substitutes are required for the crucial role of trust in such circumstances.

Large-scale and complex dilemmas, such as pressing global social and environmental problems need to be tackled through innovative ideas and unorthodox approaches (Eisenhardt *et al.*, 2016; Jarzabkowski *et al.*, 2019). One of such challenges is an awareness of the environmental pressures arising from the traditional economic model that converts "... *natural resources into waste, via production*" (Murray *et al.*, 2017).

The emergence of the circular economy to prolong resource productivity (Blomsma and Brennan, 2017) offers the opportunity to tackle the challenges arising from the unabated dissipative use of the world's natural resources (Ellen MacArthur Foundation and Systemiq, 2017; Geissdoerfer *et al.*, 2017; Ghisellini *et al.*, 2016, 2018; de Jesus and Mendonça, 2018; Kirchherr *et al.*, 2017). This presents potential for mutual business opportunities that could trigger collaboration and interdependence between exchange partners in business-to-business relationships (Lambe *et al.*, 2000).

However, the innovative practices espoused by circular economy business model literature require sustainable financing structures (Dewick *et al.*, 2020; Schröder and Raes, 2021). High transactional costs could introduce entry barriers that stifle innovation (Lacy *et al.*, 2014; Lacy and Rutqvist, 2015).

The provision of affordable housing offers impact investors the opportunity to contribute towards the achievement of a large proportion of the UNSDGs (Schramade, 2017). However, the prevalent business-to-business relationship in the construction industry is one where exchange partners come together within 'one-off' integrated teams based on predetermined contribution to deliver construction projects (Jiang *et al.*, 2010, 2011; Laan *et al.*, 2011; Purchase and Olaru, 2004). Exchange partners within such low trust and high interdependence relationships tend to rely on contractual documentation (Ashnai *et al.*, 2016; Mouzas *et al.*, 2007).

An exploration of how exchange partners in a single embedded case study engage with proposed substitutes for trust in a business-to-business relationship to promote trust-like behaviours, is the key driver for the paper in Chapter 4.

1.2 Aims and Objectives

1.2.1 Study Aims

This thesis broadly explores the connections between the nascent field of impact investing and the idea of the circular economy. It specifically investigates the relational dynamics between key initiating actors in the impact investing ecosystem and evaluates contextualised behavioural change interventions targeting stakeholders involved in the delivery of an affordable housing development in the United Kingdom. As a direct consequence, it provides insights into impact investing practice for practitioners, policy makers and regulatory bodies.

1.2.2 Study Objectives

The desire to contribute solutions to addressing large-scale and complex dilemmas, such as pressing global social and environmental problems, is at the heart of this thesis. In so doing, it focuses on the role impact investing could play in financing the achievement of the set of 17 United Nations Sustainable Development Goals (UNSDGs) adopted by 193 United Nations member states in September 2015.

This thesis pursues three overlapping research objectives and a fourth objective that synthesises the main findings of the three papers. The first objective guides the systematic literature review. The second and third objectives derive from the literature review and guide further literature review that underpin the phenomena being studied. These objectives contribute to the research aim and are each explored in individual chapters as part of this thesis:

- Objective 1: To determine the state of the art in terms of academic literature to unearth conceptual similarities and differences between the theoretical models that underpin impact investing and the circular economy.
- Objective 2: To examine the evolving exchange modalities between investors, intermediaries, and investee companies in the impact investing ecosystem using a social exchange theory lens.

- Objective 3: To explore how exchange partners engage with substitutes for trust in temporal business-to-business relationships to promote trust-like behaviours.
- Objective 4: To synthesize research findings and propose recommendations thereby offering valuable insights to key actors in the impact investing ecosystem.

A summary of the study objectives, methods, number of participants, key findings and key contributions are set out in Table 1-1.

Table 1-1: Summary of Objectives, Methods, Key Findings and Contribution

Objectives		Method	Number of Participants	Key Findings	Key Contribution
1	To determine the state of the art in terms of academic literature to unearth conceptual similarities and differences between theoretical models that underpin impact investing and circular economy.	Systematic Literature Review	N/A	Concepts share aim to tackle social and environmental challenges captured within UNSDGs while generating financial returns.	Financing the transition towards a circular economy requires changes to a financial system based on a linear approach. Understanding key actors' motivations, attitudes, and behaviours in impact investing closes gaps in theory and empirical studies.
2	To examine evolving exchange modalities between key initiating actors in the impact investing ecosystem using social exchange theory lens	Semi-structured interviews	33	Key initiating actors in the impact investing ecosystem that participated in the study are adopting practices to increase discipline, and bring clarity, transparency and accountability to a relatively nascent field.	Codification of impact investing practice could play a critical role in building legitimacy and significantly increase capital allocation.
3	To explore how exchange partners engage with substitutes for trust in temporal B2B relationships to promote trust-like behaviours	Ethnographic Action Research Facilitated Workshop Case Study Semi-structured interviews	22	Situational factors have a considerable influence on the effectiveness of substituting trust with mutual opportunity in expedient B2B relationships using behaviour change interventions.	Cultural resistance to change in the construction industry can be tackled through education and awareness with trust building and learning reinforced in facilitated workshop settings.
4	To synthesize research findings and propose recommendations thereby offering valuable insights to key actors in the impact investing ecosystem	Reflection	N/A	Study reveals patterns and pinpoints impact investing practice and policy approaches. It offers insights into successful implementation strategies, and uncovers areas where research findings are inconsistent or inconclusive.	Recommendations connect academic research, practice and policy implementation, facilitating translation of research insights into impact investing practice and actionable policies.

1.3 Thesis Structure

This doctoral thesis is presented in a 'paper format'. Chapters 2, 3 and 4 are written as journal articles and Chapter 5 presents an overall conclusion and contribution to knowledge. A brief introduction to each chapter is provided below:

Chapter 2 – This paper investigates the connections between impact investing and the circular economy. A systematic review identifies budding academic interest in impact investing and an expanding body of literature exploring circular economy. The review reveals that financing the transition towards a circular economy requires changes to the financial system. The vast liquidity available to ethically driven private investors and the attributes of impact investing suggest it could play a pivotal role in accelerating this transition.

Chapter 3 – Using a social exchange theory lens, the paper examines the evolving exchange modalities between investors, intermediaries, and investee companies in the impact investing ecosystem. Semi-structured interviews were conducted with practitioners to unearth the sometimes complex process and gather subjective deeply rooted perceptions. The results show that a nexus of activities influenced by formal and informal norms govern behaviours and expectations. These norms are crucial in the relational exchange between impact investors, intermediaries and investee companies.

Chapter 4 – This paper examines how substitutes for trust could promote trust-like behaviours similar to long-term B2B relationships. A single qualitative case study is conducted to explore how the exchange partners engage with behaviour change interventions that substitute trust with a mutual opportunity to incorporate sustainable development initiatives in the delivery of an affordable housing development. The findings indicate that mutual goals increase collaboration and cooperation, but are curtailed by the outcome of cost benefit analysis which impinges on trust.

Chapter 5 – Presents a summary of the findings and outlines the contribution to knowledge. It sets out an agenda for future research and identifies limitations of the present work and concludes with a brief reflection on the doctoral journey.

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CHAPTER TWO

2 IMPACT INVESTING AND THE CIRCULAR ECONOMY: A LITERATURE REVIEW

ABSTRACT

The emergence of impact investing as an investment vehicle to address social and environmental challenges of the twenty-first century on a global scale, as well as generating financial returns is proving attractive to investors and asset managers. In tandem, business leaders are increasingly recognizing the potential benefits of adopting circular economy business models to tackle environmental and social challenges arising from over exploitation of natural resources. The business rationale is underpinned by the need to remain profitable and build resilience. This paper investigates the connections between these two concepts. A systematic review identifies budding academic interest in impact investing and an expanding body of literature exploring circular economy. The review reveals that financing the transition towards a circular economy requires changes to the financial system. The attributes of impact investing suggest it could play a pivotal role in accelerating this transition. Nonetheless, the business-to-business exchange to realise the potential benefits of a circular economy and deliver measurable social and/or environmental outcomes alongside financial returns needs to be captured in a paradigm that governs the behaviour and expectations of impact investors. This paper further advocates that social exchange theory can provide a meaningful theoretical construct from which to examine the relational exchange modalities between the impact investor and investee companies

2.1 Introduction

Impact investing is progressively recognised as a vehicle to ethically deploy capital that will deliver social and environmental benefits (Arena *et al.*, 2018; Daggers, 2022; Höchstädter and Scheck, 2015; Holtslag *et al.*, 2021). It is buoyed by an emerging Millennial generation driven and growth in ethical consumerism and sustainability (Andrea Valente and David Atkinson, 2019; Bucic *et al.*, 2012; Chatzopoulou and de Kiewiet, 2021; Hays and McCabe, 2021; Kim and Austin, 2020; The Economist Intelligence Unit, 2016). Despite the crecscive attention, capital flow into the field has been curtailed by the apparent gap in the understanding of and lack of consensus in impact investing practice. This is compounded by the limited academic research in impact investing that could establish credibility (Han and Shah, 2020; Lehner *et al.*, 2019).

The World Economic Forum Report (Drexler *et al.*, 2013) *“From the Margins to the Mainstream: Assessment of the Impact Investor Sector and opportunities to engage Mainstream Investors”* provided the first significant global evaluation of the impact investing field and identified some constraints to its maturity. These included definitional confusion arising from attempts to distinguish the field from traditional investment, infancy of the ecosystem, size of available deals, and adequacy of measurement tools. The report also sets out key recommendations to advance the impact investing field through resolute determination and coordinated collective action.

Although academics and practitioners have steadily built on the World Economic Forum report in the supervening period, many of its key recommendations remain largely unexplored. This has hampered the mainstreaming journey (Carè and Wendt, 2018; Ormiston *et al.*, 2015).

In parallel, an increasing global awareness of the pressures placed on natural resources by the prevalent linear economic model - conversion of “... *natural resources into waste, via production*” (Murray *et al.*, 2017) - presents challenges

for world and business leaders. Efficient resource utilisation is taking centre stage and the combined power of disruptive technologies and investment strategies offer competitive business advantage (Hennemann Hilario da Silva and Sehnem, 2022; Lacy and Rutqvist, 2015; Rosa *et al.*, 2020).

Strong academic interest in the circular economy field is evidenced by the exponential growth in the number of publications on the subject over the last 15 years (Alnajem *et al.*, 2021; Geissdoerfer *et al.*, 2017; Korhonen, Nuur, *et al.*, 2018). Non-academic practitioner studies, such as Lacy *et al.* (2014) and McKinsey & Company (2016), have long indicated that the adoption of circular economy principles provides an alternative balanced, inclusive and broad-based economic growth model.

The Ellen MacArthur Foundation report (Ellen MacArthur Foundation and Systemiq, 2017), *“Achieving Growth Within”* posited that the transition to a circular economy has been stymied. A lack of private sector investment was identified in the report as a key barrier to unlocking the benefits of circular business models to organisations. Despite the increased interest within academia, industry and governments in the intervening period, finance remains a key challenge (Geissdoerfer *et al.*, 2022)

It could be argued that this is partly caused by ignorance amongst potential investors and asset managers, of the opportunities provided by the adoption of circular economy business models and innovations (Acsinte and Verbeek, 2015). However, it is also possible that this is because traditional investment structures have been built on ‘linear’ economic models (produce – consume –dispose) and that adoption of circular economy models are penalised by an approach to financing risk that disproportionately impacts innovative ventures. (Nanda and Rhodes-Kropf, 2017)

Circular economy requires new thinking: a different mind-set to facilitate a shift in the financial sector. It is necessary to investigate financial products, and

investment and asset allocation strategies best suited to boost capital flow that could harness the circular economy potential (Clarkin and Cangioni, 2016; Nolan, 2013). The theoretical model that underpins impact investing – blending financial and environmental and/or social value’ - appears to be allied with the principles of circular economy

Starting with the premise that “an integrated and systemic approach” is required to fully capture the benefits of the circular economy; this paper sets out to determine the state of the art in terms of academic literature to unearth conceptual similarities and differences between the theoretical models that underpin impact investing and the circular economy. It goes on to examine the appropriateness and effectiveness of impact investing for the deployment of private sector funds to accelerate the transition to a circular economy (in a global context).

2.2 Methodology and data

2.2.1 Data criteria and collection

This study undertakes a systematic review (following Tranfield et al., 2003) of literature in impact investing and circular economy from scholarly peer-reviewed journals. The aim of the systematic review is to synthesize the evidence, through academic rigour, of a broad range of studies that have been conducted within both fields. Alongside, it provides a ‘roadmap’ to facilitate ease of replication and build on research findings.

A preliminary search of academic databases provided an overview of the existing studies in impact investing and circular economy (Alvesson and Sandberg, 2013a). A review and analysis of the identified literature provided deeper understanding of extant research and revealed potential gaps (Alvesson and Sandberg, 2013b). The insights gathered through engagement with the literature afforded the opportunity to develop clear questions that could advance knowledge in the field of impact investing and financing of the circular economy.

A range of tentative research questions emanated through an iterative and reflective process during interaction with the existing literature (Alvesson and Sandberg, 2013c; Reuber, 2010). The overarching challenge was to investigate the potential of impact investing to boost private capital deployment to harness the potential of the circular economy.

Consequently, the research questions generated sought to identify connections between the underlying theoretical models and constructs of impact investing and circular economy in existing literature; develop an understanding of the emerging practice of impact investing; establish the range of funding options available to stimulate investment in the circular economy; and interrogate the durability of circular economy business models and products.

The systematic literature review was designed to address the following questions:

- What are the key conceptual similarities and differences between the theoretical models that underpin impact investing and circular economy?
- What evidence based research is available to demonstrate that companies that adopt circular business models will, on average, deliver better long term financial performance?
- What is the current state of the impact investing market?
- What initiatives are in place to facilitate a constructive and purposeful engagement between investors, entrepreneurs, and policy makers to stimulate investment circular economy business models?
- What contribution could impact investing make towards the take up of circular economy business models?

Following a brief scoping study, the search terms in Table 2-1 below were constructed.

Table 2-1: Search Strings/Terms for the Systematic Literature Review

Strings	Search Terms
String 1	"impact investment" OR "impact investing")
String 2	("circular economy" OR "circular business")
String 3	(model* OR theor* OR frame* OR concept* OR system* OR paradigm* OR class* OR principle*)
String 4	("case stud*" OR "empirical stud*" OR "perform*")
String 5	"market*"
String 6	(initiative* OR strateg* OR partner* OR collaborat* OR engage* OR "business start-up" OR "business model*" OR "business concept*" OR innovat*)
String 7	("analysis" OR "contribution" OR "nature")

The search terms were combined to adequately reflect the specific research questions (Table 2-2) and the results of the pilot search shown in Appendix A-1 was run using the EBSCO Business source complete database given its management focus. The results captured the key journals that were interrogated as part of the literature review that informed the positioning study.

Table 2-2: Literature Research Questions

Literature Review Questions	Search Strings	
Q1. What are the key conceptual similarities and differences between the theoretical models that underpin impact investing and circular economy?	String 1 and 3	("impact investment" OR "impact investing") AND (model* OR theor* OR frame* OR concept* OR system* OR paradigm* OR class* OR principle*)
	String 2 and 3	("circular economy" OR "circular business") AND (model* OR theor* OR frame* OR concept* OR system* OR paradigm* OR class* OR principle*)
Q2. What evidence-based research is available to demonstrate that companies that adopt circular business models will on average, deliver better long term financial performance?	String 1 and 4	("impact investment" OR "impact investing") AND ("case stud*" OR "empirical stud*" OR "perform*")
	String 2 and 4	("circular economy" OR "circular business") AND ("case stud*" OR "empirical stud*" OR "perform*")
Q3. What is the current state of the impact investing market?	String 1 and 5	("impact investment" OR "impact investing") AND "market"
Q4. What initiatives are in place to facilitate a constructive and purposeful engagement between investors, entrepreneurs, and policy makers to stimulate investment in circular economy business models?	String 1 and 6	("impact investment" OR "impact investing") AND (initiative* OR strateg* OR partner* OR collaborat* OR engage* OR "business start-up" OR "business model*" OR "business concept*" OR innovat*)
Q5. What contribution could impact investing make towards the take up of circular economy business models?	String 1 and 7	("impact investment" OR "impact investing") AND ("analysis" OR "contribution" OR "nature")
	String 2 and 7	("circular economy" OR "circular business") AND ("analysis" OR "contribution" OR "nature")

Based on the search strings, three databases with extensive business and economics resources - EBSCO Business Source Complete (2017), ABI/INFORM Collection (2017) and SCOPUS (2017) - were used to search for relevant literature to improve comprehensiveness. Identical limiters - Scholarly (Peer

Reviewed) Journals; Publication Type: Academic Journal; and Language: English – were consistently applied in all databases.

The search results detailing the article title, author, journal title, publication date and keywords were extracted from the database and combined using excel. Duplicate literature was located and removed, and then articles appearing in journals listed in the Cranfield University guide that takes the top 10% of journals as listed by impact factor papers, FT50, and Chartered Association of Business Schools Academic Journal Guide 2017 were identified (Appendix A-2). As a result, a total of 433 articles (Table 2-3) were assembled for closer scrutiny.

Table 2-3: Number of articles identified for review after deduplication

Database	EBSCO	ABI	SCOPUS
Combined search results	1954	2677	1981
less duplicates	905	741	826
Cranfield, CABS, FT50	419	437	206
EBSCO/ABI/SCOPUS combined	1062		
less duplicates	443		

The title, publication date, keywords, and abstract of the 433 articles were analysed to ascertain relevance to review. Given the embryonic nature of the impact investing and circular economy field, articles written after the year 2000 which focus on theoretical models, concepts, principles, system or paradigms underpinning the fields, were selected.

In addition, articles that capture government policies and initiatives, as well as case studies on investor engagement and innovation were included. An analysis of the abstracts was undertaken to verify relevance and based on this criterion a simple coding system: relevant/not relevant was adopted.

Although it is recognised that academic research is lacking in the impact investing field (Daggers and Nicholls, 2016; Hehenberger *et al.*, 2019; Hockerts *et al.*, 2022; Poyser and Daugaard, 2022), the use of 'grey literature', a varied body of published and unpublished works that have not been exposed to the customary and conventional academic peer review processes, has been limited. This is primarily because of concerns about lack of academic rigour that characterises most practitioner led research, particularly where much of the grey literature are papers designed for lobbying purposes. However, it is acknowledged that these could make significant contributions and expand the influence of management and organisational studies (Adams *et al.*, 2017).

Scholars are increasingly conversant with the circular economy concept spurred by its promotion by the European Union, national governments and several business leaders worldwide (Korhonen, Honkasalo, *et al.*, 2018). A large pool of academic literature on the circular economy has emerged in recent years albeit largely confined to journals focusing on the promotion of sustainability and green initiatives.

Adopting the approach taken by Höchstädter & Scheck (2015), the grey literature utilised in researching the impact investing field were taken from the website of Global Impact Investing Network (GIIN) and international organisations such as World Economic Forum, Rockefeller Foundation, and Principles for Responsible Investment (PRI). This is because practitioner studies have been the primary driver in this budding field. Similarly, grey literature drawn upon in the circular economy field were limited to reports produced by international bodies like the United Nations, the European Union, World Economic Forum, Ellen MacArthur Foundation, that have championed the circular economy potential in addressing environmental and sustainability challenges on a global scale (de Jesus and Mendonça, 2018). Most of these reports were produced by academics and subjected to editorial panel review.

2.3 Results

This systematic review process identified 87 articles for analysis. The list of journals is shown in **Figure 2-1** below. This indicates that the most relevant literature to date have been published in the Journal of Business Ethics (predominantly impact investing field) and the Journal of Cleaner Production (predominantly circular economy).

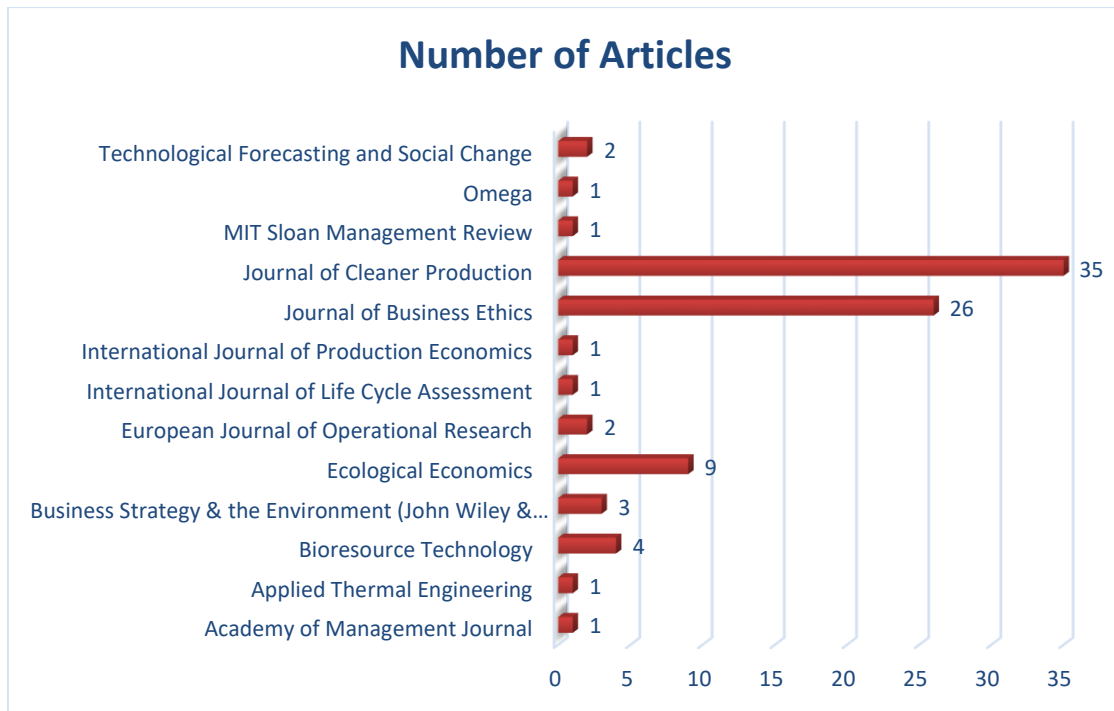


Figure 2-1: List of Relevant Journals in the literature review and number of articles per journal.

2.3.1 Impact Investing: Definition and Gaining Momentum

The term impact investing has been gaining attention since it was coined in 2007 (Daggers, 2020; Höchstädter and Scheck, 2015). The World Economic Forum report (Drexler *et al.*, 2013), attempts to provide definitional clarity while acknowledging that discussions on definition at the embryonic phase of any developing field frequently generate more questions than answers.

The report advances the definition that:

“Impact investing is an investment approach that intentionally seeks to create both financial return and positive social or environmental impact that is actively measured.” (Drexler et al., 2013)

This definition highlights three key criteria that underpin impact investing: an investment approach; intention to deliver social or environmental impact; and active measurement of outcome.

Impact investing offers the prospect to deliver overwhelming cultural change in the way societal problems are dealt with (Social Impact Investment Taskforce, 2014) and purposefully seeks to tackle social and environmental challenges by adopting investment strategies that place these alongside financial returns (Greene, 2014). The widely accepted Global Impact Investing Network (GIIN) definition of impact investing provides further insight into the concept is:

“Impact investments are investments made into companies, organizations, and funds with the intention to generate positive, measurable social and environmental impact alongside a financial return.”³

The theoretical model that underpins impact investing practice, as described by GIIN, is encapsulated in its core characteristics:

- intention to deliver positive social or environmental impact;
- expectation of financial returns or breakeven on capital investment;
- generating a range of financial returns on investment across a variety of asset classes; and
- commitment to measure and report on social and/or environmental outcomes.

³ Source: <https://thegiin.org/impact-investing/need-to-know/#what-is-impact-investing>

Therefore, impact investing is an investment approach where the intention to deliver social or environmental impact alongside financial return matters and active measurement of outcome is undertaken.

2.3.2 Definitional and Terminological confusion

Definitional and terminological confusion ensues when seeking to draw a distinction between impact investing (as defined in 2.3.1 above) and associated concepts like socially responsible investing, which involves investment decisions that are based on negative or positive screening; sustainable investment where investment decisions incorporate economic, social and governance (ESG) criteria commonly used to evaluate the sustainability and ethical impact of an organisation's business practices; and social investment targeted towards addressing social issues and focused on sector wide capacity building (Höchstädter and Scheck, 2015).

The inconsistencies in definition originates from the confusing use of terminology (Daggers and Nicholls, 2016). A similar viewpoint is advanced by Höchstädter & Scheck (2015), who argue that the lack of a harmonised definition could stifle the emergence of impact investing into mainstream.

A critical review of literature was undertaken by Höchstädter & Scheck (2015) to contribute to the development of impact investing and provide deeper insight to the field. Their research analysed an expansive range of contributions by academics and practitioners and sought to elucidate the impact investing concept through an assessment of the similarities and differences in definitions, terminologies and strategy applied in the field.

Their paper draws attention to general agreement, in the literature, on the key features that underpin impact investing, particularly intentional social and environmental impact alongside financial return. In addition, the paper elucidates the relationship between impact investing and concepts like social responsible investment and social investment.

Along similar lines, Clarkin and Cangioni (2016) investigated publications in the impact investing landscape and noted the differing terminologies in use. They argue that these differences “... *did not present a substantial barrier to understanding ...*” and conclude that “*opportunities exist for studies that rigorously examine the applicability and efficacy of impact investing initiatives*” (2016, p. 144).

Building on the work of Höchstädter and Scheck (Höchstädter and Scheck, 2015) and Clarkin and Cangioni (2016), the expansive exploration of current literature undertaken by Nicholls and Daggars (2016), spans academic and non-academic research. This involved seminar meetings and interviews with practitioners, policy makers and academics across 13 countries.

Nicholls and Daggars (2016) covers aspects of the future research areas identified by Höchstädter and Scheck (2015), specifically enriching the understandings of impact investing “... *with primary research in the form of interviews or surveys*” (Höchstädter and Scheck, 2015). The finding “...*was of a nascent field of research in which there was considerable interest and potential, but currently no substantial core of ideas, theory, or data*” (Daggars and Nicholls, 2016, p. 3).

The paper also sets out a structure and proposes boundaries for the fields of practice that operate under social impact investment: an umbrella concept within which the practice of social investment and impact investing operate. It proposes a range of possible research topics that will increase understanding and build credibility. These are presented under three themes: field segmentation, data and transparency, and policy and regulation.

Developing the studies undertaken by Höchstädter and Scheck (2015) that point out definitional and terminological inconsistencies in the academic and practitioner terrain, and Rizzello et al. (2016) that introduced a map capturing contributions and exploratory scope by academics in peer-reviewed journals,

Carè and Wendt (2018) sought to deepen understanding of impact investing through an analysis of the mechanisms and key players involved in the impact investing landscape. They conducted a pilot survey to explore the preferences of impact investors and identify emerging trends and challenges (Carè and Wendt, 2018).

The investigations confirm the prevalence of numerous opportunities for impact investment under diverse asset classes that are employed by investors (Carè and Wendt, 2018). In addition, recent emphasis on resource utilisation challenges arising from demographic pressures and climate change, have increased interest in impact investments (Carè and Wendt, 2018).

Based on the primary objective of investors, Carè and Wendt (2018) identified two broad categories: 'impact-first' and 'financial-first'. Investors that actively pursue opportunities to maximise social or environmental impact of their investments within a stipulated minimum financial return are considered as impact-first. Conversely, investors that specify minimum social or environmental impact while aiming to maximise financial returns are classified as financial-first investors.

As emphasised by Roundy et al (2017), impact investors aim for social and financial returns and are primarily motivated by altruism and the desire to do good. Consequently, they focus on long term investments. Carè and Wendt (2018) offer an initial analysis of impact investor attitudes and call for further studies in desired financial returns alongside the underpinning theoretical concepts. In addition, they highlight the need to examine the potential for impact investors to play a catalyst role as angel investors (Carè and Wendt, 2018).

2.3.3 Market Growth

The market growth of impact investing is exemplified by data from the eighth edition of GIIN's 2018 Annual Impact Investor Survey (Mudaliar, et al., 2018). Respondents reported a cumulative allocation of US\$228.1 billion to impact

assets. This represents a 60% growth on figures reported in the 2017 Survey, with a forecasted additional commitment of approximately US\$38.5 billion in 2018.

As businesses, governments and communities look for new solutions to tackle social and environmental challenges of the 21st Century, the findings of research undertaken by Ormiston et al. (2015), suggests that early entrants are confident the impact investing market growth potential is considerable.

Despite the broad evidence of a growing interest in the impact investing market (Daggers, 2022; Höchstädter and Scheck, 2015) there is a perceived dearth of academic research and mounting calls for rigorous exploration of the field (Clarkin and Cangioni, 2016; Daggers and Nicholls, 2016; Drexler *et al.*, 2013; Jackson, 2013). Deeper understanding is required to increase capital flow and elevate impact investment value (Lehner *et al.*, 2019; Smalling and Emerson, 2015).

The GIIN publication (Bouri *et al.*, 2018) *“Roadmap for the Future of Impact Investing: Reshaping Financial Markets”* outlines 18 actions across six groupings where progress is deemed to be required. Alongside strengthening the identity of impact investing, expansion of impact investment products, development of tools and services, reinforcing education and training, and developing policy and regulation development, the authors recognise the need for a change in the paradigm - largely focussed on speculative dealings to enrich investors and failing to provide support for enterprises in the real economy - that dominates investment behaviour and expectations.

The authors recommend updating theoretical models and frameworks that prop up investment practice, to merge impact with risk and return. The ambitious vision entails changing the primary focus of investors and advocates rethinking the role of finance in the society.

2.3.4 Impact Investing and Venture Capital

The expanding impact investment market (Freiburg and Moehrle, 2018; Kölbel *et al.*, 2019; Mudaliar and Dithrich, 2019; Wendt, 2018) presents innovative investors the potential to produce blended value – a business model that combines positive financial return generation (economic value) with positive environmental and/or social benefit (social value) (Bugg-Levine and Emerson, 2011).

In analysing the parities and disparities between impact investing and venture capital, Vecchi *et al.* (2016) advance the idea that the intention to achieve social and/or environmental impact and seek addition to social and/or environmental outcomes, alongside generating financial returns, clearly distinguishes impact investing from traditional investment. The paper advocates that impact investing targets developing innovative business models that can be scaled to create economic and social value through products, services and processes that are ground-breaking and disruptive.

The paper (Vecchi *et al.*, 2016) further intimates that impact investing focuses on nurturing and providing finance to companies at an early development stage when their business model requires equity capital to validate and justify growth aspirations. These attributes imply impact investing could be an attractive vehicle for investors to accelerate the transition towards a circular economy.

Academic studies (Geissdoerfer *et al.*, 2017; Korhonen, Nuur, *et al.*, 2018; Murray *et al.*, 2017) show that the transition to a circular economy will reduce the current inefficient utilisation of natural resources, while practitioner studies (Lacy *et al.*, 2014; McKinsey & Company, 2016) signify that the adoption of circular economy principles provides an alternative balanced, inclusive and broad-based economic growth model. An understanding of the drivers and key concepts of the circular economy, an insight into the business models that underpin its adoption

alongside an appreciation of current barriers to its transition will help identify what overlaps exist between impact investing and circular economy concepts.

2.4 Circular Economy

2.4.1 Drivers and Key Concepts

An increasing global awareness of the pressures placed on natural resources by the prevalent linear economic model, based on ‘take, make, use, dispose’ approach, presents challenges for world and business leaders (Ellen MacArthur Foundation, 2012). Accordingly, the need to rethink the use of materials and energy has given prominence to the concept of the Circular Economy (Murray *et al.*, 2017; Preston, 2012). The underlying principles focus on reduce, reuse, recycle, restore and regenerate.

The circular economy concept is built on the view that the ‘linear’ economy model is unsustainable in the light of increased consumerism fuelled by world population growth, ageing population, urbanisation, increasing use of carbon-based energy systems, and a burgeoning middle class (Ghisellini *et al.*, 2016; Vermeulen, 2015). The theoretical framework underpinning the circular economy is built on functioning of the ecosystem (de Jesus *et al.*, 2018; Korhonen, Honkasalo, *et al.*, 2018). It represents an “... *attempt to conceptualize the integration of economic activity and environmental wellbeing in a sustainable way*” (Murray *et al.*, 2017), with the primary focus on optimisation rather than efficiency.

The expansion of academic articles and practitioner reports on the circular economy is fast-moving. Kirchherr, *et al.* (2017) systematically analysed 114 definitions to conceptualize the circular economy and coded these on 17 dimensions. They argue that mainstreaming the circular economy requires a systemic shift and posit that the academic literature reviewed for their paper prioritise increasing economic prosperity ahead of environmental quality with scarcely any reference to social equity and impact on future generations (Kirchherr *et al.*, 2017, p. 221).

The circular economy concept is making significant contribution in attracting businesses (Geissdoerfer *et al.*, 2017; Lacy and Rutqvist, 2015; Lewandowski, 2016). Nonetheless, according to Korhonen, *et al.* (Korhonen, Honkasalo, *et al.*, 2018) the concept appears to be a “... *collection of vague and separate ideas* ...” (Korhonen, Honkasalo, *et al.*, 2018) that lack scientific footing. To address this gap they advance a ‘scientific’ definition for circular economy and set out six challenges that could “... *serve also as research themes and project proposals for scientists, policy-makers and for business actors* ...” (Korhonen, Honkasalo, *et al.*, 2018)

The growing body of literature points to an increased academic interest in the concept that will provide evidence-based research to contribute to the understanding and development of the circular economy. Definitions suggested by institutions and scholars that seek to capture the essence of the circular economy are included in Table 2-4 below.

Table 2-4: Some circular economy definitions

Definition	Source
<i>“An industrial economy that is restorative or regenerative by intention and design”</i>	(Ellen MacArthur Foundation, 2012)
<i>“...one that restorative by design and which aims to keep products, components and materials at their highest utility and value, at all times</i>	(Webster, 2015)
<i>“An economic model wherein planning, resourcing, procurement, production and reprocessing are designed and managed, as both process and output, to maximize ecosystem functioning and human well-being”</i>	(Murray et al., 2017)
<i>“a regenerative system in which resource input and waste, emission, and energy leakage are minimised by slowing, closing and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling.”</i>	(Geissdoerfer et al., 2017)
<i>“... an economy constructed from societal production-consumption systems that maximizes the service produced from the linear nature-society-nature material and energy throughput flow. This is done by using cyclical material flows, renewable energy sources and cascading – type energy flows. Successful circular economy contributes to all the three dimensions of sustainable development. Circular economy limits the throughput flow to a level that nature tolerates and utilises ecosystem cycles in economic cycles by respecting their natural reproduction rates.”</i>	(Korhonen, Nuur, et al., 2018)
<i>“a multidimensional, dynamic, integrative approach, promoting a reformed socio-technical template for carrying out economic development, in an environmentally sustainable way, by re-matching, re-balancing and re-wiring industrial processes and consumption habits into a new usage-production closed-loop system.”</i>	(de Jesus and Mendonça, 2018)

While environmental and sustainability concerns arising from resource utilisation are the predominant issues, there is a social dimension to be addressed (Geissdoerfer et al., 2017; Kirchherr et al., 2018; Murray et al., 2017). The potential attraction from a business perspective is the need to ensure resilience that generates sustainable profit. In the context of creating a sustainable future, Murray et al. (2017), advocate that the circular economy is “... *emerging as a possible strategy that companies of all sizes might adopt to allow them engage with such challenges*”.

The urgent need to tackle the resource over-exploitation challenge is underlined by the surge in conferences and workshops that are being organised worldwide

to disseminate the circular economy idea (Shaw, 2015). Equally, it is important to recognise that an integrated solution is required to adapt the new systems from a global to local context.

For example rapid economic growth in China resulted in the significant depletion of natural resources to the detriment of its environment (Yap, 2005). China's recognition of the challenge resulted in its adoption of circular economy principles. Circular economy development was enshrined in its *National 11th Five Year Plan* (Zhijun and Nailing, 2007) and subsequently in the 12th Five Year Plan (Murray *et al.*, 2017).

In contrast to the approach in Western developed economies, China adopted a 'top down' approach, which involved making circular economy a key development and economic policy. Circular economy was driven by its ruling council and incorporated within regulatory guidance coupled with financial support (Mathews and Tan, 2011).

2.4.2 Circular Business Models

The Accenture report, *"Circular Advantage: Innovative Business Models and Technologies to Create Value in a World without Limits to Growth"* (Lacy *et al.*, 2014) highlights how businesses are gaining competitive advantage by adopting business models and disruptive technologies that decouple growth from continued overreliance on limited natural resources. This reinforces the assertion that the adoption of the circular economy model unlocks added value (Fallahi *et al.*, 2022; Mattos *et al.*, 2022; Raksit, 2014).

The adoption of the circular economy idea is gaining momentum across the world (Sauvé *et al.*, 2016), because of the rapid introduction of new business models into the market place and reinforced by various government policies to aid a transition to a circular economy (Geissdoerfer *et al.*, 2020; Morch, 2015; Oghazi and Mostaghel, 2018; Salvador *et al.*, 2020).

Examples include the EU adoption of circular economy package in December 2015, (European Commission, 2015), the publication of Ellen MacArthur report *“Delivering the circular economy: a toolkit for policymakers”* (Ellen MacArthur Foundation, 2015) and the Government of Netherlands’ report *“A Circular Economy in the Netherlands by 2050”* (Government of Netherlands, 2016).

Building on the Accenture report, *Waste to Wealth* (Lacy and Rutqvist, 2015) analysed five new circular economy business models – Circular Supply-Chain, Recovery & Recycling, Product Life-Extension, Sharing Platform and Product as a Service – derived from their scrutiny of over 120 companies. The five business models act as *“...a lens for understanding this phenomenon better, and facilitate the shift towards circular economy in practice...”* (Vladimirova, 2016, p. 1).

Lacy and Rutqvist (2015) describe how the companies have sought to optimise social and environmental values without losing sight of the need to maintain economic viability. They explored in some detail, how these companies have created a business advantage arising from their adoption of circular economy principles and offer businesses ideas on transitioning. The authors highlight some of the challenges to a transition to a circular economy. Conversely, they make no mention of the financing risk associated with innovation (Nanda and Rhodes-Kropf, 2017) and the role of financial intermediaries in financing and promoting the transition.

The take up of circular economy from a business model perspective was explored by Urbinati et al. (2017) who then proposed a new categorisation that sought to elucidate the *“... different degrees of circularity in practice adopted by firms in different industries”* (2017, p. 496). The proposed tool is intended to help ascertain companies’ progress on and compliance with implementing of the principles of the circular economy.

2.4.3 Barriers to circular economy transition

Transitioning to a circular economy is considered by many proponents as the solution to 21st Century challenges - societal, economic and environmental - arising from over exploitation of the world's natural resources. However, businesses must change their operational mode and will subsequently face financial barriers in the introduction of the enabling circular innovations (Achterberg *et al.*, 2016; Ritzén and Sandström, 2017)

The Ellen MacArthur Foundation report (Ellen MacArthur Foundation and Systemiq, 2017), "*Achieving Growth Within*", identifies circular economy investment opportunities worth €320 billion in the automobile industry, food system and built environment through to 2025 within the European Union. Access to private sector investment is identified in the report as a barrier to unlocking these opportunities, hampering an effective transition towards a circular economy and presenting a risk to realising its benefits.

Companies and investors require an economic return on investment to stimulate interest in financing the transition to a circular economy. (Ghisellini *et al.*, 2016). However, the risk profile, depreciation periods, cost-benefit balance of investments in products and services developed using circular economy business models and principles are different from products developed using traditional linear economic principles (Government of Netherlands, 2016).

Financing the transition to a circular economy requires fresh insights and changes to the financial terrain. Studies on the implications of circular business models for the financial sector concluded that these include the requirement for multiple forms of capital; emphasis on cash flow timings; pivotal role of contracts; creation of value in second hand market; increased product residual value; increase in supply chain finance to unlock financial resources; and increased finance requirement arising from optimisation of cash flow (ING Economics Department, 2015).

The FinanCE working group report (2016) *“Money makes the world go round”*, captures the financial implications of circular economy business models. It describes the context and sets out the contributing role of the financial sector to the transition to a circular economy. The collaborative report also highlights the key components from a financial perspective - business model changes arising from circular working methods, financial considerations of circular businesses, and macroeconomic consequences of a wider adoption of circular economy business models.

The report builds on the ING report (2015) that recognises the role of finance in the transition to a circular economy and explores the means of increasing the availability of finance conducive to the circular economy. The ING report identifies that various capital deployment arrangements are required to finance circular business models. This is compounded by the fact that early/growth stage circular businesses are generally considered high risk given that most are not yet profitable or lack track record.

Achterberg and van Tilburg (2016) propose six guidelines to address the barriers to financing circular businesses and inform the financial decision-making process in accelerating the transition to a circular economy:

1. Assessment of a range of securities
2. Emphasis on relationship-based financing
3. Natural capital gains valuation
4. Knowledge based partnership
5. Long term vision
6. Oversee financial landscape

These guidelines are designed to improve the investors' understanding of the risks and opportunities presented by the adoption of circular business models. However, they require new thinking – a different mind-set. It will be necessary to investigate a range of financial products and identify investment and asset

allocation strategies best suited to meet the challenge, motivate and stimulate capital deployment by private investors.

From an innovation studies viewpoint de Jesus & Mendonca (2018) sought to provide an understanding of the drivers and barriers that persist in the advancement of a circular economy. Drawing on academic and grey literature (as described above), their paper categorises these under two main headings – Hard Drivers and Barriers, and Soft Drivers and Barriers.

Economic, financial and market factors feature under the category of hard barriers and synthesizes the academic contributions of Jones et al.(2013), Matus et al., (Matus *et al.*, 2012), Reh, (2013), Sanyé-Mengual et al.(2014), Markard et al.(2012), Geng et al. (2010), and Mathews & Tan (2011). Their findings indicate that economic, financial and market factors are second only to technological challenges as the most cited barriers to the development of circular economy in academic literature analysed.

The financial obstacles are identified as substantial capital requirements, prohibitive transaction and start-up costs, distorted market information, and indeterminate yields. At first glance, these findings mask the interdependency and interaction between the two most cited barriers and ostensibly ignores the high probability that technical innovation is stifled by lack of finance (Kirchherr *et al.*, 2018).

However, the authors appear to capture this in their conclusions by recognising that “... *when CE solutions are already technically feasible, their practical implementation is often limited by economic and market limitations.*” (de Jesus and Mendonça, 2018, p. 85). Nevertheless, they appear to promote a neo-classical economics approach that connects supply and demand to the rationality and adeptness of an individual to maximise utility or profit with focus on government intervention within an institutional frame underpinned by systems theory.

Building on the work of de Jesus & Mendonca (2018), Kirchherr, et al (2018) sought to identify the main barriers to circular economy transition in the European Union. Their literature study was augmented with 47 semi-structured interviews with experts in circular economy along with a survey of 208 government and business stakeholders in the European Union.

The research findings, cited by the authors to be the “... *first large-N-study on CE barriers* ...” group the identified barriers under four categories – cultural, regulatory, market and technological. High upfront investment costs and limited funding for circular business models appear in the coding framework table as sub-barriers under the ‘Market Barrier’ category (Kirchherr *et al.*, 2018).

The literature review elucidates the broad acceptance that impact investing is an investment approach where intention to deliver social or environmental impact alongside financial return matters and active measurement of outcomes is undertaken. It illustrates that the emergent practice of impact investing is stimulating the interest of capital providers and financial intermediaries. The potential of impact investing to catalyse the positive social and environmental change on a global scale required to tackle 21st century challenges is enormous. This is evidenced by the year on year growth reported in GIIN’s Annual Impact Investor Surveys pointing to increasing investor altruism (Mudaliar *et al.*, 2018; Mudaliar, Schiff, *et al.*, 2017). Unlocking the potential requires a healthy pipeline of investment opportunities and matching capital supply.

The potential to adopt circular economy principles and business models coupled with disruptive new technologies presents an opportunity to balance economic growth with sustainability (Ellen MacArthur Foundation, 2016). The transition to a circular economy requires an exploration of how private investors could deploy capital. The characteristics of impact investing indicate it would be an appropriate vehicle.

2.4.4 Theoretical models used in the identified literature

The 87 articles identified for analysis were investigated. The intention was to probe into the theoretical approach taken by the authors in their writings in order to discover the conceptual similarities and differences between the theoretical models that underpin impact investing and the circular economy.

This exercise was undertaken by a closer review of the abstract, introduction and concluding remarks in the articles. This identified a smaller subset of 17 articles that make explicit reference to a theory within the studies and sought to develop a theoretical understanding of these concepts (Table 2-5). A review of the theoretical approaches identified in the papers underlines the lack of consistent use of the same theory in impact investing field pinpointed by Höchstädter & Scheck (2015).

Table 2-5: Theoretical understanding of concepts in literature analysed

Author	Research Focus	Theoretical Approach	Concept
(Hazen et.al, 2017)	Seeks to understand consumers attitude towards the purchase of remanufactured goods to promote circular economy.	Push-Pull- Mooring Theory	Circular Economy
(Martins, 2016)	Argues that the uptake of circularity has been curtailed by neoclassical economics approach. Proposes classical economics approach for strong sustainability.	Classical economic theory	Circular Economy
(Martins, 2018)	Provides further explanations <i>"...on the idea of a classical circular economy and its articulation with the capabilities approach"</i> .	Classical economic theory	Circular Economy
(Gasser et al., 2017)	Proposes a measure to include social responsibility in portfolio selection.	Markowitz Portfolio Selection Theory	Impact Investing

Author	Research Focus	Theoretical Approach	Concept
(Ballesterro <i>et al.</i> , 2012)	Examines the performance of ethically focused portfolio selected by investors.	Classical utility theory	Impact Investing
(Wang and Hazen, 2016)	Examines influence of perceived risk on consumer's purchasing decisions of remanufactured products.	Prospect theory	Circular Economy
(Himick and Audousset-Coulier, 2016)	Investigates how practices adopted by institutional investors could promote responsible investing.	Framing Theory	Impact Investing
(Maas and Liket, 2011)	Tests the strategic philanthropy intent of 500 Dow Jones Sustainability Index listed firms as indicated by impact measurement of philanthropic activities.	Institutional and legitimacy theory	Impact Investing
(Pilaj, 2017)	Explores the fostering of sustainable and responsible investments through the application of behavioural economics and nudge theory.	Behavioural Economics and Nudge Theory	Impact Investing
(Gond and Boxenbaum, 2013)	Examines how institutional work could be adapted to deliver effective responsible investment in a local context.	Institutional theory and actor-network theory	Impact Investing
(Aguiñaga <i>et al.</i> , 2018)	Assesses a bottom-up governance approach to "... <i>restore environmental resilience ...</i> " and create "... <i>economic and social benefits in rural communities</i> ".	Stakeholder Theory	Impact Investing
(Pomponi and Moncaster, 2017)	Frames the defining dimensions of circular	Framing Theory	Circular Economy

Author	Research Focus	Theoretical Approach	Concept
	economy for application in the built environment.		
(Leising et al., 2018)	Reports on circular economy pilots devised to study the development of collaboration in supply chain in the building sector.	Actor-network theory	Circular Economy
(Park et al., 2010)	Investigates challenges and opportunities associated with striking the balance between economic growth and environmental stewardship within a circular economy paradigm.	Ecological systems theory	Circular Economy
(Whicher et al., 2018)	Explores the adaptation of theory to develop an action plan that will promote uptake of circular economy.	Ecological Systems Theory	Circular Economy
(Loiseau et al., 2016)	Seeks to provide clarity in the concepts that underpin 'green economy'.	Environmental theory and Ecological Systems Theory	Circular Economy
(Saavedra et al., 2018)	Uses bibliometric analysis to <i>"... present the theoretical contribution of Industrial Ecology to circular economy."</i>	Ecological Systems theory	Circular Economy

The evaluation of theoretical approaches in academic literature suggest that Actor-network Theory (ACT), identified in Gond and Boxenbaum (2013) and Leising et al. (2018), and Framing Theory in Himick and Audousset-Coulier (2016), and Pomponi and Moncaster (2017) appear to provide a tenuous overlap between impact investing and circular economy.

Framing Theory offers a process to conceptualize or change thinking about an issue (Chong and Druckman, 2007) and is often a paradigm bridge (Cacciatore et al, 2016). Proponents of ACT argue that society and organisations would cease

to exist if networks were simply social rather than heterogeneous (Law, 1992). However, this does not fully appreciate and/or explain the human motivation and behaviours (Batova, 2018; Müller, 2015; Schlüter *et al.*, 2017; Weeks and Fayard, 2008) that have stimulated interest in impact investing and circular economy (Godeke and Pomares, 2009; McKinsey & Company, 2016; Mudaliar, Pineiro, *et al.*, 2017; Steg *et al.*, 2016; World Economic Forum, 2018); and or address the inherent tensions arising from impact first and financial first approaches to impact investing.

2.4.5 Post 2018 Study – Field Evolution

The analysis of theoretical models used in identified literature (see 2.4.4 above) was undertaken in 2018 based on peer reviewed papers published in leading journals between 2000 and 2017. In the intervening period, various theoretical lenses have been applied to enhance the understanding of impact investing and circular economy (Blomsma *et al.*, 2023; Migliavacca *et al.*, 2022), shedding light on different dimensions of these evolving fields. Scholars have drawn from diverse disciplines to offer insights into how impact investing operates and its potential effects.

The application of institutional theory – focused on the norms, values, and practices that shape the behaviour of organizations and markets, and stakeholder theory - employed to understand interactions between key initiating actors and various stakeholders, including beneficiaries, communities, and governments, have been the prominent theoretical lenses utilised to aid understanding of the fields of impact investing and the circular economy. (Barber *et al.*, 2021; Do *et al.*, 2022; Hockerts *et al.*, 2022; Mondal *et al.*, 2023; Phillips and Johnson, 2021). These theoretical perspectives have provided a structured framework to organize and enrich understanding of the significant attention gained by impact investing and circular economy arising from the growing awareness of environmental and social challenges.

As both fields of impact investing and circular economy continue to evolve, these perspectives serve as valuable guides for advancing both scholarly research and practical applications. Studies employing the theoretical lenses of institutional and stakeholder theories within the fields include papers that highlight ethical considerations and dilemmas, predict how changes in regulations and norms might impact the adoption of sustainable practices, and provide a basis for evaluation and comparative analysis to identify patterns and variations in the adoption of impact investing or circular economy practices (Agrawal and Hockerts, 2019; Bertassini *et al.*, 2021; Genovese *et al.*, 2023; Hockerts *et al.*, 2022; Holtslag *et al.*, 2021; Lehner *et al.*, 2019; Rask, 2022; Sarja *et al.*, 2021; Schmidt, 2022). These have helped in drawing meaningful conclusions and generalizations.

While institutional theory and stakeholder theory offer valuable insights and tools for understanding and improving the practices and impact of organizations involved in impact investing and the circular economy, they do have limitations. These include overemphasising conformity and the assumption of homogeneity in responses by organisations within the fields to institutional pressures (Dominko *et al.*, 2022; Moran and Ward-Christie, 2022; Rask, 2022), taking insufficient account of the varying power and influence of stakeholders (Casasnovas and Jones, 2022; Lehner *et al.*, 2022), challenges in prioritising conflicting stakeholder interests (Blomsma *et al.*, 2023; Eisenreich *et al.*, 2022; Phillips and Johnson, 2021), difficulties in keeping pace with rapidly evolving norms and regulations within a dynamic environment (Baah *et al.*, 2022; Hina *et al.*, 2022; Hockerts *et al.*, 2022; Migliavacca *et al.*, 2022) and balancing short-term and long-term interests of stakeholders (Andersen and Tekula, 2022; Dzhengiz *et al.*, 2023; Genovese *et al.*, 2023; Tapaninaho and Heikkinen, 2022; Vitolla *et al.*, 2023).

SET which is focussed on the relationships between exchange partners based on the principles of reciprocity, mutual benefit, and the exchange of resources, offers a complementary theoretical lens that could address some of the limitations

outlined above in the context of impact investing and the circular economy. This will contribute to the development of a more nuanced understanding of how relationships and exchanges shape the dynamics of impact investing and the circular economy. As a result, facilitate the achievement of balanced, mutually beneficial, and sustainable relationships between exchange partners.

2.5 Discussion

2.5.1 Impact Investing and Circular Economy

The literature review elucidates the broad acceptance that impact investing is an investment approach where intention to deliver social or environmental impact alongside financial return matters and active measurement of outcomes is undertaken. It illustrates that the emergent practice of impact investing is stimulating the interest of capital providers and financial intermediaries.

While there is budding academic interest in impact investing and an expanding body of literature exploring circular economy, there was at the onset of this study, no direct connections between these two concepts. A broad and growing range of diverse investment opportunities are available to impact investors. The diversity includes impact objective, financial return expectation, and asset class.

This has prompted the broad categorisation of investors as either impact first or financial first. The growth of investments from both ends of the spectrum suggests generating healthy financial returns and social impact are not mutually exclusive. This distinction is largely driven by investor motivations and attitudes. A better understanding of investor behavioural attributes is required to address the disconnect between the investors and investment opportunities.

Gaps associated with the practical perspective of impact investing and the development of investable business models have been identified (Höchstädter and Scheck, 2015). Current research in the impact investing field is dominated

by practitioners and there is a need to address the lack of theoretical depth and objectivity (Daggers and Nicholls, 2016).

Furthermore, there are calls to study impact investor motivation, attitudes and behaviours to increase understanding of impact investing landscape (Carè and Wendt, 2018) and investigate the underpinning theoretical framework, drawing on actual experience from the perspective of both impact investor and investee companies (Carè and Wendt, 2018; Daggers and Nicholls, 2016; Höchstädter and Scheck, 2015).

Impact investing has been aligned with the implementation of changes required to address social and environmental concerns such as is encapsulated within United Nations Sustainable Development Goals (UNSDGs) (Bouri *et al.*, 2018; Morriesen, 2018; Schroeder *et al.*, 2018). It is also increasingly clear that investment decisions made by impact investors to address environmental and social concerns alongside earnings are rarely rational or entirely motivated by a self-interest approach that simply seeks to maximise benefits and minimise costs (Daggers, 2020, 2022; Hehenberger *et al.*, 2019; Hockerts *et al.*, 2022; Lehner *et al.*, 2019).

Despite the seemingly wide range of forms of capital and potential investment vehicles available to circular economy business models and products, including Venture Capital and Private Equity, Green Bonds, Socially Responsible Investment Funds, Government grants, the adoption of circular economy business models faces several financial and cost barriers (Geissdoerfer *et al.*, 2022; Hina *et al.*, 2022; Kirchherr *et al.*, 2018). These challenges include significant upfront investment costs, long payback periods, uncertain revenue streams, multi-stakeholder collaboration, and inadequate regulatory and policy landscape.

A multi-faceted approach and collaboration between investors, businesses, financial institutions, and policy makers is required to overcome these challenges

to unlock the potential of circular business models (Fallahi *et al.*, 2022; Gonçalves *et al.*, 2022; Schröder and Raes, 2021).

2.5.2 A role for Social Exchange Theory

From its inception, the implementation of impact investing has drawn on its broad commonalities with the traditional investment process within the field of venture capital - a traditional source of private catalytic capital for start-ups, small and medium-sized businesses (Agrawal and Hockerts, 2021; Battilana *et al.*, 2012, 2015; Daggers and Nicholls, 2016; Hehenberger *et al.*, 2019).

The intention to achieve social and/or environmental impact and seek addition to social and/or environmental outcomes, alongside generating financial returns, differentiates the motivation of an impact investor from that of a venture capitalist (Vecchi *et al.*, 2016). Nevertheless, both types of investors work on nurturing and providing finance to companies at an early development stage when the investee companies require equity capital to validate and justify growth aspirations. In this regard, learnings from the mature venture capital industry could provide valuable insights to relational exchanges in the evolving impact investing market.

An examination of the exchange modalities between venture capital organisations and their portfolio companies in Germany, based on grounded theory, identified the prevalence of two diametrically different types of exchange – ‘economic exchange reciprocity’ and ‘social obligation reciprocity’ (Weber and Göbel, 2006). The study highlighted the complex nature of the exchange relationship that encompass shared resource transfer driven by inherent interdependence (Weber and Göbel, 2006, p. 316).

Utility maximisation propels economic exchange while social obligation is motivated by morality: both with associated risks that could derail the relationship. Nevertheless, the study concludes that there is enough evidence that points to the emergence of new inter-organizational relations that are not in keeping with traditional economic principles (Weber and Göbel, 2006, p. 325).

This thinking is consistent with SET, which has its origins in psychology, sociology and economics (Chen and Choi, 2005; Mitchell et al., 2012; Muldoon and Zoller, 2019; Stafford, 2008). It is a conceptual paradigm involving interactions that generate interdependent obligations contingent on the actions of another party (Cropanzano and Mitchell, 2005). The theory explains human relationships and interactions from the perspective of social behaviour driven by results; using cost-benefit analysis and evaluating alternatives in an exchange process (Cropanzano et al., 2017).

In effect, it argues that individuals make constant calculations about relationships and look to maximise their own benefits. The conventional idea, built on rationality, is that individuals are inherently self-interested and determine value by subtracting costs from benefits. Rationality suggests that decisions made by individuals are usually based on maximising utility for the greatest possible number of beneficiaries: philosophical thinking captured within utilitarianism (Renouard, 2011; Zafirovski, 2005).

This Utilitarian standpoint has been criticized for giving inadequate consideration to the complex and diverse behavioural and psychological factors that motivate individuals and/or inform decision making (Bowles and Gintis, 1993; Jones and Felps, 2013; Renouard, 2011; Rocha and Ghoshal, 2006; Valentinov, 2017). In seeking to balance positive economic and social outcomes, individuals do not make isolated choices or pursue wholly self-serving interests (Bowles and Gintis, 1993; Samson, 2022; Schrader, 1987).

SET is deemed to be an important part of pro-sociality governed by reciprocal norms (Diekmann et al., 2014; Simpson et al., 2018), and seen as successive interdependent interactions that create obligations between exchange partners. The relational benefits arising from the interactions deliver both social and economic outcomes (Cropanzano and Mitchell, 2005). The interdisciplinary nature and application of SET suggest that it is a broad umbrella theory that

encapsulates several conceptual models with shared characteristics (Cropanzano *et al.*, 2017).

In business-to-business settings, SET is often employed to describe the bilateral, interdependent and rewarding transactional process between organisations. Despite its wide application it remains a prevalent mechanism amongst scholars used to explain the theoretical foundation underpinning exchange and relationships (Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001).

From the social theory perspective, exchange is viewed as a social behaviour leading to both economic and social outcomes. The widely referenced work of Lambe *et al.* (2001) in business-to-business relational exchange, notes that although individuals expect rewards, material value cannot be placed on valuable social rewards such as social approval and emotional satisfaction and this differentiates Social Exchange Theory from Utilitarianism.

Contrary to the idea advanced by transaction cost analysis (TCA), research has shown that norms and personal relations are an effective relational governance mechanism in curtailing partner opportunism risk (Paulin and Ferguson, 2010; Simpson *et al.*, 2018; Tangpong *et al.*, 2010; Terpend and Krause, 2015). This limitation of transaction cost analysis explains why researchers have relied on SET to explain the development of relationships, through a series of interactions over time, in business-to-business exchanges (Lambe *et al.*, 2001).

The delineation of SET's conceptual framework helps to explain relationships in business-to-business exchange. Empirical support for the ability of social exchange theory to explain business-to business exchange relationships is mixed. Although the regulation of interaction between businesses is achieved through formal and informal structures the degree of compensation, each for the other, is uncertain. It does not provide a clear rationale to replace formal governance with relational governance structures (Lambe *et al.*, 2001).

Business-to-business exchange governance requires the use of SET in conjunction with TCA. Lambe et al. (2001) calls for an examination of relational business-to-business exchange using both complimentary theories. More importantly, the authors call for future research on how the norms that govern business and social outcomes of exchange are affected by formal contracts, interactions with third parties, and potential opportunism. Their study concludes that economic and social outcomes of individual transactions are evaluated by organisations and compared to a self-determined deserved outcome alongside additional benefits that could be provided by alternative exchange partners (Lambe et al., 2001, p. 29). The long-term stability of an exchange relationship is determined by the magnitude of the non-transferable investment already provided (Rusbult et al., 2012).

The varied motivation and behaviour affects the decision making of impact investors (Nicholls, 2010). As a result, comprehensive contracts are difficult to create, and successful exchanges incorporate non-contractual governance methods. However, partner opportunism risk in relational exchanges reduces the effectiveness of relational governance (Lambe et al., 2001, p. 2).

The use of SET in conjunction with TCA provides the basis to examine economic exchanges that occur in business-to-business relationships within social situations. Contrasted to economic exchange, the precise terms and repayment of social interactions cannot be stipulated in advance - in effect, the relationship is built on content (resources exchanged between partners) and process (actions that produce anticipated benefits) (Muldoon and Zoller, 2019). Therefore, SET could provide a meaningful theoretical construct from which to examine the relational exchange modalities between the impact investor and investee companies seeking to deliver measurable social or environmental impact alongside optimal financial returns. It is a paradigm that captures the essence of the transactional and relationship arrangement in the business-to-business settings.

2.5.3 Embedding Impact Investing - Research Gaps

The literature review points to continued growth in the impact investing as a vehicle to intentionally tackle growing environmental and social challenges on a global scale. The emergence of impact investing as an investment approach to bridge the competing ‘impact first’ and ‘finance first’ institutional logics divide alongside increasing regulatory interest, is underpinning calls for more rigorous independent academic studies to contribute towards building institutional legitimacy (Brandstetter and Lehner, 2015; Lehner *et al.*, 2019; Olksiak *et al.*, 2015; Rizzello, Migliazza, *et al.*, 2016).

One of the first thorough and rigorous academic studies on the impact investing concept undertaken by Höchstädter and Scheck (2015), incorporated calls for the investigation of a number of issues to be clarified to build legitimacy and advance the impact investing field. These include investigating preference of the legal structure of impact investees; analysis to clarify terminologies and distinguish concepts clearly alongside clarifying investment philosophies; and analysis of impact investing practices (Höchstädter and Scheck, 2015).

The publication of the extensively referenced study by Höchstädter and Scheck was followed by ‘*The Landscape of Social Impact Investment Research: Trends and Opportunities*’ (Daggers and Nicholls, 2016) that set out a research framework under three themes - field segmentation, data and transparency, policy and regulation – covering 11 topics and 51 subtopics and research questions (Daggers and Nicholls, 2016).

Following a preliminary assessment of investor attitudes towards impact investing Carè and Wendt (2018) also called for deep studies that analyse investor’s attitude in terms of financial returns and risk; theoretical investigation and testing of potential principal-agent problems; and analysis of demand and supply side investment opportunities (Carè and Wendt, 2018).

One of the themes that cuts across the research gaps identified by Höchstädter and Scheck (2015), Daggers and Nicholls (2016). and Carè and Wendt (2018), is the need to address the lack of theoretical framework and empirical studies by drawing on the examination and learning from practice. This call is echoed in recommendations of the GIIN publication (Bouri *et al.*, 2018) *“Roadmap for the Future of Impact Investing: Reshaping Financial Markets”* (See Section 2.3.3 above).

A study that investigates the motivation, attitudes and behaviours of key actors in the field will contribute towards an increased understanding of impact investing landscape.

2.6 Conclusions

This paper explores the link between impact investing and the circular economy. It shows that both concepts overlap with a shared interest or goal in seeking to tackle social and environmental challenges. However, to date the link between the two has not been explored in-depth.

The deployment of private capital through impact investing is an attractive vehicle to produce the desired social and environmental outcomes on a global scale alongside generating financial returns. The recent growth trajectory of impact investing is impressive with significant room for expansion to suit varied investor motivation, attitudes and behaviours.

The retention of investor interest could be achieved by increasing the supply of investable opportunities that are in line with investors’ attitude to financial returns and value attributed to uncertainty. There is scope to accommodate both impact-first and finance-first investors within the context of social exchange and economic exchange. However, the combination of a lack of understanding of the field and scarce academic research to establish legitimacy has inhibited the flow of capital.

The literature reviewed in this paper indicate that circular economy transition has been impeded by scant investment from the private sector. This represents a key barrier to organisations seeking to unlock the benefits of circular business models.

Financing the transition towards a circular economy requires changes to the financial system. The business-to-business exchange to realise the potential benefits of a circular economy and deliver measurable social and/or environmental outcomes alongside financial returns needs to be captured in a paradigm that governs the behaviour and expectations of impact investors.

Social exchange theory provides a meaningful theoretical construct from which to examine the relational exchange modalities between the impact investor and investee companies in business-to-business settings. Its conceptual models capture the paradigm that governs the motivation, behaviour and expectations of impact investors.

Future research could develop theoretical models and frameworks that underpin impact investing practice by considering the following questions to examine the relational exchange modalities between the impact investor and investee companies:

- What norms govern the relational exchange modalities between impact investors and their investee companies?
- How are these norms affected by formal contracts, interactions with third parties, and potential opportunism?
- Can an understanding of these norms increase the potential use of impact investing to accelerate the transition to a circular economy?

Impact investing and circular economy have been independently used to promote and support Sustainable Development Goals (SDGs) implementation (Bouri *et al.*, 2018; Morriesen, 2018; Schroeder *et al.*, 2018). Active pursuance of SDGs provides a platform to investigate the appropriateness and effectiveness of

impact investing for the deployment of private sector funds to accelerate the transition to a circular economy.

Financial decisions made by impact investors consider wide-ranging environmental and/or social factors encapsulated within the SDGs. These decisions are rarely rational or motivated by a self-interest approach that simply seeks to maximise benefits and minimise costs.

Successful relational exchanges could accelerate the transition to a circular economy and realise its potential benefits to deliver measurable social and/or environmental outcomes alongside financial returns.

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Appendix A

Appendix A-1 Pilot Journal search

Using EBSCO Business Complete (2017) [Limiters: Scholarly; Academic Journal; English]

Tentative Literature Review Questions		Search Strings		-2017	
				EBSCO	Key Journals/Number of Publications/CABS Ranking
Q1	What are the key conceptual similarities and differences between the theoretical models that underpin impact investing and circular economy?	String 1 and 3	("impact investment" OR "impact investing") AND (model* OR theor* OR frame* OR concept* OR system* OR paradigm* OR class* OR principle*)	377	Journal of Business Ethics - 101 (3*) Business Ethics: an European review - 20 (2*) Journal of Investing - 14 (U) Business Ethics Quarterly - 5 (4*)
		String 2 and 3	("circular economy" OR "circular business") AND (model* OR theor* OR frame* OR concept* OR system* OR paradigm* OR class* OR principle*)	212	Journal of Cleaner Production - 118 (U) Journal of Industrial Ecology - 31 (2*) Environmant Science & Technology - 6 (U) Ecological Economics - 5 (U) Journal of Business Ethics 1 (3*)
Q2	What evidence based research is available to demonstrate that companies that adopt circular business models will on average, deliver better long term financial performance?	String 1 and 4	("impact investment" OR "impact investing") AND ("case stud*" OR "empirical stud*" OR "perform**")	272	Journal of Business Ethics - 73 (3*) Journal of Investing - 22 Business Ethics: an European review - 7 (2*) Non-profit management and leadership - 8(1*)
		String 2 and 4	("circular economy" OR "circular business") AND ("case stud*" OR "empirical stud*" OR "perform**")	94	Journal of Cleaner Production - 67 (U) Journal of Industrial Ecology - 12 (2*) Environmant Science & Technology - 2 (U)
Q3	What is the current state of the impact investing market?	String 1 and 5	("impact investment" OR "impact investing") AND "market**"	264	Journal of Business Ethics - 54 (3*) Journal of Investing - 17 (U) Business Ethics: an European review - 8 (2*) Business Ethics Quarterly - 6 (4*) Journal of Financial Services - 5 (3*)
Q4	What initiatives are in place to facilitate a constructive and purposeful engagement between investors, entrepreneurs, and policy makers to stimulate investment in circular economy business models?	String 1 and 6	("impact investment" OR "impact investing") AND (initiative* OR strateg* OR partner* OR collaborat* OR engage* OR "business start-up" OR "business model**" OR "business concept**" OR innovat*)	341	Journal of Business Ethics - 88 (3*) Business Ethics: an European review - 17 (2*) Journal of Investing - 14 (U) Strategic Management Journal - 6 (4*) California Management Review - 5 (3*)
Q5	What contribution could impact investing make towards the take up of circular economy business models?	String 1 and 7	("impact investment" OR "impact investing") AND ("analysis" OR "contribution" OR "nature")	231	Journal of Business Ethics - 67 (3*) Business Ethics: an European review - 12 (2*) Journal of Investing - 10 (U) Non-profit management and leadership - 6 (3*) Journal of Financial and Qualitative Analysis - 5 (4*)
		String 2 and 7	("circular economy" OR "circular business") AND ("analysis" OR "contribution" OR "nature")	139	Journal of Cleaner Production - 91 (U) Journal of Industrial Ecology - 16 (2*) Environmant Science & Technology - 4 (U) Ecological Economics - 2 (U) Journal of Business Ethics 1 (3*)

Appendix A-2 Combined database search results

Tentative Literature Review Questions		Search Strings		EBSCO	ABI	SCOPUS
Q1	What are the key conceptual similarities and differences between the theoretical models that underpin impact investing and circular economy?	String 1 and 3	("impact investment" OR "impact investing") AND (model* OR theor* OR frame* OR concept* OR system* OR paradigm* OR class* OR principle*)	379	329	104
		String 2 and 3	("circular economy" OR "circular business") AND (model* OR theor* OR frame* OR concept* OR system* OR paradigm* OR class* OR principle*)	232	413	811
Q2	What evidence based research is available to demonstrate that companies that adopt circular business models will on average, deliver better long term financial performance?	String 1 and 4	("impact investment" OR "impact investing") AND ("case stud*" OR "empirical stud*" OR "perform**")	271	295	26
		String 2 and 4	("circular economy" OR "circular business") AND ("case stud*" OR "empirical stud*" OR "perform**")	102	314	335
Q3	What is the current state of the impact investing market?	String 1 and 5	("impact investment" OR "impact investing") AND "market**"	263	311	45
Q4	What initiatives are in place to facilitate a constructive and purposeful engagement between investors, entrepreneurs, and policy makers to stimulate investment in circular economy business models?	String 1 and 6	("impact investment" OR "impact investing") AND (initiative* OR strateg* OR partner* OR collaborat* OR engage* OR "business start-up" OR "business model**" OR "business concept**" OR innovat*)	327	312	58
Q5	What contribution could impact investing make towards the take up of circular economy business models?	String 1 and 7	("impact investment" OR "impact investing") AND ("analysis" OR "contribution" OR "nature")	232	317	41
		String 2 and 7	("circular economy" OR "circular business") AND ("analysis" OR "contribution" OR "nature")	148	386	561
			Combined search results	1954	2677	1981
			less duplicates	905	741	826
			Cranfield, CABS, FT50	419	437	206
			EBSCO/ABI/SCOPUS combined	1062		
			less duplicates	443		

CHAPTER THREE

3 WHAT'S IN IT FOR ME? A SOCIAL EXCHANGE THEORY PERSPECTIVE ON IMPACT INVESTING PRACTICE

ABSTRACT

The emergence of impact investing as an investment vehicle that delivers social and/or environmental benefits alongside earnings, on a global scale, is proving attractive to investors and asset managers. Impact investing offers the potential to support a cultural change in the way societal problems are solved by essentially providing access to capital that allows investees the opportunity to address 'Grand Challenges' with the required urgency and ingenuity.

Using a social exchange theory lens, this study examines the evolving exchange modalities between investors, intermediaries, and investee companies in the impact investing ecosystem. Semi-structured interviews were conducted with practitioners to unearth the sometimes complicated decision-making processes and gather subjective deeply rooted perceptions.

The results show that a nexus of activities influenced by formal and informal norms govern behaviours and expectations. These norms are crucial in the relational exchange between impact investors, intermediaries and investee companies. In terms of formal norms, exchange partners commit considerable resource to due diligence activities to establish congruence. The end result of this exercise is strongly influenced by the weighting allocated to desired social and economic outcomes. Apropos of informal norms, mission alignment is crucial in exchange relationships, as is active engagement to co-create value and strengthen mutual trust.

Contracts of exchange are important for providing the flexibility to address the challenges of achieving multiple objectives of positive environmental and/or social impact alongside earnings. This is particularly important where impact measures are not clearly defined and/or are under development.

To address the debate on competing institutional logics and concerns about 'greenwashing' relational legal constructs that reflect intended mission aligned behaviours should be embedded in the exchange structures between genuinely purpose-driven impact investors, intermediaries and investee companies.

3.1 Introduction

What's in it for me? A familiar phrase that is easily misunderstood and misconstrued. It is commonly associated with words like self-interest, selfishness, egocentrism, self-preoccupation, self-importance, a "me first" self-centredness. Despite the negative connotation the question conveys, it captures the essence of two prominent underpinning principles of social exchange theory.

The question postulates the idea that benefits, costs, profit and equity drive behaviour in social exchange; and supports the utilitarian perspective that humans, in pursuit of the greatest rewards, only choose to initiate and maintain relationships where benefits are maximised.

This competition between social and business logics is depicted in the film "*Other People's Money*" directed by Norman Jewison. The film explores the world of hostile corporate takeovers and highlights the tensions between profit maximisation and the social impact of shareholders' decisions.

This tension is brought to a climax at the annual shareholders' meeting where the main protagonists - Andrew Jorgenson (Gregory Peck) and Lawrence Garfield (Danny DeVito) - set out their respective visions for the company. The crux of their respective arguments is captured in their eloquent and emotive speeches to the stockholders.

It could be argued that Jorgenson and Garfield are proponents of social exchange theory. In setting out their respective visions for New England Wire & Cable Company, they had individually weighed the costs of their proposals, and had subtracted the costs (which obviously were considered minimal) from the otherwise large benefits, and each determined their respective visions was worth the profit. Using the cost benefit analysis, they had effectively worked out the answer to the question, what's in it for me? and were inviting the shareholders to do the same.

Playing to the discourse on the purpose of business, *Other People's Money* pitches wealth maximisation (based on rational decision making seeking an optimal financial outcome) against social responsibility. The validity of the positioning of the main protagonists makes an interesting debate topic. Remarkably, when offered the opportunity Garfield considered that the opportunity to maximise his own profit at the expense of the shareholder was not morally justifiable. This action can be viewed as a critique of the concept of self-interest as it is in “... *conflict with the generalization of self-interest as the only human motivation*” (Rocha and Ghoshal, 2006).

The opposing viewpoints on display articulate the conflict between utility optimisation and social ideals. However, it could be argued that both protagonists are acting in self-interest within the broad context that humans can be both entirely selfish and social, consistent with observations from Ott and Ivens (2009). This observation suggests self-interest is not necessarily negative and could instigate parties to structure transactions to deliver mutually negotiated beneficial relational exchanges (Cropanzano and Mitchell, 2005; Ivens and Blois, 2004).

Impact investing seeks to denominate “...*an investment logic that combines social and environmental goals, financial returns as well as personal values*” (Lehner *et al.*, 2019). The emergent practice of impact investing is stimulating the interest of capital providers and financial intermediaries (Agrawal and Hockerts, 2021). The potential of impact investing to catalyse the required positive social and environmental change on a global scale, and to tackle pressing societal challenges is enormous.

A broad and growing range of diverse investment opportunities are available to impact investors. The diversity includes impact objective, financial return expectation, and asset class (Hockerts *et al.*, 2022). This has prompted the broad categorisation of investors as either “impact first” or “financial first” (Freiberg *et al.*, 2020). The growth of investments from both ends of the spectrum suggests that generating healthy financial returns and social impact are not mutually

exclusive (Ormiston *et al.*, 2015). This distinction is largely driven by investor motivations and attitudes (Roundy *et al.*, 2017).

Financial decisions made by impact investors consider wide-ranging environmental and/or social factors. These decisions are rarely motivated by a self-interest approach that simply seeks to maximise benefits and minimise costs (Brest and Born, 2013).

The idiosyncrasy of impact investing is that it introduces a values-based approach to the investment process. Alongside financial measures, the performance targets distinctively include the measurement of environmental and/or social impact (Agrawal and Hockerts, 2019; Bengo *et al.*, 2021; Daggers, 2020, 2022; Hehenberger *et al.*, 2019; Lehner *et al.*, 2019).

Research in the impact investing field is dominated by practitioners and increased academic work is required to provide theoretical depth and objectivity (Agrawal and Hockerts, 2021; Hockerts *et al.*, 2022). Gaps associated with the practical perspective of impact investing and the development of investable business models have been identified (Findlay and Moran, 2019; Höchstädter and Scheck, 2015; Phillips and Johnson, 2021).

For instance, impact investor motivation, attitudes and behaviours need to be studied to increase understanding of the impact investing landscape (Carè and Wendt, 2018; Roundy *et al.*, 2017) and investigate the underpinning theoretical framework, drawing on actual experience from the perspective of both impact investor and investee companies (Carè and Wendt, 2018; Daggers and Nicholls, 2016; Höchstädter and Scheck, 2015). The pragmatist philosophical approach would enable this social phenomenon to be examined through best suited research methodologies.

The dual mandate of financing the generation of positive environment and/or social impact and profit continues to stimulate academic debate (Chen and Harrison, 2020; Phillips and Johnson, 2021). There are concerns that competing

institutional logics and ensuing tensions created by perceived greenwashing⁴ pose a challenge to the mainstreaming of impact investing (Bengo *et al.*, 2021; Ioannou *et al.*, 2022; Lee and Roth, 2005; Lehner *et al.*, 2019; Roth, 2020).

Considering these research gaps, this study aims to explore the processes and procedures adopted by impact investors, intermediaries and investees to implement their dual purpose of tackling societal challenges and generating profit. Knowledge of these elements would allow codification of impact investment and could improve management of the competing institutional logics and resolve ensuing tensions of greenwashing. This will contribute towards building legitimacy of impact investing practice.

Social exchange theory (SET) is a paradigm that captures the essence of the transactional and relationship arrangement in the business-to-business settings (Lambe *et al.*, 2001). It is based on the reciprocal exchange of tangible or intangible valued resources between parties each seeking to maximise the outcomes (Molm, 2014).

SET lends itself to the notion of the provision of financing in return wider societal benefits and provides a meaningful theoretical construct from which to examine the relational exchange modalities between the impact investor, intermediaries and investee companies seeking to deliver measurable social or environmental impact alongside optimal financial returns (see Chapter 2.5.2).

SET offers a potential lens to better understand the implementation of impact investing practice through an analysis of the characteristics of the evolving relationships and mechanisms adopted to deliver agreed objectives. Therefore, the following research questions have been postulated:

⁴ “the act or practice of making a product, policy, activity, etc. appear to be more environmentally friendly or less environmentally damaging than it really is”
(Source: <https://www.merriam-webster.com/dictionary/greenwashing>)

- RQ1. What norms⁵ govern the relational exchange behaviours between impact investors, intermediaries and investee companies?
- RQ2. How do these norms influence formal contracts, interactions between parties, and address the potential for exchange partners to act opportunistically (i.e. take advantage for self-interest)?

The paper is structured as follows. It begins with an overview of social exchange theory (Section 3.2) and the impact investing ecosystem (Section 3.3) to understand the state-of-the-art. It then explains the methodology and data (Section 3.4) to give a feel for the research underpinnings, research approach and sample. The findings are set out in Section 3.5, while discussions and conclusions are provided in Section 3.6 and Section 3.7 respectively.

3.2 Social Exchange Theory

Social exchange theory (SET) is a prominent theory of sociology and management that explains behaviour using economic and behavioural psychology (Muldoon and Zoller, 2019). It is considered one of the most studied, validated and foremost theories in the field of organisational behaviour (Cropanzano and Mitchell, 2005; Muldoon and Zoller, 2019).

SET is deemed to be an important part of pro-sociality governed by reciprocal norms (Diekmann *et al.*, 2014; Simpson *et al.*, 2018), and seen as successive interdependent interactions that create obligations between exchange partners. The relational benefits arising from the interactions deliver both social and economic outcomes (Cropanzano and Mitchell, 2005).

SET is hinged on the notion that exchange relationships involves interactions between entities that trigger obligations (Cropanzano and Mitchell, 2005; Emerson, 1976). The ability of SET to unravel ingrained characteristics of exchange relationships (Dyer and Singh, 1998; Zhou *et al.*, 2015) provides an

⁵ an authoritative standard (Source: <https://www.merriam-webster.com/dictionary/norms>)

auspicious theoretical framework to decipher the circumstances that engender much valued collaboration (Carlson *et al.*, 2011; Lai *et al.*, 2012; Wu *et al.*, 2014).

SET encompasses a series of assumptions and conceptualizations. Core assumptions can be described as rational behaviour by actors looking to maximize return; dependence on others for gratification; goal-oriented actors who constantly identify and evaluate alternatives; and interactions between actors set within social norms and preference for social “credit” over social “indebtedness” (Blau, 1964; Dyer and Singh, 1998; Homans, 1961; Schoenherr and Wagner, 2016).

The conceptualizations that govern SET are value, success, rationality and aggression propositions (Cropanzano *et al.*, 2017). Value proposition is associated with the likelihood of repeated transactions hinged on expected tangible and intangible reward, and the probability of return; success proposition is connected to frequency of reward stimulating repeated action; rationality proposition is dependent on maximisation of returns, and aggression proposition is triggered by dissatisfaction (Blau, 1968; Davis-Sramek *et al.*, 2020; Homans, 1958; Lambe *et al.*, 2001; Lind and Tyler, 1988; Schoenherr and Wagner, 2016; Thibaut and Kelly, 1959).

SET has been applied in business and management studies to explain the structure and perception of exchanges in business-to-business relationships (Kingshott *et al.*, 2020). In these settings, SET is often employed to describe the bilateral, interdependent and rewarding transactional process between organisations. Despite its wide application, it remains a prevalent mechanism amongst scholars used to explain the theoretical foundation underpinning exchange and relationships (Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001).

3.2.1 SET and the potential for impact investment

SET offers the an invaluable understanding of the dynamics that govern exchange relationships (Sia *et al.*, 2008). Within the impact investing ecosystem, relationships between impact investors, intermediaries, and investees can be regarded as a form of social exchange in which resources and knowledge is shared to achieve mutual goals (Kingshott *et al.*, 2020; Liu *et al.*, 2012).

SET is particularly useful in explaining arrangements that could have significant implications on exchange relationships that are governed by incomplete written contracts (Sia *et al.*, 2008). Several studies have described this as the psychological component of exchange relationships (Aslam *et al.*, 2022; Cassar and Briner, 2011; Davis-Sramek *et al.*, 2020; Gillani *et al.*, 2021; Kaufmann, Esslinger, *et al.*, 2018; Kaufmann, Rottenburger, *et al.*, 2018). The prevalence of loosely defined impact measures presents an appropriate lens to investigate the interaction between impact investors, intermediaries and investees: a social exchange that seeks to tackle societal challenges at scale (Eisenhardt *et al.*, 2016; George *et al.*, 2016).

Contrary to the idea advanced by transaction cost analysis, research has shown that norms and personal relations are an effective relational governance mechanism in curtailing partner opportunism risk (Paulin and Ferguson, 2010; Simpson *et al.*, 2018; Tangpong *et al.*, 2010; Terpend and Krause, 2015). This explains why researchers have relied on social exchange theory to explain the development of relationships, through a series of interactions over time, in business-to-business exchanges (Lambe *et al.*, 2001).

Empirical support for the ability of SET to explain business-to business exchange relationships is mixed. Despite its prominence as a conceptual viewpoint in management, sociology, psychology and allied fields to explain social interactions, there are several arguments against its theoretical robustness. The valuable insights SET provides into exchange relationships and decision-making

has been both influential and critiqued in academic circles. Cropanzano, et al (2017) suggest these challenges can be captured under four key issues:

1. SET employs numerous analogous and overlapping constructs to define the initiation of actions and desired responses.
2. There is a lack of recognition regarding how some constructs frequently utilized in social exchange research are associated with positive hedonic experiences.
3. SET falls short in clearly distinguishing between behavioural action and inaction.
4. The behavioural forecasts presented by SET have evolved to be excessively broad and lacking in precision.

In the context of business-to-business exchange the critique outlined above can have several potential implications and consequences. These include:

- **Ambiguity in Relationship Management:** The overlapping constructs and insufficient differentiation between behavioural action and inaction can lead to ambiguity in how B2B relationships are managed. Exchange partners may struggle to pinpoint the precise actions needed to maintain or improve their relationships (Voss *et al.*, 2019).
- **Missed Opportunities for Positive Experiences:** Failing to recognize that some constructs may lead to hedonically positive experiences can result in missed opportunities for creating more enjoyable and mutually beneficial B2B exchanges (Hinterhuber *et al.*, 2021). Organisations might not fully leverage the potential for building trust and satisfaction.
- **Ineffective Decision-Making:** The imprecision in behavioural predictions can hinder decision-making processes within organisations. When exchange partners fail to accurately anticipate actions of each other, they may make suboptimal decisions, impacting their overall performance and competitiveness (Zafari *et al.*, 2023).
- **Risk Management Challenges:** The assessment of risk in B2B exchanges may be complicated by unclear distinctions between action and inaction.

Exchange partners may struggle to identify potential risks associated with partner behaviours, leading to inadequate risk management strategies (Sharma *et al.*, 2022).

- **Competitive Disadvantage:** Exchange partners that rely solely on overly general predictions derived from SET may face a competitive disadvantage in the B2B landscape. Competitors who adopt more nuanced models may be better equipped to tailor their approaches to specific partners and situations (Pathak *et al.*, 2022).
- **Strategic Misalignment:** B2B relationships often involve strategic alliances and partnerships. Without precise behavioural predictions, exchange partners may find it challenging to align their strategies effectively, potentially leading to conflicts or missed opportunities for synergy (Pedersen *et al.*, 2020).
- **Trust and Reputation Implications:** Misinterpretation of constructs and imprecise predictions can erode trust and damage reputations in B2B relationships. Exchange partners may become wary of engaging in collaborations if they perceive inconsistency or unpredictability in their counterparts' actions (Scheer, 2022).

These potential implications suggest that the limitations of SET in construct definition, differentiation between actions, and precision in predictions can have far-reaching consequences. SET needs to be complemented with additional theoretical frameworks to better address the complexities and nuances of B2B exchange relationships.

Although the regulation of interaction between businesses is achieved through formal and informal structures, the degree of compensation, each for the other, is uncertain. SET does not provide a clear rationale to replace formal governance with relational governance structures (Lambe *et al.*, 2001).

The literature generally suggests that business-to-business exchange governance requires the use of SET in conjunction with transaction cost analysis (TCA) (Bunduchi, 2008; Huo *et al.*, 2016; Isidor *et al.*, 2014; Khalid and Ali, 2017;

Lambe *et al.*, 2001; Liu *et al.*, 2018; Shahzad *et al.*, 2020). An examination of relational business-to-business exchange combining both complimentary theories (SET and TCA) suggest increased value co-creation and better exchange performance (Cao and Lumineau, 2015; Jeong and Oh, 2017; Paulin and Ferguson, 2010).

The varied motivation and behaviour of impact investors affects their decision making (Hockerts *et al.*, 2022; Roundy *et al.*, 2017). As a result, comprehensive contracts are difficult to create, and successful exchanges incorporate non-contractual governance methods (Busch *et al.*, 2021). However, partner opportunism risk in relational exchanges reduces the effectiveness of relational governance (Nyaga *et al.*, 2013; Paulin and Ferguson, 2010; Zhou *et al.*, 2015).

3.2.2 SET in Business Settings: a review

The role of SET in business-to-business exchanges has featured in business, management, strategy, economics and marketing literature over the last 25 years since the exploratory framework from the influential paper of Lambe *et al.* (2001). The study undertaken by Lambe *et al.* (2001) was uncovered in September 2018 using the EBCSO Business Complete database as the most cited paper that framed SET in the business-to-business relational exchanges.

A bibliometric analysis of Lambe *et al.* (2001), based on data using *Publish or Perish (PoP)* software program that retrieves and analyses academic citations from a range of data sources including Google Scholar, Microsoft Academic, OpenAlex, Web of Science, Scopus, PubMed and Crossref. The results indicates a surge in the number of citations since 2020 (Figure 3-1), which suggests that this issue is gaining increased attention. Given the wide coverage of Google Scholar, *PoP* is generally considered beneficial for the analysis of citations in the fields of social sciences, business, arts and humanities (McLaughlin *et al.*, 2014).

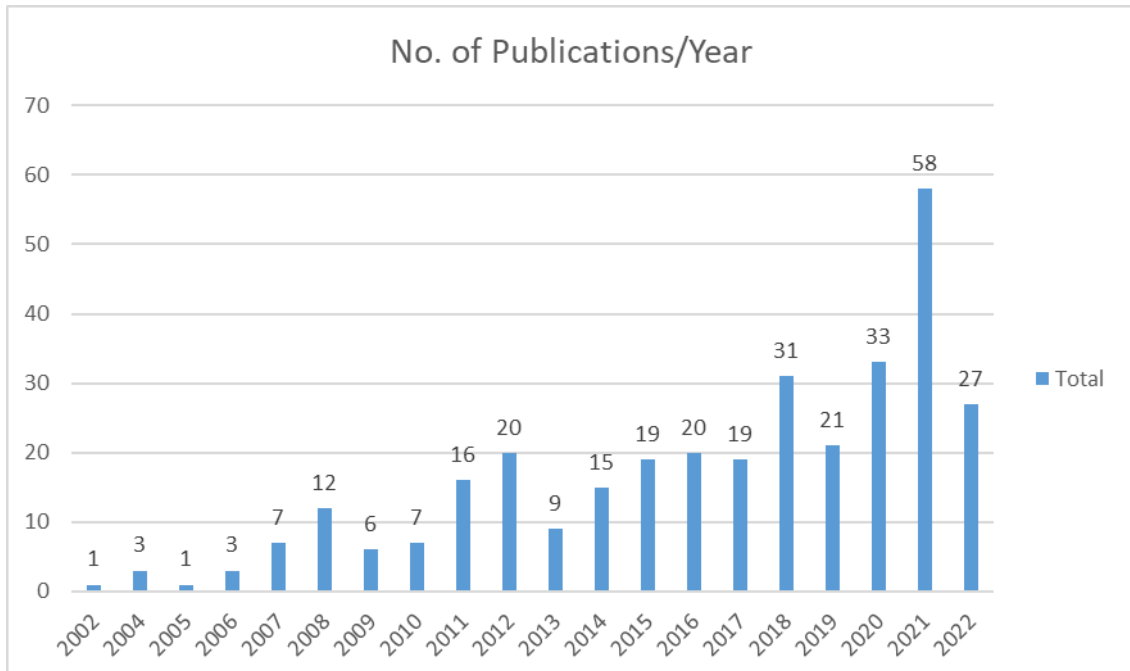


Figure 3-1: Annual citations of Lambe et al., 2001

The results of the analysis indicate that 189 articles citing Lambe, et al, 2001 (c.58% of the total) were published since 2017. 118 of these citing articles (c.92%) have been published since 2020.

In particular, the articles were examined to establish the operationalisation of the paper by scholars in the discipline and to identify developments to the framework. This exercise indicates that c.35% of the citations (166 articles) appear in 10 journals (mostly in marketing literature) as shown in Figure 3-2 overleaf.



Figure 3-2: Top 10 Journal citations of Lambe et al., 2001

Further analysis of the data reveal that 39 of the total number of articles citing Lambe, et al, 2001 (c.12%) were published in journals listed in *Leading Academic Journals 2018-2019* (Cranfield University). Journals included on the list were assessed to be in the top 10% by impact factor score (Figure 3-3).

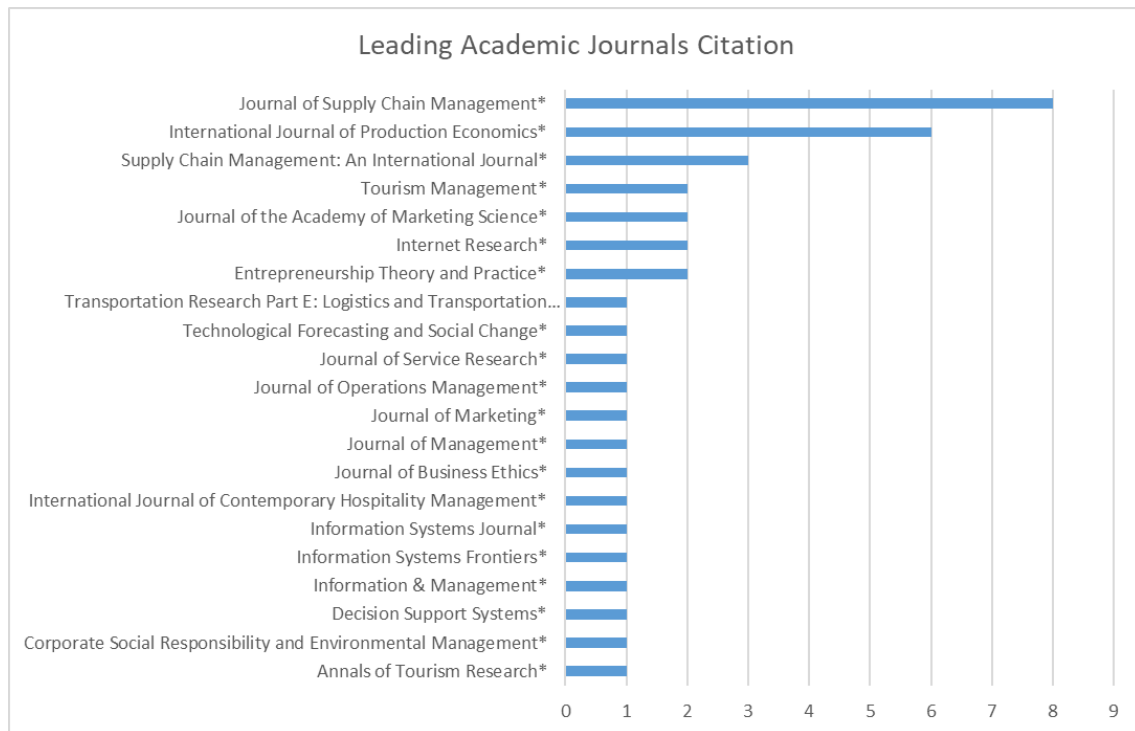


Figure 3-3: Leading Academic Journals citations of Lambe et al., 2001

As shown in Table 3-1 below, 46% of citations in the *Leading Academic Journals* (18 articles) were published in the Business/Management Discipline (excluding marketing), six articles were published in information systems, three articles in marketing discipline, and 12 articles in other journals. None of these articles introduced any new frameworks to understand SET in business-to-business exchanges.

Table 3-1: Leading Academic Journal citations of Lambe et al., 2001 by discipline

Journal Discipline	Count
Business/Management	18
Information Systems	6
Marketing	3
Other	12
Total	39

The analysis indicates that 46% of citations in *Leading Academic Journals* were in papers published since 2017 (within 5 years) with the highest proportion in 2018. This confirms the continued relevance of the paper in understanding SET in business-to-business exchanges. It further supports the idea of a recent upsurge in scholastic interest in SET. None of these papers relate to impact investment.

3.2.3 The Lambe, et.al., SET framework

In the continuously evolving landscape of business interactions, SET offers a powerful framework to understand the intricacies of business-to-business relational exchanges. The paper (Lambe *et al.*, 2001) identifies four foundational premises based on ideas that are distinct, do not overlap and inclusive of all potential outcomes. These premises are described as (1) exchange results in social and economic outcomes, (2) these outcomes are compared to alternatives, (3) trust and commitment increase over time in response to positive outcomes, and (4) exchange norms emanate from interactions over time.

Alongside, the paper examines six operational variables: dependence, trust, commitment, cooperation, relational norms, and satisfaction, which are chosen for being representative and consistently used descriptors in academic writings. These premises and variables are shown in Figure 3-4 overleaf.

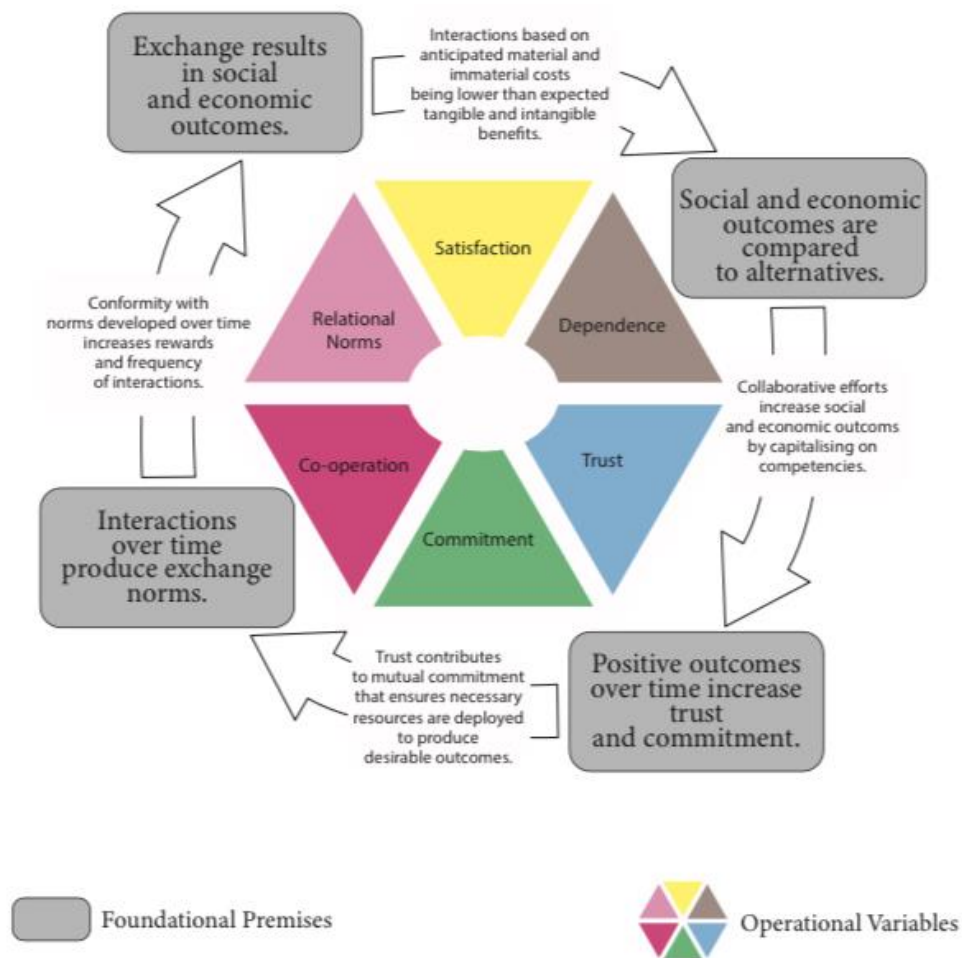


Figure 3-4: SET's Foundational Premises & Operational Variables
(Adapted from Lambe et al., 2001)

The following sections detail prior understanding of the six operational variables of social exchange theory.

3.2.3.1 Dependence

Within the SET context, dependence is triggered by reliance on the exchange partner in the relationship to achieve its goals because of a dearth of alternatives. (Jeong and Oh, 2017; Jiang *et al.*, 2013; Lambe *et al.*, 2001). Dependence can manifest in relationships as social and/or economic dependence and it is conditional on the nature of the relationship. Exchange partners experience increased levels of trust, comfort and gratification as the relationship deepens (Blau, 1968; Gaski, 1984; Jeong and Oh, 2017).

Lambe et al. (2001) posits that dependence operationalises the notion that the social and economic outcomes experienced by exchange partners in a business-to-business relationship are compared to alternatives. However, dependence indicates that the outcomes are completely predicated on the performance of one of the exchange partners and the one-way transaction cannot be accurately described as an exchange which entails give and take.

3.2.3.2 Trust

At its core, this operational variable of SET is driven by the belief that the exchange partner in the relationship is good and honest (Zhou *et al.*, 2015). The attributes associated with trust in SET include reliability, integrity, honesty, transparency, openness, and consistency (Cropanzano *et al.*, 2017; Jeong and Oh, 2017; Khalid and Ali, 2017). Trust exudes confidence, competence, values alignment, and congruence amongst others (Castaldo *et al.*, 2010).

In SET and business-to-business literature, trust is considered the cornerstone variable in relational exchange supported by empirical tests (Choi *et al.*, 2007). It is deemed to operationalise the notion that positive outcomes increase trust and commitment over time. Trust acts as the adhesive that binds exchange relationships.

Lambe, et al., (2001, p. 21) suggest that at the early stages of business relationships “... *trust may be non-existent or present in a limited fashion.*” This informed their conclusion that “... *initial exchange episodes may be relatively small or carry low risk.*”

3.2.3.3 Commitment

This operational variable of SET is predominantly used in business-to-business literature, and represents the perception between exchange partners that it is worth making the concerted effort needed to maintain the relationship indefinitely (Lambe *et al.*, 2001). Commitment partly operationalises the SET view that trust and commitment increase over time in response to positive outcomes (Lambe *et al.*, 2001).

3.2.3.4 Cooperation

In business-to-business exchange, cooperation encompasses the complementary actions – attitudes and behaviours - implemented by exchange partners to achieve mutually agreed outcomes (Castañer and Oliveira, 2020). There is an expectation that these interactions are reciprocated over time for the mutual benefit of the exchange partners. This operationalises the idea that relational norms are produced over time in response to positive outcomes (Lambe *et al.*, 2001).

Although widely accepted to be at the heart of successful exchange relationships in literature and practice, cooperation is frequently employed interchangeably with the terms coordination and collaboration (Castañer and Oliveira, 2020).

3.2.3.5 Relational Norms

SET and business-to-business literature confirm that behavioural norms establish, and to a large extent dictate, the tone of evolving exchange relationships (Agrawal and Hockerts, 2019; Chen and Harrison, 2020; Ferguson *et al.*, 2005; Ivens, 2006; Macneil, 1980, 1981; Ott, 2012; Zhou *et al.*, 2015). Norms are shared and agreed expectations about behaviour or way of doing things by most people and serve as governance mechanisms in relationships (Castaldo *et al.*, 2010; Cropanzano *et al.*, 2017; Cropanzano and Mitchell, 2005; Heide and John, 1992).

Relational norms facilitate exchanges without the need for exchange partners to outline the details and/or to resolve minutiae terms of exchanges on each occasion (Ivens and Blois, 2004). This practice proffers to operationalise the SET notion that relational norms are produced over time in response to positive interactions (Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001). For effectiveness, exchange partners need to adhere to the rules of engagement (Ivens and Blois, 2004).

3.2.3.6 Satisfaction

Business-to-business literature associates satisfaction with the pleasant feeling generated by receiving the expected outcome in the exchange relationship. It entails the evaluation and/or measurement of the results of an exchange experience in comparison to prior expectations. In effect, satisfaction encompasses rational judgements that trigger an emotional response (Gil-Saura *et al.*, 2009).

The predominant definition of satisfaction in business exchange stems from the overall assessment of the cumulative experience of the relationship (Anderson and Narus, 1984; Rauyruen and Miller, 2007; Terawatanavong *et al.*, 2007). Satisfaction operationalises exchange relationship success in business-to-business settings (Lambe *et al.*, 2001) and is deemed as a key measure of the quality of the relationship (Weitz and Bradford, 1999).

3.2.4 Social Exchange Theory in Practice

The application of the social exchange lens has been employed to study a wide range of issues in fields such as anthropology, sociology and organisational psychology. This has been valuable in developing an understanding of relational exchanges across cultures, groups and individuals (Chen and Choi, 2005).

At a macro-level, anthropological studies show that SET has contributed to a deeper understanding of the basis of diverse exchange types in distinct societies (cultures) – including the recognition that this covers non-monetary exchange (Muldoon and Zoller, 2019). An analysis of the micro-level studies by organisational behaviourists identifies four distinct exchange structures – negotiated, reciprocal, generalised and co-productive – and show that these varied social exchanges trigger diverse emotional reactions in actors - groups and individuals (Chen and Choi, 2005).

Social exchange theory can provide a meaningful theoretical construct from which to examine the relational exchange modalities in business-to-business settings. Its conceptual models capture the paradigm that governs the motivation,

behaviour and expectations of impact investors (Bengo *et al.*, 2021; Phillips and Johnson, 2021; Roundy *et al.*, 2017). The following section provides a brief description of the key players and relationships within the impact investing ecosystem.

3.3 The Impact Investing Ecosystem

The ecological metaphor – ecosystem – is increasingly used in literature, notwithstanding that there is no clear definition of the ecosystem concept in the management field (Jacobides *et al.*, 2018; Tsujimoto *et al.*, 2018; de Vasconcelos Gomes *et al.*, 2021). In the context of this study, it may be tempting to adopt the business ecosystem lens. However, this would fail to recognise that the growing impact investing ecosystem could be described as an ‘umbrella concept’ encompassing a subset of ecosystems (de Vasconcelos Gomes *et al.*, 2021).

Based on an extensive review of 90 studies published in 22 leading international journals, covering a 20-year period, Tsujimoto *et al.*, (2018) identify four ecosystem perspectives and propose an integrated model that respects the constantly changing dynamic structure of the business ecosystem. They define the objective of the ecosystem as:

“To provide a product/service system, an historically self-organised or managerially designed multilayer social network consists of actors that have different attributes, decision principles, and beliefs”

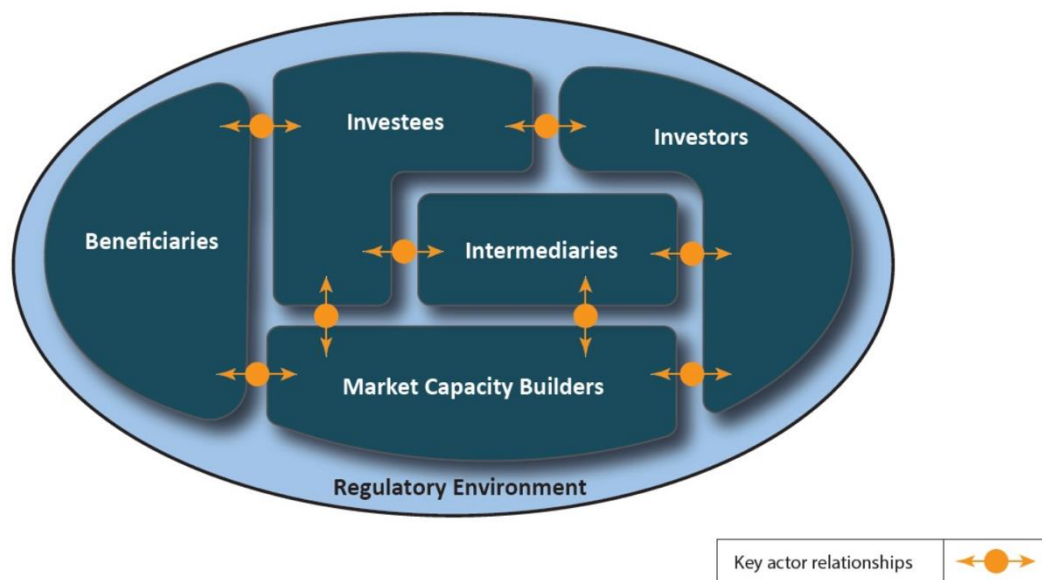
This proposed definition broadly fits within the organisational behaviourist viewpoint that recognises the interdependence between people and organisations - uniqueness of individuals, complexity of human behaviour, group dynamism and organisational processes (Mullins, 2007).

In contrast, the definition offered by Jacobides *et al.*, (2018, p. 2264) appears to take an anthropologist perspective:

“A set of actors with varying degrees of multilateral, non-generic complementarities that are not fully hierarchically controlled”

Significantly, Tsujimoto et al, (2018, p. 49) recognise that actors in the ecosystem have “... *different attributes, decision-making principles, and purposes.*” Crucially they also note that “... *differences can cause unintended results at the ecosystem level, although each actor’s decision and behaviour may be rational at any specific point.*”

The findings of Tsujimoto et al, (2018) are particularly relevant to close examination of key actor relationships in the evolving impact investing ecosystem (Figure 3-5) made up of interconnected organisations that depend on each other to tackle societal challenges with the required urgency and ingenuity.



Impact Investing Ecosystem

Figure 3-5: Impact Investing Ecosystem

(adapted from Lütjens-schilling & Scheck, 2016 and GSG, 2018)

3.3.1 Key Relationships

The impact investing ecosystem illustrated in Figure 3-5, denotes eight key relationships between the five key actors: investors, intermediaries, investees, market capacity builders, and ultimate beneficiaries, all functioning within a

regulatory environment. An understanding of the key actors in the impact investing landscape and the influence of the regulatory environment in which they operate is required to build an understanding of the ecosystem (Acevedo and Wu, 2018). Building institutional legitimacy requires a better understanding and recognition of the interconnectedness between key actors in the impact investing ecosystem (Lehner *et al.*, 2019).

3.3.1.1 Investors

Investors comprise of capital providers that are attracted to the impact investing ecosystem because it provides the opportunity for such organisations to pursue both social and financial goals (Agrawal, 2018; Rizzello *et al.*, 2016). Participation in the ecosystem offers investors an investment diversification opportunity alongside the dual pursuit of social impact and financial returns (OECD, 2015).

Investors include retail investors, government, corporate bodies, investment companies, institutional investors, high net worth individuals, pension funds, insurance companies, banks, foundations, among others. This category also covers development finance institutions.

3.3.1.2 Intermediaries

Intermediaries are entities that raise or arrange capital from impact investors and invest in impact funds or organisations set up to deliver impact. These entities sometimes have dual functions and include asset managers, fund managers, venture capital, family offices, independent financial advisers, commercial banks, brokers, dealers, exchanges, among others. Working alongside market capacity builders, intermediaries help create market liquidity, and deal structuring (OECD, 2015).

3.3.1.3 Investees

Investees are predominantly social purpose organisations, with varied financing requirements, seeking to generate financial and social returns (Lehner *et al.*, 2019). Their business models seek to tackle societal challenges and they operate

across a broad range of geographies and sectors (OECD, 2015). These include social enterprises, not-for-profit organisations, and charitable organisations.

3.3.1.4 Market Capacity Builders

These consist of a broad range of entities that play a vital role in the creation and development of an effective and efficient ecosystem. They connect investors, intermediaries, investees and beneficiaries, and help to improve dialogue through measurement and management of the impact creation process (GSG, 2018). A non-exhaustive list of market capacity builders includes consulting firms, lawyers, accountants, auditors, academic institutions, rating agencies, research institutes, and non-governmental organisations (Hehenberger *et al.*, 2019; Lehner *et al.*, 2019).

3.3.1.5 Ultimate Beneficiaries

The intention to contribute positive social and/or environmental impact, is one of the core characteristics of impact investing. Furthermore, the management, measurability and additionally of impact created is of increasing importance in the growth of impact investing. These factors draw in and recognise the ultimate beneficiaries - people and planet - as key recipients in the ecosystem and reinforces legitimacy building (Lall, 2019; Lütjens-Schilling and Scheck, 2015).

The involvement of the ultimate beneficiaries is particularly relevant for value creation in the impact investing ecosystem as it closes the loop by delving into the effects of investee's activities on people and/or the environment (Viviani and Maurel, 2019). The connections between investment and impact (outcomes delivered by investee outputs) need to be understood to support scalability (Chen and Harrison, 2020). The impact investing ecosystem is still at formative stage and faces barriers including scalable investment opportunities (Hehenberger *et al.*, 2019; Lehner *et al.*, 2019).

3.3.2 Exchange Structures

Contracts in business-to-business relationships are considered as the legal documents that shape exchanges and interactions between actors at the outset, and as relational norms that underpin repeated exchanges (Möhring and Finch, 2015). The call for impact (outcomes of investee outputs) to be embedded in impact investing has highlighted the need for the development of a legal framework (Freshfields Bruckhaus Deringer LLP, 2021; Geczy *et al.*, 2021).

However, there are concerns that the dual objectives of impact investing – intentionality to deliver impact (environmental and/or social) alongside risk-adjusted financial returns - presents a peculiar challenge for contracting practice in the ecosystem. In addition, impact funds are reluctant to align compensation with outcomes and opt instead for waterfall payments based on financials (Geczy *et al.*, 2021).

The overarching and reoccurring question of fiduciary duty of investors is at the centre of ongoing debate. The key role of investors is captured in the publication *A Legal Framework for Impact: Sustainability Impact in Investor Decision-Making* (Freshfields Bruckhaus Deringer LLP, 2021) that was collaboratively undertaken by UNEP FI, PRI and The Generation Foundation.

The three-part Report offers a comprehensive overview of the overarching legal framework guiding ‘investing for impact’ and examines ways in which legal mechanisms can be utilized to advance positive impact via investments. Part A delves into the promotion of responsible and sustainable investment practices within legal frameworks to attain social and environmental objectives. It also covers a range of legal strategies and suggestions for incorporating impact factors into investment decision-making procedures.

In Part B, the focus shifts to whether the laws in different jurisdictions require or permit investments for sustainable impact. The analysis of key types of asset owners and their investment managers across 11 key legal jurisdictions – Australia, Brazil, Canada, European Union, France, Japan, Netherlands, South

Africa, United Kingdom, and United States - considers both the specific language of the laws and the real-world context in which they are put into practice. The report found disparities across regions and types of investors. Nevertheless, if investors find that pursuing sustainable impact aligns with financial goals, they might need to consider and embrace these strategies.

Part C offers policymakers a wide range of alternatives to promote sustainable impact investments. These choices include modifying legal obligations and rights for investors, for instance, enabling sustainability aims to be pursued while maintaining focus on the financial objectives. Another option involves assuming investor cooperation in tackling sustainability concerns.

3.3.3 Study Aims

The emergence of impact investing as a conduit to deliver capital that will yield social or environmental benefits while generating net positive earnings creates friction and competing institutional logics challenge (Agrawal and Hockerts, 2019; Glänzel and Scheuerle, 2016; Heeb *et al.*, 2022; Viviani and Maurel, 2019). Studies within SET show that economic exchanges (*quid pro quo*) and social exchanges (*open ended*) are markedly different, and trigger distinct behavioural relational constructs that suggest social exchanges involve greater trust, more flexibility and less active monitoring than economic exchanges (Cropanzano *et al.*, 2017; Weber and Göbel, 2006).

A key objective of this study is to uncover the norms that govern the relational exchange modalities between impact investors, intermediaries and investee companies. SET lens is adopted to examine the extent to which interactions and the exchange structures established between investors, intermediaries and investees within the impact investing ecosystem are driven by the six operational variables identified by Lambe, *et. al* (2001).

The next section first describes the research design, research context and the sampling technique employed. It then outlines the data collection methods and

challenges presented by the need to draw a distinction between the practitioner and researcher role. Finally, it provides a detailed analysis of the data collected.

An understanding of the emergent behaviours is presented in the findings set out in the subsequent section to inform the design of an impact investing practice framework that should reduce the friction created by competing institutional logics and increase the chances of successful outcomes.

3.4 Methodology and Data

3.4.1 Knowledge Acquisition

An intelligible research design is a prerequisite for the successful execution of a research project. Clarity about the philosophical assumptions that underpin the study is a vital launch pad. (Bunniss and Kelly, 2010; Morgan, 2014; Saunders *et al.*, 2019; Wright *et al.*, 2016).

These philosophical assumptions (research paradigm), which define the research design, concern the researcher's stance on what constitutes reality (ontology), the development of knowledge (epistemology), and the influence of values and ethics in research (axiology). A coherent research study needs to draw connections between the researcher's philosophical positions on the nature of reality, the discovery of knowledge and role of values and ethics (Mertens, 2003; Morgan, 2007, 2014; Tashakkori and Teddlie, 2010).

Ontological perspectives can be broadly sited on opposite sides of a continuum. and labelled objective and subjective (Saunders *et al.*, 2019). Researchers with the viewpoint based on the conviction that reality is not influenced by actions, comprehension, or interpretations of individual actors are categorised as objective and placed at one end. These are termed objectivists or realists (Bunniss and Kelly, 2010; O'Gorman and MacIntosh, 2015; Saunders *et al.*, 2019; Wahyuni, 2012).

In contrast, the ontological viewpoint that embraces the position that reality is shaped by and dependent on individual actors who have a bearing on the social

and physical phenomena (subjective ontology) is placed at the other end – subjectivists or nominalists (O’Gorman and MacIntosh, 2015; Saunders *et al.*, 2019). These diametrically opposite ontological positions are the source of intense philosophical arguments about their mutual exclusivity leading to the conclusion that many researchers place their studies somewhere between (Saunders *et al.*, 2019; Wahyuni, 2012).

Similar to the objective and subjective ontological positions, the philosophical positions on how knowledge is constituted (epistemology) can also be placed at opposite ends of a continuum. At one end, the positivist approach adopts the view that knowledge is objectively established through rational measurements and quantifiable relationships between variable data. On the opposite end, the interpretivist approach is based on exploring beliefs, world experiences and interpretation through recorded observation.

From an axiological perspective, a researcher’s position is based on the influence of values and ethics on the research. The methodology and methods employed in the research process will be consciously or unconsciously determined by human action. The research paradigms are outlined in Table 3-2.

Table 3-2: Philosophical dimensions and research paradigms.

Adapted from (Saunders, et al., 2019)

Philosophical Dimensions	Research Paradigms				
	Positivism	Critical Realism	Pragmatism	Post-modernism	Interpretivism
Ontology	Single truth Independent of individual actors. Objective	Socially constructed reality independent of individual actors. Objective	Constantly renegotiated reality. Best fit solution to achieve desired outcome	Reality derived from perception.	Multiple socially constructed reality.
Epistemology	Primary focus on reliability and validity of tools to measure facts	Power governed socially constructed reality and knowledge.	Seeks out best method to problem solve.	Reality and knowledge dominated by ideology.	knowledge through interaction and dialogue with participants/players.
Axiology	Unencumbered by value judgments Externalist	Pre-supposes acceptance of a specific values. Externalist	Driven by value. Externalist/ Internalist	Alignment with personal values. Internalist	Confined within values. Internalist

Ontologically, positivism and post positivism paradigms both apply a natural science perspective to social science and share an objective and external perception of reality. In addition, their epistemological stance adopts a scientific approach to the generation of acceptable knowledge. Axiologically, within these paradigms, the positivist and post-positivist researcher takes an externalist (outsider) viewpoint of the research.

However, while the positivist researcher seeks the broad application of findings (replicability), the post-positivist researcher takes the position that reality is framed by the social context. In effect, the positivist approach is unencumbered by value judgments whereas the post-positivist presupposes the acceptance of specific values (Saunders *et al.*, 2019).

Interpretivists discard the objective and external stance that underpins the philosophical position of the positivist and post-positivist paradigms. The interpretivism and post-modernism paradigms adopt the stance that reality is shaped and influenced by the subjective perspectives and experiences of individual actors (Neuman, 2011; Saunders *et al.*, 2019). Epistemologically, both paradigms develop knowledge through interaction and dialogue with participants and players.

The axiological stance taken by the researchers within these paradigms is an internalist (insider) perspective (Fleming, 2018; Holmes, 2020). However, for the interpretivist this is confined within personal values whereas the post-modernist takes the view that this is established by value judgments.

The pragmatism paradigm rejects the extremist position taken by positivists and interpretivists. Instead of interrogating the ontological, epistemological and axiological positions, the primary focus of the pragmatist is to figure out the best way to tackle the research problem. The researcher within this paradigm is adaptable and adopts a flexible approach (Brierley, 2017).

The pragmatist takes a multiple external reality ontological stance that is shaped by what works practically. The generation of acceptable knowledge

(epistemology) could be objective or subjective depending on the research question with the focus on solving problems that will inform and contribute to practice in future. The pragmatist's axiology is driven by personal values and adopts both externalist and internalist perspectives depending on the context (Saunders *et al.*, 2019).

As a relatively new philosophical paradigm, the emergence of pragmatism offers a fresh outlook for research in social science (Morgan, 2014; Rosiek, 2013; Saunders *et al.*, 2019). The caricature that limits pragmatism to 'what works best' undervalues the systematic approach the paradigm provides to problem solving in a social context (Morgan, 2007, 2014). In addition to replacing the debate about the nature of reality as the key criteria to differentiate research approach, pragmatism acknowledges that experience involves constant interaction between beliefs and action (Morgan, 2014).

Pragmatism requires that research is treated as the researcher's experience arising from beliefs and actions. It offers a credible alternative to the long-standing philosophical debates about the nature of reality and generation of knowledge (Morgan, 2007, 2014; Saunders *et al.*, 2019.) In addition, it is committed to practical outcomes and useful knowledge through abduction (Rosiek, 2013).

The pragmatist approach is particularly suited to exploring the social phenomenon and the research questions in this study. The social and environmental challenges of the 21st century have identified problems that cannot be explained and/or resolved through old concepts. This requires fresh thinking to generate solutions (Bansal *et al.*, 2018; Eisenhardt *et al.*, 2016; George *et al.*, 2016).

The researcher's approach to acquiring knowledge is intrinsically linked to the underpinning philosophy of the research (Jackson, 2013a). The methodology is the tactical approach taken to provide answers to the research questions posed. The choice of methodology is driven by the philosophical underpinning of the research. The decision is informed by the nature, aims and objectives of the study. An alignment with the philosophical stance facilitates cohesiveness.

A pragmatic philosophical perspective has been identified as most suitable to for this study. It provides options for tackling methodological issues in social science research by facilitating the introduction of an abductive process (Morgan, 2007).

3.4.2 Context

Impact investing is a nascent field and its practice is evolving as it builds legitimacy (Barber *et al.*, 2021; Carè and Wendt, 2018; Chen and Harrison, 2020; Daggars, 2022; Hehenberger *et al.*, 2019; Lehner *et al.*, 2019; Ormiston, 2019). This study seeks to investigate the relational exchange between impact investors, intermediaries and investees. The aim is to examine if an understanding of the norms that govern the relationship could improve impact investing practice.

In the context of this inductive inquiry (Nowell and Albrecht, 2019), qualitative research is considered the best suited to elucidate the tacit knowledge. The participants' experience, context and linguistic interpretations have been obtained from carefully designed semi-structured interviews.

Semi-structured interviews with practitioners in business settings offer ample flexibility and freedom that facilitate mutual understanding between interviewer and interviewee (Adams, 2015; Ahlin, 2019; Wilson, 2014). They also aid the unearthing of sometimes complex processes and gather subjective perceptions that are deeply rooted in the subconscious of participants (Graebner *et al.*, 2012). This is particularly relevant in the legitimacy building phase of impact investing as in-depth discussions with key actors will help develop understanding that could influence practice (Findlay and Moran, 2019; Lehner *et al.*, 2018, 2019).

Findings of qualitative research are often challenged from the perspective that they lack generalizability and replication (Gioia *et al.*, 2013; Nowell and Albrecht, 2019). These arguments are addressed in this study through the design of the research study, its implementation and presentation of findings.

3.4.3 Sampling

An initial list of potential contact organisations was drawn from the directory of organisations listed on the Good Finance⁶ website and investees of Big Society Capital featured on its website. This was augmented by attendance at industry events such as the *Global Impact Investing Network Investor Forum*, that provided opportunity to interact with leading industry actors, build credibility and stimulate interest in the research study.

In the UK, the group of leading industry actors is dominated by investors and intermediaries who strongly advocate and promote the growth of the impact economy through social investment. Actors within the burgeoning sector provide a rich data source to extract information on motivations and identify key characteristics that underpin relationships and mechanisms that are in place to achieve desired outcomes.

The sampling method increases the potential relevance of emerging patterns and interest of findings within a nascent sector. The purposeful sampling technique adopted is best suited to spur learning, develop deep understanding and increase applicability in the sector (Boddy, 2016; Marshall, 1996; Patton, 2002).

The participants in the study identify themselves as part of a growing list of active actors in the impact investing eco-system and see impact investing as an investment approach that can be applied across conventional asset classes (Ormiston *et al.*, 2015). The participants represent organisations that are proponents of the relatively new discipline of impact investing and operate within the broadly described ‘impact economy’ spectrum encompassing responsible, sustainable and impact-driven investments (UK National Advisory Board on Impact Investing, 2017).

⁶ Good Finance is a collaborative project to help improve access to information on social investment for charities and social enterprises (<https://www.goodfinance.org.uk>). It is funded by Access – The Foundation for Social Investment, Big Society Capital and UK Government Inclusive Economy Unit (DCMS).

Direct and indirect approaches were made to over 100 potential executives and senior management in the impact investing sector and a total of 33 interviews were conducted between October 2019 and January 2022. This was the point at which information provided by additional participants did not appear to yield new insights and empirical saturation was deemed to have been attained (Boddy, 2016; Gioia *et al.*, 2013; Marshall, 1996; Nowell and Albrecht, 2019; Yin, 2014).

The participants represent a broad spectrum of the key actors in the impact investing ecosystem – investors, intermediaries, investees and market capacity builders (Table 3-3) – that are relevant to addressing the research question.

Table 3-3: Research Participants Attributes

Interviewee⁷	Designation	Organisation Type	Primary Role	Secondary Role (s)
Participant No 21	Head of Impact	Impact Fund Management	Intermediary	Investor
Participant No 22	Non-Executive Director, Investment Committee Member	Social Impact Investment Company	Investee	Intermediary
Participant No 23	Fund Manager, Executive Director	Social Impact Investment Company	Intermediary	Investee
Participant No 24	Consultant, Non-Executive Director, Investment Committee Member.	Consulting & Advisory	Market Capacity Builder	
Participant No 25	Non-Executive Chair, Real Estate Asset Manager,	Social Impact Investment Company	Investor	Intermediary
Participant No 26	Business Owner/Founder	Sustainable Technology Company	Investee	
Participant No 27	Head of Impact	Wealth Management	Intermediary	
Participant No 28	Chief Investment Officer	Social Impact Investment Company	Intermediary	Investor
Participant No 30	Trustee	Registered Charity	Investor	
Participant No 31	Board Member	Research, Education & Advocacy	Market Capacity Builder	
Participant No 32	Chief Executive	Consulting & Advisory	Market Capacity Builder	Intermediary
Participant No 33	Chief Executive	Community Interest Company	Investee	
Participant No 34	Investment Manager	Impact Investment Fund	Intermediary	Investor
Participant No 35	Chief Executive Officer	Community Benefit Society	Investee	
Participant No 36	Co-Founder	Impact Investment Company	Intermediary	Investor

⁷ Participant No. 1–20 were strictly involved in the Facilitated Workshop (See 4.3.8.2) of the Case Study in Chapter 4 of this doctoral thesis. The interview with Participant No 29 was set up but did not take place and details omitted.

Interviewee⁷	Designation	Organisation Type	Primary Role	Secondary Role (s)
Participant No 37	Managing Director	Community Benefit Society	Investee	
Participant No 38	Director	Charitable Company	investee	
Participant No 39	Director	Investment Company	Investor	
Participant No 40	Investment Director	Fund Management	Investor	Market Capacity Builder
Participant No 41	Trustee, Investment Committee Member	Charitable Company	Investor	Market Capacity Builder
Participant No 42	Chief Executive	Registered Charity	Investor	
Participant No 43	Consultant, Performance Advisor	Consulting & Advisory	Market Capacity Builder	Intermediary
Participant No 44	Director	Trading Platform	Intermediary	Market Capacity Builder
Participant No 45	Policy & Strategy Lead	Consulting & Advisory	Market Capacity Builder	
Participant No 46	Investment Director	Fund Management	Investor	
Participant No 47	Senior Investment Associate	Consulting & Advisory	Market Capacity Builder	
Participant No 48	Director	Specialised Construction Company	Investee	
Participant No 49	Head of Impact	Investment Company	Investor	
Participant No 50	Head of Investment	Impact Investment Company	Intermediary	Investor
Participant No 51	Investment Consultant	Consulting & Advisory	Market Capacity Builder	
Participant No 52	Co-Founder	Impact Investment Company	Investor	Intermediary
Participant No 53	Director	Impact Investment Management	Investor	Intermediary
Participant No 54	Director	Fund Management	Intermediary	Investor, Investee

Based on the primary role of their organisations, ten participants (c.30%) represent investors, nine represent intermediaries (c.27%), while investees and market capacity builders contribute seven (c.21%) each. As shown in **Figure 3-6**, the organisations represented by the participants undertake multiple ‘non-exclusive’ roles in the ecosystem. This reinforces the strong interconnectedness of actors in the ecosystem and the insufficient distinction adds to the blurring of boundaries (Lehner *et al.*, 2019).

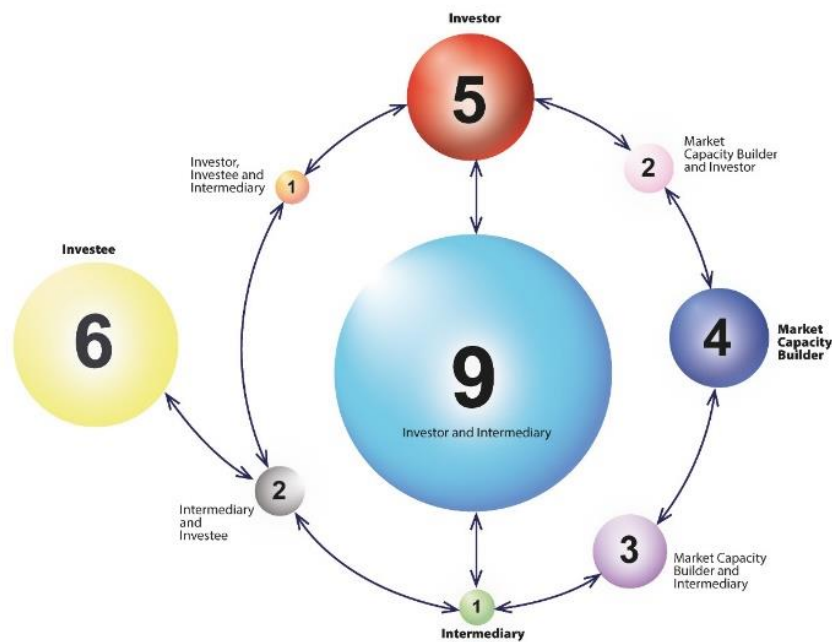


Figure 3-6: Participants' Primary Role Distribution

3.4.4 Ethical Considerations

In advance of the interview sessions, each participant was provided an Informed Consent form that outlined the processes in place to anonymise response and secure data collected. Participants were asked to formally confirm their willingness to contribute to the study, and informed they could withdraw consent at any time during the research (Clark *et al.*, 2021; Harley, 2019; Husband, 2020; Rashid *et al.*, 2019). Completed and signed consent forms were provided by each

participant. Ethical clearance for the data gathering phase of the doctoral thesis was sought and obtained ahead of the data collection.

3.4.5 Data Collection

The researcher's active role at a leading organisation in the impact investing ecosystem presented some challenges. It was frequently necessary to draw a distinction between the practitioner role (to overcome the barrier of being seen as 'competition') and researcher role. It was particularly important to build a trusting relationship with participants and in all cases, confidentiality was discussed.

At the commencement of the interviews, participants were reassured of confidentiality and that the findings of the study will be anonymised. All participants specifically requested strict anonymity and, in some instances, a pre-meet was required to set ground rules and provide further assurances.

However, it is recognised that the researcher being an "industry insider" could have positive or negative influences on the views expressed by some interviewees. Although the researcher's closeness to industry could be beneficial, the potential weaknesses and consequential risks and biases require mitigation (Cook, 2008).

From the outset, the researcher's unique position of 'researcher in practice' in this study was considered (Holmes, 2020; Lin, 2015). This dual researcher-practitioner role means that the study has been undertaken in a familiar context with pre-conceptions of practice and having shared experience with some of the participants. Although the researcher's 'industry insider' role is primarily as an intermediary within the impact investing ecosystem, it comes with some knowledge and assumptions about the investor and investee experience (Alvesson and Jonsson, 2022; Alvesson and Sandberg, 2022; Brannick and Coghlan, 2007; Finlay, 2002; Jones and Bartunek, 2021).

Prior understanding of the impact investing field was beneficial to the study as it was easier to build rapport that put interview participants at ease, and to gain

their trust and confidence (Brannick and Coghlan, 2007; Jones and Bartunek, 2021). It also facilitated careful framing of the semi-structured interview questions (Appendix B-1) and sensitive construction of probing follow-up questions. This was necessary to ensure participants remained open and willing to share experience throughout the interview process.

The primary challenge of being an insider is the risk associated with researcher subjectivity and inability to separate personal experiences from that of participants (Alvesson and Sandberg, 2022; Holmes, 2020). This could unduly influence the line of questioning or result in data interpretation to confirm existing beliefs.

As a mitigation strategy, the core questions were pre-tested in two mock interviews with practitioners and the researcher engaged in a process of reflexivity throughout the study to examine the dual role occupied in the study. The reflexive process was essential to explore and develop an understanding of the researcher position (Holmes, 2020). This entailed taking conscious actions to disconnect personal experiences from that of participants through deep immersion with data.

The deliberate exposure to information that deviates from existing understanding and seeking out dissonance within the data reduced confirmation bias. Alongside, the propriety processes and systems in place within participants' organisations offered a genuine opportunity to engage in new learning.

In addition, a time lag was introduced between data collection/transcription and data analysis and coding. The time lag provided time for deep familiarization with data through repeated engagement with the audio recordings, interview notes and transcripts (Rinehart, 2021; Tavory and Timmermans, 2019). This process significantly reduced scope for bias.

Impact investing is an expanding field that offers considerable potential to tackle societal challenges (Lam and Tan, 2021) and the motivation is to produce research that contributes to improving its practice. This prompted the decision to

ensure that the study methods mirror underpinning values of evidence-based practice (Gambrill, 1999; Rubin and Bellamy, 2022; Stouten *et al.*, 2018). The personal drive was to embark on rigorous research that would produce efficacious results to influence impact investing practice (Iarossi *et al.*, 2019).

Open-ended questions were carefully framed to build rapport, unlock information and gain new insights (Brooks and John, 2018). The questioning sequence was structured to begin with the least sensitive questions that were designed to better understand the organisation's purpose and motivation. These also provided the opportunity to clarify the participant's definitional and terminological understanding of impact investing (Höchstädter and Scheck, 2015).

The core questions designed to explore the research questions focused on characteristics of relationships, mechanisms in place to achieve organisational outcomes, and actions employed to solve disagreements. They are intended to decipher the structural arrangements and operating practices that reveal the norms governing the relationships between investors, intermediaries and investee companies or organisations in the impact investing ecosystem. In closing, participants were invited to identify barriers or threats to the expansion of impact investing.

The in-depth semi-structured interviews were based on a standard format and the primary questions were provided to participants ahead of the interviews scheduled to last between 45 and 60 minutes. All interviews were recorded (approximately 32 hours in total) with participant's express permission and transcribed in their entirety, amounting to 514 pages with over 245,200 words in length. In addition, there are 132 pages of hand-written notes made during the interviews to capture key points and initial researcher reflections.

3.4.6 Data Analysis

The study employs a social exchange theory lens to examine the exchange structures that have been established by investors, intermediaries and investees in the impact investing ecosystem. As previously described in section 3.2.3, the

conceptualisations outlined by Lambe, et al. (2001), depicted in **Figure 3-4**, provides a comprehensive review of SET and relational exchange in business-to-business settings. Figure 3-4, delineates four fundamental premises of SET and outlines six operational variables – dependence, trust, commitment, co-operation, relational norms, and satisfaction.

Using an abductive approach, the first stage of the analysis involved a detailed review of the interview transcripts and notes. This provided the opportunity to engage intimately with the material, interrogate data for the emerging themes and design the coding strategy (Rinehart, 2021; Tavory and Timmermans, 2019; Vila-Henninger *et al.*, 2022).

The preliminary data review aided the identification of expressions and language that could be related to the operational variables of SET used as primary nodes. The dictionary definition of these terms are presented in Table 3-4.

Table 3-4: Definition of SET Operational Variables

(Source: Cambridge University Press)

Operational Variable	Definition
Dependence	the situation in which you need/ a state of needing something or someone all the time, especially in order to continue existing or operating.
Trust	to believe that someone is good and honest and will not harm you, or that something is safe and reliable (the belief that you can depend on someone or something).
Commitment	a promise or firm decision to do something; willingness to give your time and energy to a job, activity, or something that you believe in.
Co-operation	the act of working together with someone or doing what they ask you; the process of working with another company or organisation in order to achieve something.
Norm	an accepted standard or a way of behaving or doing things that most people agree with.
Satisfaction	a pleasant feeling that you get when you receive something you wanted, or when you have done something you wanted to do.

The qualitative analysis data software NVivo (QSR International) was used to code for empirical themes at the second stage of the analysis. The data were initially categorised under seven broad headings, aligned with the interview questions' structure with the aim of gaining a more profound insight into the experiences being studied (Appendix B-2). The next step entailed a further

categorisation of the data into three distinct phenomena – characteristics, mechanisms, and problem resolution (Figure 3-7).

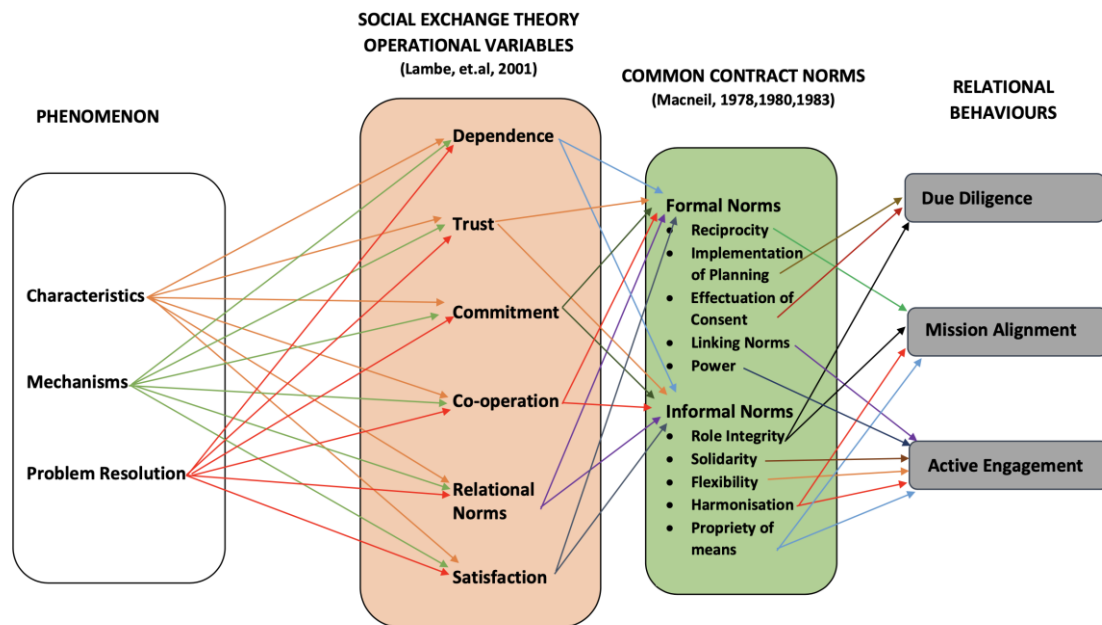


Figure 3-7: Coding Protocol

At the third stage, the participants' interview responses were then analysed using a coding frame to identify relatedness with the six operational variables of SET espoused by Lambe, et al (2001). This exercise was undertaken within the context of SET's foundational premises to understand the degree to which interactions between parties over time have produced relational norms that govern the exchange relationship, increased trust and commitment, and resulted in social and economic outcomes that are compared to alternatives.

Contractual and relational norms in particular play a crucial role in creating the backdrop in which exchanges take place in business-to-business settings. The presence of norms provides exchange partners the latitude to engage without the need for negotiating precise terms to cover all possible eventualities in advance (Ivens and Blois, 2004).

Relational norms described in social exchange theory (Lambe *et al.*, 2001) are interconnected with the common contract norms in relational contract theory espoused by Macneil (1978, 1980, 1983). These combine to explain enduring and collaborative relationships driven by social norms (Ferguson *et al.*, 2005).

The ten common norms advanced by Macneil (Blois and Ivens, 2007; Macneil, 1980, 1983; Paulin and Ferguson, 2010) – role integrity, reciprocity, implementation of planning, effectuation of consent, contractual solidarity, linking norms (restitution, reliance, and expectation), creation and restraint of power, flexibility, harmonisation with the social matrix and propriety of means - to describe behaviours exhibited in exchanges, lie on a discrete to relational spectrum. This work continues to have a far-reaching impact in an understanding of the role of norms across several disciplines including law, economics, marketing, management, philosophy and business (Harper *et al.*, 2016; Jobidon *et al.*, 2019; McLaughlin *et al.*, 2014).

Macneil's common contract norms were applied to decipher the relational norms at play. A brief definition of these norms is captured in Table 3-5 (Blois and Ivens, 2007; Harper *et al.*, 2016; Perrien *et al.*, 2008).

Table 3-5: Macneil's Common Contract Norms

Adapted from (Blois and Ivens, 2007; Perrien, et al, 2008; Harper, et. al, 2016)

Norm	Definition
Role Integrity <i>[Characteristics: Actions and attitudes that favour more intimate relationships]</i>	The extent to which exchange partners seek to overcome the natural tendency to act in self-interest in order to act with integrity to focus on accomplishing jointly agreed objectives. Role integrity is established when exchange partners sense that they are in a relationship with others who will always act appropriately and decently.
Reciprocity <i>[Characteristics: Bilateral improvement of the situation of exchange partners]</i>	The degree of recognition that successful outcomes are reliant on the actions of the exchange partners - interdependence. Exchange partners anticipate an enhancement in their position as a result of the exchange relationship. Reciprocity conveys disposition towards shared obligation and mutual concession. It looks beyond the value of individual exchanges and promotes the notion of shared responsibility.
Implementation of Planning <i>[Characteristics: Specifications of conditions, actions taking place in due time]</i>	The extent to which exchange partners proactively and bilaterally set future goals to capture future commitments. The planning process encompasses implementation methods that is given heightened prominence in the exchange relationship and reliant on informal arrangements with latitude for adaptation.
Effectuation of consent <i>[Characteristics: Meeting contractual obligations]</i>	The choice exercised by exchange partners to engage in a long term relationship that involves surrendering elements of independence and freedom. It recognises the ability of one partner to take undetermined actions that could impact future actions of others.
Contractual Solidarity <i>[Characteristics: Common ground of accord, continuity of the relationship]</i>	The degree to which exchange partners recognise that the relationship operates within a set of widely accepted behavioural rules in the society. It describes the mind set of dependability between exchange partners that works/seeks to preserve relationships and standby each other particularly in circumstances in which one partner is in a predicament.
Linking Norms <i>[Characteristics: Clearly stated obligations and conditions]</i>	The level of confidence in exchange partners' willingness to make adjustments to agreements governing the relationship when required. The linking norms – restitution, reliance and expectation – emphasises the delivering on promises and commitments that are not necessarily legally binding. These issues are given prominence in relational exchanges in response to unexpected circumstances as opposed to strict adherence to contractual obligations elevated in more discrete exchanges.
Creation and restraint of power <i>[Characteristics: Fair balance of power between exchange partners]</i>	Exchange partners appreciate that the restriction of choice introduced by the agreement creates and grants partners power over each other. The degree to which exchange partners expect each other to refrain from controlling each other by exercising the power created or taking advantage when given the opportunity to do so. Restraint from control could be directed towards promoting mutual benefits. Norms of reciprocity and effectuation of consent temper the influence of power in the relationship.
Flexibility <i>[Characteristics: Capacity to adapt the agreement depending on the need]</i>	The extent to which exchange partners adapt to the changes to original agreement. Flexibility captures the attitude/recognition between exchange partners for modifications to the agreement to evolve in response to changing circumstances during the relationship.
Harmonisation with the social matrix <i>[Characteristics: Meeting social and political needs for justice]</i>	The degree to which exchange partners appreciate the need to conform to minimum shared societal values that govern exchanges – clearly understood communication, systems of order, monetary system and processes to enforce promises/obligations.
Propriety of means <i>[Characteristics: Effectiveness and timeliness of information]</i>	Exchange partners are expected to possess adequate capacity and capability to undertake their obligations. A myriad of options and methods could be drawn upon by exchange partners to deliver the desired results. Propriety of means captures the extent to which exchange partners identify and implement options/methods that deliver best outcomes that satisfy the agreed/stipulated objectives and are not injurious to partners.

Alongside, additional codes were created through the process of “open coding” based on the relational characteristics and mechanisms expressed by the participants (Corbin and Strauss, 2014).

At the fourth stage, similarities across the first-order codes were identified to combine into second-order themes and the resulting categories were then combined to identify emerging norms and relational behaviours associated with impact investing practice (Appendix B-2).

The motivation of the participants’ organisations to invest for impact, along with the key characteristics of the established relationships and mechanisms in place to achieve impact outcomes/objectives provide rich comparative data. The identified operational variables are validated by examining the existence of similar attributes in the participants’ description of problem resolution strategies employed in the relationship between key actors in the impact investing ecosystem.

3.5 Findings

This section presents the results of the study focussing on the *modus operandi* of investors, intermediaries and investees in the impact investing ecosystem. It begins by identifying and describing the emergent pattern of behaviours that were evident in the data and the operationalisation of Macneil’s common contract norms alongside the operational variables of SET.

By design, the motivation of all participants in the study is both social and economic. An analysis of the interview responses reveals the evolving relational norms employed by exchange partners (approximately 79% of study participants) underpin projected long-term relationships that are based on commitments to positively impact beneficiaries (people and planet) alongside generating earnings.

Although a number of participants offered the widely accepted *Global Impact Investing Network (GIIN)* definition of impact investing⁸, the questioning to clarify the participants' definitional and terminological understanding of the concept of impact investing prompted nuanced responses that provided variations:

"It means an investment that with intentionality, so which seeks to create some form of social, economic, and environmental benefit. I don't see it in terms of being finance first or impact first, I think it has to be any investment that creates some form of benefit, whether alongside the benefited sub market return market return or surplus to requirements return. That all fits within an impact spectrum." [Participant 24]

"Look, it's about alignment of goals. For me, what's important from the investors that we take, is, I want the people to recognise that our commercial and our sort of impact goals are perfectly aligned. It means that we need to have investors that have a bit more of a longer term investment horizon, because, you know, it should deliver good economic returns, but we're not trying to exit this business as quickly as we can, we're trying to actually solve the problem as the sort of primary purpose." [Participant 26]

"So impact investment it is intended to create a change, there is an underlying implication that that change will be permanent, there is certainly an expectation that is net beneficial. And there is some implication that it is social or environmental. But I don't accept that narrowing of it. Because I think it can be economic, and that all three are intricately tied up with each other." [Participant 32]

"It's investing in a way that the thing that drives financial returns is also deriving a positive social or environmental impact." [Participant 34]

"And we're always looking for the sweet spot of where you can find you know, reliably returning low risk investments and which are impact generating. But sometimes you need to look more towards those which are impact aligned, which allows you to then on a portfolio basis take more risk in some of the much more impact generating type investments that we make." [Participant 40]

⁸ "Impact investments are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return." (Source <https://thegiin.org/impact-investing/need-to-know/#what-is-impact-investing>)

“So to us impact investing, it has three characteristics, its intentional it's additional, and it's measurable. It's kind of like a three legged stool.”
[Participant 46]

The varied understanding and inconsistencies in definition generally originate from the confusing use of terminology. This is consistent with findings in literature (Carè and Wendt, 2018; Clarkin and Cangioni, 2016; Daggers and Nicholls, 2016; Höchstädter and Scheck, 2015; Rizzello et al., 2016). Despite, the variations, this study signals convergence towards the intentional creation of measurable positive environmental and/or social impact alongside returns.

Responses provided by all investors, intermediaries and investee in the study (approximately 79% of participants) indicate commitment, at a very early stage, to processes that serve to create a conducive environment for a potential relationship to flourish. All study participants allude to their personal values, or that of the organisation's founders, as the primary driver to invest for impact. Although cognisant of the commercial opportunities on offer, they broadly appear to be individually motivated by the desire to engage in business activities that are socially beneficial and identify with the need to do good:

“so I think we've been successful in aiming towards the social impact, very largely because of the senior people” [Participant No 23]

“First of all, [we are] driven by wanting to make a change ...we can bring [social] value as s stakeholder in the investment” [Participant No 25]

“I am a person that's sort of driven by doing what I care about”
[Participant No 26]

“My organisation is itself a social enterprise ... the motivation has always been that we as an organisation want to create positive [social] impact.”
[Participant No 28]

“I'm interested in social impact. The only reason I'm interested in financial returns is to keep my business alive. So I can continue delivering social impact, that's it.” [Participant No 35]

“So it really reflects the personal motivations of the core team here to be honest with you, it's kind of just what we want to do...a bit of social conscience, and we want to make a difference” [Participant No 39]

“Finance is always a big motivational factor. If it doesn’t stack up financially and the rewards are not there, then it’s just not going to work.... But behind that, you’ve got into what drives the best financial performance. [Investors] do not want to invest in a company that’s destroying the planet and the environment on the way....” [Participant 48]

The clear desire to make positive societal change appears to lead exchange partners (about 79% of study participants) to place considerable emphasis on ensuring relationships are developed with like-minded organisations. This is achieved by consciously searching for alignment of values and establishing congruence. Consequently, relational norms are established at a very early stage in impact investing practice.

Based on the data analysis, the three main activities that form the nexus of the exchange relationships between impact investors, intermediaries and investees emerged from the semi-structured interviews:

- Mission Alignment
- Due Diligence
- Active Engagement

As shown in Figure 3-7 above, these activities are directly related to the operationalisation of formal and informal social norms. The following sections highlight the findings supported by insights from the participants into the rationale for implementation.

3.5.1 Mission Alignment

A company’s mission embodies its core values and proper positioning places the company on a better footing to attain its goals. Mission alignment in impact investing is deemed to encompass practices that enable exchange partners tackle societal challenges through positive environmental and/or social impacts, achieve financial goals, and reflect their values and priorities (Agrawal and Hockerts, 2019; Ormiston, 2019).

The data from respondents indicates that establishing the degree of alignment of goals between exchange partners underpins the ensuing relationship and is at

the heart of impact investing practice. The focus is on mission alignment and shared values at an early stage that is influenced by reputation (Terawatanavong *et al.*, 2007). This is characterised by the following statements:

“our relationship with the investees are much grounded on alignment of these preferences and objectives. So we have to know that the company has as a core value, as part of the core value commitment to sustainability.” [Participant No 49]

“Does a manager align with us in terms of wanting to grow the impact investing market? are they learning organisation? Are they doing what they say, on the tin, with their investments as well as their own business? So that's quite a big part of our managers' selection, is that it goes beyond kind of understanding the organisation and the compliance aspects of the organisation and the track record.” [Participant No 46]

Investors actively seek to allocate capital to investment strategies that focus on the mission-aligned investees through debt and/or equity instruments. The screening process frequently assesses the extent of mission lock and the starting point is identifying with the ‘Theory of Change’.

“Opportunities, the alignment is hugely important, because effectively you're taking an equity stake in these businesses....” [Participant No 52]

“First of all, you know, mission alignment, and just clear that this is why we're doing what we're doing, that this is what we're gonna try to maximise. And they buy into that.” [Participant No 26]

Mission alignment provides clarity, drives purpose and improves the prospect that exchange partners will make the best decisions to deliver positive impact for people and planet.

“the best way of us protecting ourselves from being involved in investment where there is a lack of alignment over the long term is making sure that there's this values alignment, day one, right, so if a business is purposeful, early on, and the management team are focused on a clear purpose and mission, then there'll be lots of challenges along the way, the business might pivot. But because there's that values, alignment and purpose, it will work out in the end, if that isn't there, day one, you can put all sorts of constraints, frameworks protections around it, it'll still not be good enough.” [Participant No 53]

Alongside the shared mission of generating positive social and/or environmental outcomes for people and planet, is a commitment to measurement and reporting. This behaviour encompasses several common contract norms and appears to operationalise reciprocity, role integrity, harmonisation and propriety of means.

“There's common purpose that stands beyond the relationship, so the relationship and our contractual relationship and the bonds and so on, facilitate the achievement wider purpose.” [Participant No 30]

“so right now, you know, we only have social missions embedded in what inevitably, they're embedded in the charities we invest in through our social investment fund,” [Participant No 39]

“something we always come back to is a strong enough sense of mission within the organisation around their impact objectives.” [Participant No 40]

Eighty per cent (80%) of the investors in this study, indicate that they employ mechanisms that seek to prioritise investments where the defined impact and financial objectives/target outcomes are interlocked. In effect, financial returns can only be delivered on achievement of the impact objectives.

“...no decision can come in front of the board without an explanation of the impact it is going to create” [Participant No 30]

“so we have to know that the company has as a core value commitment to sustainability. Willingness to work with us ... to guarantee that the commitment and the values and mission will be translated into data.” [Participant No 49]

“The most important thing is to establish what the company is doing, and is that aligned to impact?” [Participant No 52]

“It's all explicit because you identify it and look for it, surface it during the due diligence and underwriting” [Participant No 53]

Mission alignment operationalises the attitude that exchange partners are dependent on each other and cannot deliver the objectives at each other's expense (reciprocity). The findings suggest that in all cases the investor dependence on investee is commensurate to the impact goals espoused by the investee.

This is particularly true where investors take equity positions in the investee. The nature of the challenges to be addressed and levels of due diligence (described above) require investors and investees to establish long-term arrangements from the outset that appear to trigger interdependent behaviours:

“So there's a lot of kind of value exchange between us and our investors, I would say, and, and that goes across our whole kind of investor spectrum.” [Participant No 21]

“And I think we have a mature set of investors, they're there to financially support us, they're there to challenge us to ensure that their investment is being maximised. They're there to hold us account that we are doing the right thing from a governance perspective.” [Participant No 26]

Just over half of the study participants explicitly reinforce the important role of trust in the exchange relationships. Trust centres on overriding mutually acceptable, unbiased and ethically compliant behaviours:

“But I think this, the first characteristic that comes to mind is trust. I think that is the only thing that really makes capital flow ultimately, is the establishment of trust on both sides of the equation. So investees need to have some trust that the resource that is coming their way, is genuinely aligned with what they do. And likewise, investors need to have trust that, you know, the resources, their resources, which they are putting in someone else's hands, you know, are going to be well used and respected and, you know, ultimately returned, if possible. So I think trust underpins everything....” [Participant No 28]

Exchange partners need to have assurance that they are interacting with those who can be expected to exhibit proper behaviour and act in the best interests of the shared goals/objectives.

“[That] there is a trust is key. A common understanding of goals. They don't have to have the same goals, but they need to be congruent so they're not likely to conflict with each other.” [Participant No 32]

“So we have to build real trust with our clients and relationships where they believe we are thoughtful, truly motivated around impact, collaborative, visionary, strategic in our thinking” [Participant No 24]

Within this atmosphere, relationships are based on mutual respect:

“They need to trust you, you don't own more than 50% of the company, right? So this is a help and guidance and bringing them along the same path. If you want them to go in a different direction. You've got to try and influence them and persuade them. You can't just go in there parachute some new people in and sack them and it doesn't work like that.”
[Participant No 52]

“I think we have a lot of great relationships with our investors, because we're, we have a good track record of what we do, they can trust us, they know that when we take risks, that we're taking calculated risks.”
[Participant No 21]

The focus on mission alignment and shared values at the early stage of exchange relationships helps to establish congruence between investors and investees.

“Firstly, it would be a true understanding of the social impact we're trying to deliver that will be the First thing. Second thing would be long term horizons, not short term horizon.” [Participant 35]

The alignment of impact and financial objectives is at the core of impact investing practice. This has a direct influence on the process adopted to monitor, measure and report on impact and financial performance.

3.5.2 Due Diligence

In business-to-business exchange, due diligence is generally considered as standard practice undertaken to determine and control commercial risks in transactions (Bonnitcha and McCorquodale, 2017; Cumming and Zambelli, 2017; Gilligan and Wright, 2020). From an investor perspective, the due diligence process seeks to assess the expertise and competence of the investee (and intermediary) to deliver impact (Jackson, 2013b; Ormiston *et al.*, 2015). This process is not unidirectional as mission-aligned investees are wary of greenwashing investor motives and also seek to establish mission alignment (Cumming and Zambelli, 2017; O'Flynn *et al.*, 2019).

The concept of due diligence in impact investing practice encompasses and appears to give equal weighting to social due diligence (Agrawal and Hockerts,

2021). The study suggests that due diligence activities by exchange partners operationalise the norms implementation of planning, effectuation of consent and role integrity.

“the thing that we need to see is that clear impact intent and impact mission within both the product proposition but equally within the people who are leading those organisations and leading those fund managers in those products.” [Participant No 40]

The rigorous due diligence process seeks to establish that exchange partners are intent on overcoming self-interest, acting with integrity and will primarily focus on deeper dive into the mission objectives and goals. From the investor/intermediary perspective, the detailed process involves an assessment of the financial and operational aspects of the proposed investment and interventions alongside the potential environmental and/or social impact. Soft people skills and tenacity also seem to feature in all cases:

“there is some truth that impact has the ability to harness very positive energy amongst groups of people, right? So we look for that we look for people who are on a mission and because that means that they're more likely to overcome obstacles. And we also use that within the team right? to energise our investees, to energise the Team.” [Participant No 53]

Approximately 50% of the investors/intermediaries in the study group apply the traditional venture approach to due diligence. They critically interrogate the investee experience in running impact aligned strategies and are intent on establishing that the concept is proven. The process ensures investment deliverability relative to the target impact objectives and involves detailed risk assessment:

“Ultimately, again, it boils down to track record. Being able to show that you have delivered for that investor class, the things that they expect, which differ according to which one you're talking about.” [Participant No 28]

“And track record and who the team are and what the resources behind the strategy because if you are if you're searching the universe for the most impactful businesses and they've done the economy” [Participant 27]

From an investee perspective, due diligence provides the opportunity to ascertain the key investment drivers for the prospective investors and intermediaries. Investors increasingly recognise the dearth of scalable and measurable impact opportunities, and the need to demonstrate the added value they can bring to the relationship:

“so what they are looking for, in addition to the capital, is they're looking for businesses who understand their company and their business model, that's really key, and who have the ability to support them to grow. And there's a number of angles to that. One is the strategic support and guidance that you can provide these companies, the other is access to network access to opportunities, also, the ability to help them with specific challenges” [Participant No 52]

“So we are an Impact Fund, we do care about these themes and people who are working to solve these problems, right entrepreneurs who are setting up businesses to solve climate issues or to solve social problems, they really care about it, they believe in it, they're on a mission, they want aligned purposeful capital, backing, right, because the best businesses have got a choice as to who they partner with, right? It's not like they're scratching around to find money. They have a choice, they've got people lining up, saying we'd love to invest in your business. So they want to actually work with an investor that shares their purpose.” [Participant No 53]

“... are there enough foundations in place that we think that business is interesting, but equally enough that we can do to help it get better, who is not going to be a perfect company on day one, or else it wouldn't be worth wouldn't need our investment and our attention to then grow it.” [Participant 34]

Where irreconcilable concerns are identified by potential exchange partners the right actions need to be taken to protect integrity:

“And at that point, we thought, no, actually, we don't want to be locked into this type of controlling relationship. So we turn the money down. So it's very much about proportionate oversight and suitability of the product.” [Participant No 38]

Transparency is crucial during the due diligence process. It builds mutual trust that increases the prospects of an enduring productive and effective relationship (Agrawal and Hockerts, 2019).

3.5.3 Active Engagement

Active engagement focuses on interaction and dialogue between exchange partners to influence strategies and actions. The process informs the structuring of the exchange relationship to embed impact and financial objectives. Investors, intermediaries and investees jointly play key roles in governance and decision making to optimise impact and returns.

“Yeah, we always try to be really clear on that as to what we expect of organisations and what they can expect of us... both are equally important. Otherwise, again, the traditional approach to investment has sometimes felt quite one sided, I think, to investees, that just because they were being provided with capital, that somehow meant that was the only thing the capital provider owed them. And, yeah, I think we, we see it as a more balanced relationship where, you know, even though we’ve invested in an organisation, we still owe them a lot more than just the fact that we’ve made the investment. We are part of their journey, we want to be continuously trying to connect them to ongoing resource that can help them. And if we don’t do that, perhaps, there should be an expectation that we haven’t fulfilled our side of the, the equation.” [Participant No 28]

Active engagement enables investors and intermediaries to exert influence to achieve systems change. It offers the platform to improve and test determination of investees to maximise positive impact alongside financial returns:

“Because we take well, primarily majority investment position then we’re quite hands on, I’d say we’re very directly involved in driving the growth and the strategy of those companies.” [Participant No 34]

In the process, participatory governance (Geczy et al., 2021) is given increased prominence:

“So we are broadly a stakeholder in each of these companies, and generally, in our core funds, we’re investing in their equity, we’re buying shares in them. And so we are the we’re a very sort of hands on investor, in addition to buying shares, and generally, it’s a minority position of

somewhere between 10 and 25% of the business normally” [Participant No 39]

Regular engagement with investee companies articulated by about a quarter of the investors and intermediaries in the study appears to give them the opportunity to provide support and proactively contribute to the maximisation of investment impact and sharing/embedding best practice:

“And we also, we also offer support, so if someone needs support an impact management, you know, someone like myself can go out and work with them to build up the systems to put in place. There’s no point in saying someone up to fails on that system, you know, oh, well, we, you know, we haven’t got anyone who knows how to structure a basic database.” [Participant No 21]

“Sitting with the companies and helping the companies to mature, to go through to reach out to new markets, conquer known and unknown new markets solidify their presence. But with the added difference that doing this, with this with sustainability, so it's really it.” [Participant No 49]

Active engagement is considered a vital component in the implementation of impact investing strategies by the same group of study participants. It appears to be employed to negate the tendency to act in self-interest and help to mitigate against mission drift and ‘impact washing’:

“So we would spend more time talking to the manager, and assessing them against active engagement principle, impact process mission behaviours, whether they are being catalytic...” [Participant No 46]

“And we obviously then have regular engagement between investment team and the investee company, and we keep that relationship consistent. So person who finds the vision opportunity negotiates its structure as it executes, it stays as a relationship point person so that they keep that relationship over time.” [Participant No 53]

These investors and intermediaries consider that active engagement facilitates continuous monitoring, from close quarters, and the extent to which impact is delivered. Proactive engagement ensures support is readily available to manage governance issues appropriately and that the investments deliver social and/or environmental impact at expected scale and quality.

Active engagement appears to operationalise the creation and restraint of power norm. Power in exchange relationships reflects the desire of exchange partners to have some control over each other's decisions to ensure commitment (Paulin and Ferguson, 2010).

3.5.3.1 Power

The nature of the relationships between exchange partners described by study participants and the contractual arrangements in place suggests that the power dynamics created by dependence within social exchange theory is curbed by its mutuality. In all cases, there is full appreciation that investors and intermediaries enable impact while investees deliver impact. The long-term arrangements create interdependencies that curtail the use of power and reduces the propensity for exchange partners to exit the relationship:

“... the ideal is to have equal power. It's sometimes hard to achieve, but you should be striving for that, because the fundamental of good relationship is trust and equal power.” [Participant No 32]

Investor returns are inextricably linked to the investee achieving its impact goals. Consequently, when challenges arise down the line, the default position is to seek to resolve rather than walk away:

“So it took us a wee while to build up the level of trust, because, you know, we were never going to run away when things went wrong. In fact, most of the investors were saying this, unless things go wrong, we don't think you're doing your job.” [Participant No 43]

The study indicates that three impact-driven investors were prepared to accept lower economic returns provided desired levels of impact outcomes are achieved and there is transparency between exchange partners. Nevertheless, this study also identified three instances where the behaviours and legal construct between investors and investees created power ‘imbalance’:

“Well, we've got very little control of investors really, I mean, given the fact this is a tradable so that the person who I don't know initially invests and develops the accommodation can sell the development on So in

reality, our sort of impact and effect there is very, very limited.” [Participant No 33]

“Now for me, if I'm selecting a new partner, and I have the power in the relationship to have a selection, proper selection, ... I'll be looking at understanding of the true social good, ... and a long term view and a systemic approach to understanding and sharing risk and reward.” [Participant No 35]

“we believe ... [the] investor had the upper hand in setting up the arrangements for the future and ... have had the benefit of understanding and being able to orchestrate, I suppose the profits, the leakage and the whole ecosystem of the finance really around to the benefit of the investor.” [Participant No 37]

However, the degree to which social and economic outcomes are actively compared to alternatives within impact investing practice is inconclusive.

3.5.3.2 Collaboration

The findings indicate the underlying acceptance and/or recognition by impact investors and investees that the desired outcomes can only be achieved over time triggers collaborative behaviours and attitudes at the outset. Increasingly the mechanisms adopted at the early stages of exchange relationships are designed to encourage collaboration and effectiveness.

Just over a fifth of the study participants repeatedly use the term ‘collaboration’ to describe the characteristics of the relationships and mechanisms employed to achieve outcomes. It emanates from the idea that exchange partners adopt attitudes and behaviours to engage in voluntary actions to achieve both commonly agreed goals and individual goals (Castañer and Oliveira, 2020):

“So there's a lot of collaboration with our investors when it comes to one's institutional and wholesale capital. You know, they work with us on our, on our ICs, not just because of a kind of fiduciary risk perspective, but because they have expertise that we want more of, and also we have expertise and experience that they don't have.” [Participant No 21]

“So they're very much wanting to support our business. Different kinds of relationships, different kinds of finance. But it is that collaboration.” [Participant No 38]

“The bit that where it started to become tricky and less easy was, you know, we, we had the proposition to people that, you know, we were being supported by a collaboration of funding sources. So we wanted a portfolio that was collaborative so we sort of engineered a situation where collaboration is a good thing. And where people could see that the work they were doing, they could actually act as a referral route into something else in the portfolio.” [Participant No 43]

“I think we should all be on the ground trying to make the impact work. And I think that you collaborate - collaboration is best” [Participant No 44]

3.5.3.3 Communication

High quality communication is considered a key factor in the strengthening of mutual trust in exchange relationships. Good communication is a relationship behaviour, attributed to cooperation, that solidifies trust (Jeong and Oh, 2017).

Communication appears to operationalise Macneil’s linking norms – reliance and expectation (Macneil, 1980, 1983) - within impact investing practice. It contributes to increasing confidence levels that exchange partners will keep and follow through on their commitments/obligations. The expectation appears to be that the timing and frequency of accurate information go beyond levels stipulated in the legal documents:

“I think communications though, is another really important part of that. It's sometimes easy for an organisation to believe that they're doing the right thing, but unless they are consistently communicating that to the people, to their stakeholders, you know, that that can also be an eroding factor of trust.” [Participant No 28]

However, the choice and/or use of language plays a critical role to avoid miscommunication that could erode trust:

“Some of the language that is used is very important. If I were an investee, and I'm, well, when I'm placing, seeking capital for an investee. And we start talking with an investor, and they're talking very much in financial markets, analysis type terms and banking, terminology, and don't feel comfortable with words like compassion, and human and love and care. My warning bells start ringing because there we've got a difference of language, which is going to get in the way of communication ... it'll bite trust at some stage.” [Participant No 30]

Approximately 25% of the study participants suggest that high quality communication creates a conducive atmosphere to deal with challenges in the exchange relationship if/when they arise. This appears to operationalise the harmonisation with social matrix norms (Ivens and Blois, 2004; Macneil, 1980):

“So, that should be there a means and enjoyment of communication, meaningful honest open communication” [Participant No 32]

Commitment to an exchange relationship is driven by trust and communication is a precursor of trust. The intention to deliver social and/or environmental impact alongside earnings is a key distinguishing factor in impact investing practice. This drives the high degree of transparency through the informal sharing of valuable information required in communicating results:

“And we do work around like sort of Maslow's hierarchy of needs in our communications and engagement space. So that's the sort of framing that we use.” [Participant No 45]

Keeping exchange partners frequently informed about issues will ensure there is early disclosure of issues that could negatively impact desired outcomes.

3.5.3.4 Flexibility

Flexibility describes the openness to the modification of contracts, and willingness to resolve conflict/problems amicably in exchange relationships:

“And I think that a bit more flexibility is needed. Not to be trapped into prospectuses/legal document that doesn't provide the flexibility to adapt to the objectives that want to be met.” [Participant No 25]

“Okay, well, that's a good one. I think that's relatively straightforward, right? Because flexibility is key, right? So when well, when we think about how can we be helpful? And so if you if you change the conversation to be okay, we've got this capital? How can we deploy it in a way that's going to drive impact? Well, we need to be providing something that investee companies need, right, so one of the things that they value is flexibility.” [Participant No 53]

“And so long as the original terms are still met, the objectives are clear, the means of how we get there needs to adapt. So people talk a lot about adaptive contracting, adaptive management.” [Participant No 21]

The study revealed examples of incomplete agreements without a clear definition of the underlying purpose/mission. This practice is not entirely unusual particularly where the investor undertakes a dual role in the relationship. These omissions are considered to be intentional to preserve flexibility for exchange partners to adapt to changing conditions (Ott and Ivens, 2009):

“there is no such responsibilities or specific duties regarding impact investing in paper. As far as far as I'm concerned, investors they have entered into investment vehicles where we responsibility in terms of impact/social investing are not directly defined. The concepts, general concept is defined, but no additional detail is given.” [Participant No 25]

3.5.3.5 Satisfaction

The idea of satisfaction within the exchange relationship between investors, intermediaries and investees appears to be couched in the measurement and reporting of outcomes by participants. The carefully framed questions on mechanisms to achieve specified outcomes/objectives and approach to problem resolution, were specifically designed to elucidate comments on relationship quality:

“So starting to be transparent about why we're asking for certain reporting mechanisms is key. Otherwise, everyone's gonna be disappointed when the first report comes and there's nothing there” [Participant No 21]

“Because I think that will really help actually catalyse this sector if people can get clear, authentic outputs.” [Participant No 27]

“It's interesting to see the reaction of one of the CEOs we've been negotiating with recently, the moment that it dawned on him like oh, so the sustainability management plan is part of the evaluation plan. So it's part of the shareholder agreement, like yes, part of your milestones, that will trigger valuation are associated with sustainability. This is terrifying, but also fascinating.” [Participant No 49]

Over three quarters of the study participants (around 79%) indicated that the introduction of performance metrics, indicators and targets assist in the management, measurement and evaluation of impact and financial objectives:

“Well, the simplest and the one I've already mentioned is to have an impact report for each of the fund initiatives that we have, which is tailored to really

determine whether that fund is achieving the impact for which it was set up.” [Participant No 28]

“Here's the objectives of what you're going to deliver. Here's the metrics that we want are the here's it's milestone based actually, this is what we want to appear out of it. This is why we think it's important. And why we're intending benefiting, and why we expect to benefit from it. This is, these are the key milestones, we've agreed between us, which will show whether we get into the place we want to, here's how we're going to review it at the end, to explore where we got. And there is a, there's certainly a mind-set in it around embracing failure, and exploring something new, which was something we deeply believed in.” [Participant No 30]

“Well, the relationship between an impact investor and an investee is largely around the measurement, management and reporting on impacts.” [Participant No 31]

Responses provided by almost half of the study participants (48.5%) suggest positive impact and earnings play a dual role in ensuring continued satisfaction.

“You know, so you get what you measured, you know, if met, you're measuring the number of houses built, and that's what they measure, and sometimes that forces you away from doing some things that will be really useful. I think that's, that's part of the one of the deficiencies and the other deficiency, I think, is, is measuring. People get very impatient, they want to see outcomes and impacts in the first year, three years, five years when in fact, some of the things that you're looking for 20 years out. And so what you have to build a system of metrics that don't force you into the wrong time frame in the wrong space so that you can capture something that in many respects is really hard to capture.” [Participant No 31]

“I think often the financial expectations are clearly set from the outset, although obviously never guaranteed, but there is a there's a fairly strong understanding of what the fund is seeking to achieve and returns it promises its investors, and the financial reporting, which will help demonstrate progress towards those targets.” [Participant No 40]

“If the finances aren't right, then no one's going to be happy.” [Participant No 48]

The requirement to employ and report against external frameworks appears to add a dimension of independence and is deemed by approximately half of the study participants (51.5%) to improve transparency and increase confidence in

reliability of results:

“So we will look at the manager, and really, the framework for analysing the manager's impact this is all just talking about impacts. And then then we also will use the IMP's five dimensions of impact, to understand the impact of the investments that that manager is making. So we'll so we'll have that those two layers. One is what do investments do we think they are impactful investments? And then what is the manager doing to improve the impact of the investments and what is the manager doing to protect the ecosystem?” [Participant No 46]

However, two study participants sounded a note of caution on the potential limitations of overreliance on Rating Agencies:

“You need to go and see the people you're supposedly trying to help and talk to them in plain language rather than using all of this ridiculous alienating pseudoscience, ESG Impact Rating stuff, and then you'll find out whether you're actually going to make a difference or not.” [Participant 44]

In the light of the demand across the impact investing ecosystem for increased measurement and reporting of non-financial performance, it is important to recognise that different rating providers define, capture and report against key impact ratings in different ways (Christensen *et al.*, 2022; Cornell and Damodaran, 2020; Dimson *et al.*, 2020; Escrig-Olmedo *et al.*, 2019; Kim and Yoon, 2022; Pástor *et al.*, 2021; Popescu *et al.*, 2021).

The outcome of formal reporting mechanisms also informs decisions on continued investment – particularly in listed/public funds:

“And so we will be able to replace managers that we do not think are doing good job. So we look at their impact metric reporting, even on the non-impact parts of the funds, we look at the metrics that come out of them, see it fits with our core ethos of long term sustainable returns, or if they're not meeting certain targets will drop them we'll also be pretty challenging on how they vote and engage.” [Participant No 47]

“What else reporting outcomes. So if we had an impact manager, and they weren't reporting their outcomes, or they were doing it in quite poor way, then that probably be a no go...reporting outcomes is critical, ability to generate and accelerate impact is important.” [Participant No 51]

Although participants allude to impact measurements and reporting, it is unclear if these are embedded in the legal constructs that underpin the investments.

3.5.4 Key Learnings

Summarising the findings from above, the responses to the study questions indicates broad consensus amongst the participants that suggest that the impact investing practice is maturing. Key players in the impact investing ecosystem are adopting practices to increase discipline, and bring clarity, transparency and accountability to a relatively nascent field. The key learnings are:

1. Mission alignment is a key ingredient in the exchange relationships between investors, intermediaries and investees. Considerable resource is committed to the “Due Diligence” activities by exchange partners to establish congruence during which equal weighting is given to social and economic outcomes.
2. Exchange partners have a clear expectation of ‘Active Engagement’ to co-create value. This is reinforced by evidence of high quality communication employed by exchange partners to strengthen mutual trust.
3. There is evidence of an emphasis by exchange partners on collaboration - actions taken to help others attain common and private goals rather than cooperation - actions taken to implement agreed goals. The apparent distinction made by exchange partners is quite intriguing.
4. Contracts appear to provide for flexibility to address the challenges of achieving multiple objectives of positive environmental and/or social impact alongside earnings. This is particularly important where impact measures are not clearly defined and/or are under development.

3.6 Discussion

Impact investing offers the prospect to deliver positive impact and financial returns through value co-creation for stakeholders and shareholders. The compelling vision is to harness the power and efficiency of business to solve grand challenges – environmental and societal problems - at scale (Daggers, 2020; Eisenhardt *et al.*, 2016; George *et al.*, 2016; Hehenberger *et al.*, 2019). The ensuing debate has been focussed on competing institutional logics - impact first versus finance first – and criticisms of ‘greenwashing’ and ‘impact washing’ (Daggers, 2022; Ioannou *et al.*, 2022).

This study set out to identify the norms that govern the relational exchange modalities between impact investors, intermediaries and investee businesses, an area which has received scant attention in the literature. It also sought to understand how the identified relational norms could influence the drafting of legal contracts, interactions between parties and address the potential for exchange partners in the impact investing ecosystem to act opportunistically (take advantage for self-interest).

While there is terminological and definitional confusion in the literature (see 2.3.2), the responses provided by study participants to the question “*What does impact investing mean to your organisation?*” suggest a convergence amongst ecosystem actors towards the idea that impact investing is aimed at the intentional creation of measurable positive environmental and/or social impact alongside generating earnings.

Recent events and global disruptions resulting from the coronavirus pandemic have also intensified concerns over environmental and social pressure points (Schröder and Raes, 2021; The Impact Taskforce, 2021a) .

Study participants have noted that these concerns alongside increased regulatory interest in the introduction of sustainability classification labels have amplified the focus on the activities of corporate entities and an increased recognition that equity markets need to play a vital role in driving the required

environmental and social change, something mirrored by the literature (Iarossi *et al.*, 2019; Krombholz *et al.*, 2022; Robins *et al.*, 2019; Schröder and Raes, 2021; The Impact Taskforce, 2021a, 2021b). Alternative capital deployment strategies are required to deliver a new reality rather than through traditional finance and legal systems that is akin to “pouring new wine into an old wineskin” (Hockerts *et al.*, 2022).

The evolution of finance over the years, has given rise to a dichotomy between traditional capital deployment strategies and innovative approaches grouped under the umbrella of impact investing. A brief exploration of the core differences that distinguish these two paradigms, and illuminating their goals, approaches, and effects on financial markets and society, will provide clarity on the necessity for alternative capital deployment strategies to deliver sustainability goals (Schröder and Raes, 2021)

The core goal of traditional capital deployment strategies is the maximisation of financial returns for investors, often without explicit consideration for broader societal or environmental implications (Matos, 2020). These strategies encompass a diverse range of assets, encompassing stocks, bonds, real estate, and commodities, and may include investments in companies or industries that may not align with socially responsible or sustainable principles (Frost and Rooney, 2021).

Risk management in traditional strategies typically centres on financial metrics and market dynamics. Non-financial risks, such as social and environmental factors, are often inadequately assessed (Battiston *et al.*, 2021). Alongside, traditional strategies often adopt a short- to medium-term time horizon, driven by the pursuit of immediate financial gains and the demands of shareholders. Performance is primarily evaluated through financial metrics like return on investment (ROI), return on equity (ROE), and earnings per share (EPS). Reporting may lack transparency on non-financial aspects (Nobanee *et al.*, 2021).

In contrast, alternative capital deployment strategies such as impact investing aims to create positive social and environmental impacts in conjunction with financial returns. The primary objective is the alignment of profit with purpose, emphasizing measurable and beneficial outcomes (Schröder and Raes, 2021). Impact investing strategies focus on investments that address specific social or environmental challenges. These may include investments in sustainable energy, healthcare, education, or companies with strong ESG practices (Agrawal and Hockerts, 2021).

Comprehensive risk assessment includes the consideration of both financial and non-financial risks. Impact investing typically adopts a longer-term perspective, recognizing that meaningful social and environmental changes often require patient capital and sustained commitment (Folqué *et al.*, 2021). Impact investors aim to mitigate social and environmental risks while achieving financial sustainability.

Reporting in impact investing goes beyond traditional financial metrics. It includes impact metrics, measuring outcomes related to social and environmental goals, and transparent disclosure of progress toward these objectives (Lerner and Nanda, 2020; Zolfaghari and Hand, 2023).

The distinctions between traditional capital deployment strategies and impact investing alternatives underscore the growing recognition that financial success can be aligned with social and environmental responsibility. While traditional strategies prioritize financial returns as the ultimate goal, impact investing aligns profit with a broader purpose, emphasizing the generation of positive impacts (Islam, 2022).

As impact investing continues to gain prominence, understanding these differences is crucial for investors, policymakers, and financial institutions seeking to navigate the complex landscape of modern finance while addressing pressing global challenges. Ultimately, this shift toward impact-oriented strategies represents a positive step toward a more sustainable and equitable financial system.

The contention between impact first and finance first appears to emanate from the challenges associated with the reconciliation of social and economic aspects of business to business exchanges (Ferguson *et al.*, 2005) alongside the neoclassical economic theory human behaviour modelling, and by default organisational behaviour, on pursuit of self-interest.

The 'conventional' view in the literature is that the investor is inherently selfish and purely seeks to maximise return to cater for narrow self-interest (Daggers, 2022; Suranovic, 2020). In tandem the core assumptions and conceptualizations of SET typify the discourse of rational behaviour by actors looking to maximize return - rationality proposition dependent on returns maximisation (Davis-Sramek *et al.*, 2020; Lambe *et al.*, 2001; Lind and Tyler, 1988; Schoenherr and Wagner, 2016).

Behavioural economics offers a different perspective and impact investing appears to capture the illogicality that humans are both entirely selfish and entirely social (Macneil, 1981). The study undertaken by Chen and Harrison (2020) posits that the assumption of competing logics in impact investing stem from undue focus on transactional practices as opposed to inherent differences in the underpinning logic. It asserts that tensions could be readily resolved by adopting relational practices (Chen and Harrison, 2020).

Relational exchange modalities encompass the diverse ways in which individuals or entities engage in the exchange of goods, services, or information within a relationship. These methods, patterns, or modes of exchange are influenced by factors like trust, communication, and reciprocity in the relationship (Voss *et al.*, 2019). These modalities range from transactional, focused on immediate gains, to relational, where deeper connections and long-term considerations come into play (Mora Cortez and Johnston, 2020; Shanka and Buvik, 2019; Steward *et al.*, 2019).

The characteristics, mechanisms, and behaviours described by the participants in this study suggest a broadly relational exchange between impact investors, intermediaries and investees.

3.6.1 Emergent Relational Dynamics in Impact Investing Practice

The findings of this study indicate that relational exchange modalities, in the impact investing ecosystem, are guided by specific norms that prioritise both financial returns and positive social or environmental outcomes. The emergent norms that govern these modalities include:

- **Transparency:** Emphasis on clear communication and disclosure of both financial and impact-related information, to keep all parties informed about the progress and results of investments.
- **Alignment of Values:** Investors, intermediaries and investees align their values and goals to ensure that the intended social or environmental impact is prioritized alongside financial returns.
- **Long-Term Orientation:** A focus on long-term outcomes to generate lasting positive effects rather than short-term gains.
- **Measurement and Reporting:** Strong emphasis on the monitoring, measurement and reporting of the social and/or environmental impact of investments using standardized metrics to track progress and effectiveness.
- **Collaboration:** Involvement of various stakeholders, including investors, social enterprises, charities, academia, and government agencies, to achieve meaningful results.
- **Impact Assessment:** Rigorous evaluation of the actual social or environmental impact created by investments is crucial, ensuring that the intended outcomes are being achieved.
- **Equity and Inclusion:** Consideration of equitable distribution of benefits among different stakeholders and communities, while addressing issues related to social justice and inclusion that are intrinsically linked to the UNSDGs.
- **Flexibility:** Recognising the need to adapt to changing circumstances to ensure that both financial and impact goals are met.

- Stakeholder Engagement: Involvement of the affected communities and beneficiaries in the decision-making process to ensure that the investments are aligned with their needs and priorities.
- Evolving Practices: Continuously evolving norms as the field develops, adapting to new challenges, opportunities, and lessons learned.

These norms collectively shape how actors approach relationships within the ecosystem and the broader social and environmental landscape. The ascendancy of impact investing, characterized by its dual pursuit of financial returns and environmental and/or social advancement, prompts a systematic exploration of its underlying dynamics. The investigation delves into the intriguing congruence between the foundational premises and operational variables of SET and the emerging norms that govern relational exchange modalities within the field of impact investing.

Drawing inspiration from the paper by Lambe, Whittmann, and Spekman (Lambe *et al.*, 2001), which delineates the core tenets of SET, the interplay between these theoretical constructs is unearthed. Subsequently, the interconnection between the norms that anchor relational exchange modalities within impact investing and the principles embedded in SET is elucidated.

The resonance between these domains is presented by juxtaposing the four foundational premises of SET - centred on economic and social outcomes, benchmarking against alternatives, cultivating trust through positive outcomes, and the emergence of relational exchange norms – and its six operational variables, with the norms shaping impact investing.

The evident parallels between SET and the emergent norms guiding impact investing reveal a profound interconnectedness. This exploration deepens comprehension of how economic interactions can transcend mere financial transactions, paving the way for increased awareness of positive environmental and/or social outcomes intertwined with financial gains. Through embracing the tenets of SET, impact investing not only realises its mission but also exemplifies a dynamic paradigm for achieving mutually advantageous outcomes.

3.6.2 SET's Foundational Premises and Impact Investing Practice

An exploration of relational exchange modalities in the impact investing ecosystem indicate how emerging norms are connected to the four foundational premises of SET espoused by Lambe, et. al (2001). These are described below:

(a) Exchange Interactions Result in Economic and Social Outcomes:

Responses indicate that norms like transparency, alignment of values, and meticulous measurement and reporting accentuate comprehensive outcomes, resonating with the intricate web of results postulated by this premise.

(b) Social and Economic Outcomes are Compared to Alternatives:

The principles of long-term orientation, flexibility, and adaptive practices inherent in impact investing resoundingly echo the process of scrutinizing outcomes vis-à-vis alternatives, thereby reinforcing the adaptable, flexible and forward-looking essence of this sphere.

(c) Positive Outcomes Over Time Increase Trust and Commitment:

The norms of collaboration, impact assessment, and equity and inclusivity reverberate with the establishment of trust and commitment as positive repercussions accrue over time.

(d) Positive Outcomes Over Time Produce Relational Exchange Norms:

Stakeholder engagement and the formation of relational exchange norms within impact investing emulate the premise that affirmative outcomes engender shared norms and understandings.

3.6.3 SET's Operational Variables in Impact Investing Practice

The evidence in this study is concordant with the defining characteristics of SET that include alignment of purpose (trust), medium to long-term duration (dependence), open-ended agreements with scope for discretion (commitment), expectation of co-operative and collaborative behaviours (co-operation), effective communication (relational norms), and measurement and transparent reporting of intended outcomes (satisfaction).

The emerging norms identified during the study are reflected in the six operating variables of SET and Macneil's ten common contract norms as shown in figure below:

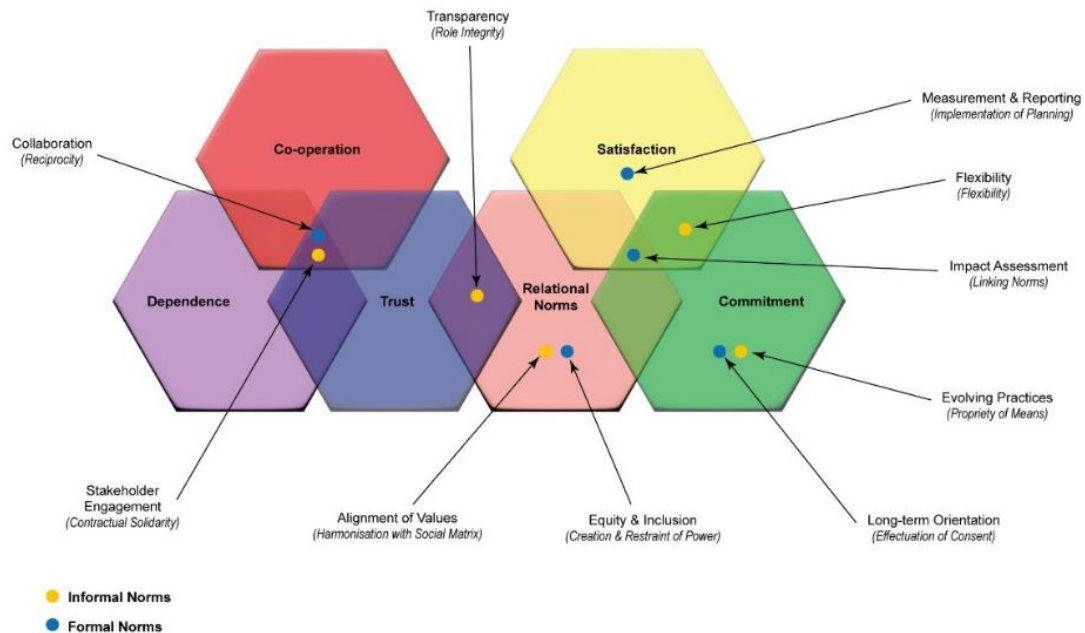


Figure 3-8: Interplay of SET's operating variables, Macneil's common contract norms and emergent impact investing norms

The interconnectedness between the operating variables of SET, Macneil's common contract norms and the emerging impact investing norms, illustrated above, is expanded upon in the following section:

a) Dependence:

Collaborative efforts and stakeholder engagement intrinsic to impact investing exemplify the mutual reliance highlighted by SET's operational variables. Dependence in business-to-business exchanges is a delicate balancing act that requires careful navigation to forge sustainable relationships. It is apparent from the study that investors, intermediaries and investees in the impact investing ecosystem need to devote time and effort to processes that embed interdependence and mutual trust at the early phases of the exchange relationship.

This should provide the platform for relationships to blossom and mature through active engagement underpinned by collaborative practices, flexible approach and effective communication.

b) Trust:

The norms of transparency, collaboration, and engagement collectively contribute to the trust cultivation, as envisioned by the operational variable of trust within SET. Trust acts as the adhesive that binds exchange partners together, enabling them to overcome uncertainties and engage in fruitful exchanges.

The due diligence process - traditionally the preserve of investors and intermediaries – contributes to trust-building at an early stage of the relationship. Although due diligence is usually a one-way vetting process to support the investment case (Allman and De Nogales, 2015), it offers the opportunity for exchange partners to engage in transparent communication (Agrawal and Hockerts, 2019).

Impact investors and intermediaries in this study suggested they adopt a structured approach, whereas the process does not appear to be universally recognised by investees.

c) Cooperation:

The concerted collaboration and stakeholder engagement epitomize the cooperative endeavours inherent in both impact investing and SET's cooperation operational variable. Cooperation is an important catalyst for successful exchange relationships. This harmonious interplay between exchange partners' nurtures cooperative practices that co-create value and propels mutual growth.

The effectiveness of impact investors in generating intentional positive social and/or environmental impact alongside economic value is dependent upon the social and financial success of the investments made in investee businesses. The degree of alignment of objectives and goals of exchange partners is a critical starting point and underpins the success

of exchange relationships in impact investing practice. This evidence was presented strongly by the respondents.

d) Commitment:

Long-term orientation, flexibility, evolving practices, and meticulous impact assessment resonate with the commitment operational variable of SET, fostering enduring dedication within impact investing.

An understanding of the nuances of commitment will contribute to unlocking the potential to cultivate resilient relationships. The respondents understood mission alignment to encompass practices that enable exchange partners to achieve their financial goals, produce positive environmental and/or social impacts and is aligned with values and priorities. Ensuring alignment between investment and mission is at the heart of purposeful impact that should negate the risk of impact washing.

e) Relational Norms:

Transparency, alignment of values, impact assessment, equity and inclusion, and the establishment of norms mirror the SET operational variable of relational norms.

f) Satisfaction:

The meticulous measurement and reporting coupled with the ongoing assessment of impact align with the satisfaction operational variable of SET. Satisfaction acts as a barometer to success in business-to-business relationships. Contentment can be fostered by identifying the factors that influence satisfaction such as flexibility that shows a willingness to adapt to changing circumstances to ensure sustainable exchanges.

The study indicates that exchange partners place a premium on formal and informal communication channels. Satisfaction is driven by both social and economic exchange with personal relationships frequently being an integral aspect of the relationship. This has far-reaching implications for the activities undertaken during the sourcing/screening and pre-investment phases.

g) Relational Norms:

Transparency, alignment of values, impact assessment, equity and inclusion, and the establishment of norms mirror the SET operational variable of relational norms.

Relational norms have a powerful influence on behaviours in business-to-business exchanges. An understanding of how the emerging norms in the impact investing ecosystem govern and regulate behaviours provides insights that guide successful exchanges.

Despite the argument that social exchange theory and relational contract theory are theoretically ambiguous (Cropanzano *et al.*, 2017; Cropanzano and Mitchell, 2005), the findings indicate that SET's operational variables (Lambe *et al.*, 2001) and common contract norms (Macneil, 1978, 1980, 1983) that underpin relational contract theory combine to provide a useful construct to explain the relationships that have developed in the impact investing ecosystem.

3.6.4 Convergence of Principles

This study illuminates the profound parallels between the foundational premises and operational variables of SET and the norms shaping impact investing. It underscores how the principles that govern successful business-to-business relational exchanges find resonance in the dynamic world of impact investing, where the pursuit of financial returns harmoniously coexists with the advancement of societal well-being.

The joint planning that ensues between exchange partners during the pre-investment phase appears to emphasise structures and relationship processes. The evidence in this study found that this is particularly important given the interdependence between exchange partners and recognition that there is an element of loss of freedom to act independently in the exchange relationship. Negotiations should focus on clarification of roles, goals and objectives with emphasis on shared responsibility. Alongside, alignment of exchange partners'

shared mission for social and/or environmental impact alongside financial returns should be reinforced.

The formal and informal norms that were initiated and nurtured in mission alignment and due diligence phases, and operationalised through trust, dependence, commitment and co-operation underpin the active engagement phase. These should be cemented into the relational legal constructs that act as governance mechanisms.

Active engagement entails collaboration, flexibility and effective communication to optimise the impact. Active engagement will provide the opportunity to monitor the degree to which intentional social and environmental impacts are generated in line with pre-determined impact objectives and targets.

Focus on exchange structures based on relational legal constructs will convey the intention of fairness and contribute to the strategic ability of exchange partners to develop unswerving long-term relationships to co-create value based on mutual trust.

3.6.5 Impact Investing Practice Model

The field of finance and investing is in a constant state of evolution, marked by the emergence of innovative investment practices that challenge conventional wisdom. Codifying these emerging practices is essential to developing a full understanding of their intricacies and implications.

A crucial step in this process is the development of a conceptual model that illustrates the key components and principles of the practice. This study has adopted a systematic approach to create an Impact Investing Practice Model, (IIPM) providing a roadmap for academic researchers, investors, intermediaries, investees, policymakers, and regulatory bodies seeking to delve into the intricacies of the emergent investing practice.

3.6.5.1 Identification of Core Elements

The first step in creating the conceptual model was the identification of the core elements that define impact investing practice. This involved a deep dive into the fundamentals of the practice, asking probing questions throughout the literature review and semi-structured interviews to establish its essential components, its underlying guiding principles and its overarching goals and objectives.

3.6.5.2 Defining Objectives and Goals

A clear articulation of the objectives and goals of impact investing practice has been crucial. Despite the differing terminological and definitional perception of this emergent practice, this step set the stage for understanding why investors are increasingly drawn to a capital deployment strategy that aligns investments with specific ethical or social criteria. Defining these objectives have helped to outline the rationale behind impact investing practice that is guiding decision making within the ecosystem.

3.6.5.3 Mapping Interrelationships

Employing the theoretical lens of SET combined with the common contract norms that underpin RCT, the conceptual model captures the interrelationships among the core elements of impact investing practice. This involved, through systematic literature review and semi-structured interviews with key initiating actors in the impact investing ecosystem, an exploration of how these elements interact and affect one another. This process revealed the causal relationships and dependencies that appear to be critical to the success of impact investing practice. Mapping these interrelationships clarifies the mechanics of the approach, reveals potential areas of risk and opportunity, and highlights the complexities of impact investing practice. An understanding of these interconnections has been vital for presenting a holistic view.

3.6.5.4 Historical Context

The systematic literature review provided the historical context for the emergence of impact investing practice. The examination of the historical trajectory provided

rich insight into its development over time and the factors that have influenced it. This historical perspective provides valuable context for understanding current state and future potential of impact investing practice.

3.6.5.5 Guiding Principles

Guiding principles serve as the moral and strategic compass for investors. The core principle of impact investing is intentionality. Investors in this field are driven by a clear and deliberate purpose: to generate positive, measurable social or environmental impact in conjunction with financial returns. This intentionality ensures that investments align with a broader mission of societal advancement and sets impact investing apart from conventional investment practices.

Another critical aspect of impact investing is its commitment to measurement. Investors rigorously assess and report the social and environmental performance of their investments. This measurement allows stakeholders to quantify the impact, enabling accountability and transparency. Without accurate measurement, impact investing's credibility and effectiveness would be compromised.

Commitment to measurement enhances transparency which is a fundamental tenet of impact investing. Investors must communicate their impact goals, methodologies, progress, and results openly and honestly. This transparency builds trust among stakeholders and ensures that impact investments remain true to their intended objectives.

There is increasing recognition that impact management is a vital component of impact investing practice. Impact management encompasses a systematic approach to enhancing and optimizing impact throughout the investment lifecycle. It involves setting impact goals, monitoring progress, and making adjustments to maximize positive outcomes. Impact management distinguishes impact investing from well-intentioned philanthropy, as it emphasizes sustained impact and accountability.

Engagement with all relevant stakeholders, including the communities affected by their investments and interventions, is a significant part of the impact management process. This engagement ensures that impact is meaningful, culturally sensitive, and respects the rights and desires of those directly impacted. It also fosters a sense of shared ownership and responsibility.

These guiding principles are clearly identified and articulated in the conceptual model.

3.6.5.6 Visual Representation

Visual representation is a powerful communication tool for conveying complex relationships within the conceptual model. The illustration shows the hierarchy and connections among the core elements and principles within impact investing practice. This serves as a visual aid to simplify the complex ideas and facilitate comprehension among a broader audience including practitioners, policymakers, regulatory bodies, and academic researchers.

Drawing on the relational norms within SET and the connected common contact norms in relational contract theory, a Model that captures a SET view of impact investing practice is proposed in Figure 3-9. The proposed IPPM outlines the three key phases that emerged from the research and facilitates the codification of the impact investing practice process. The standardisation of impact investing practice will contribute towards building legitimacy and increase the prospects of successful outcomes for investors, intermediaries and investees.

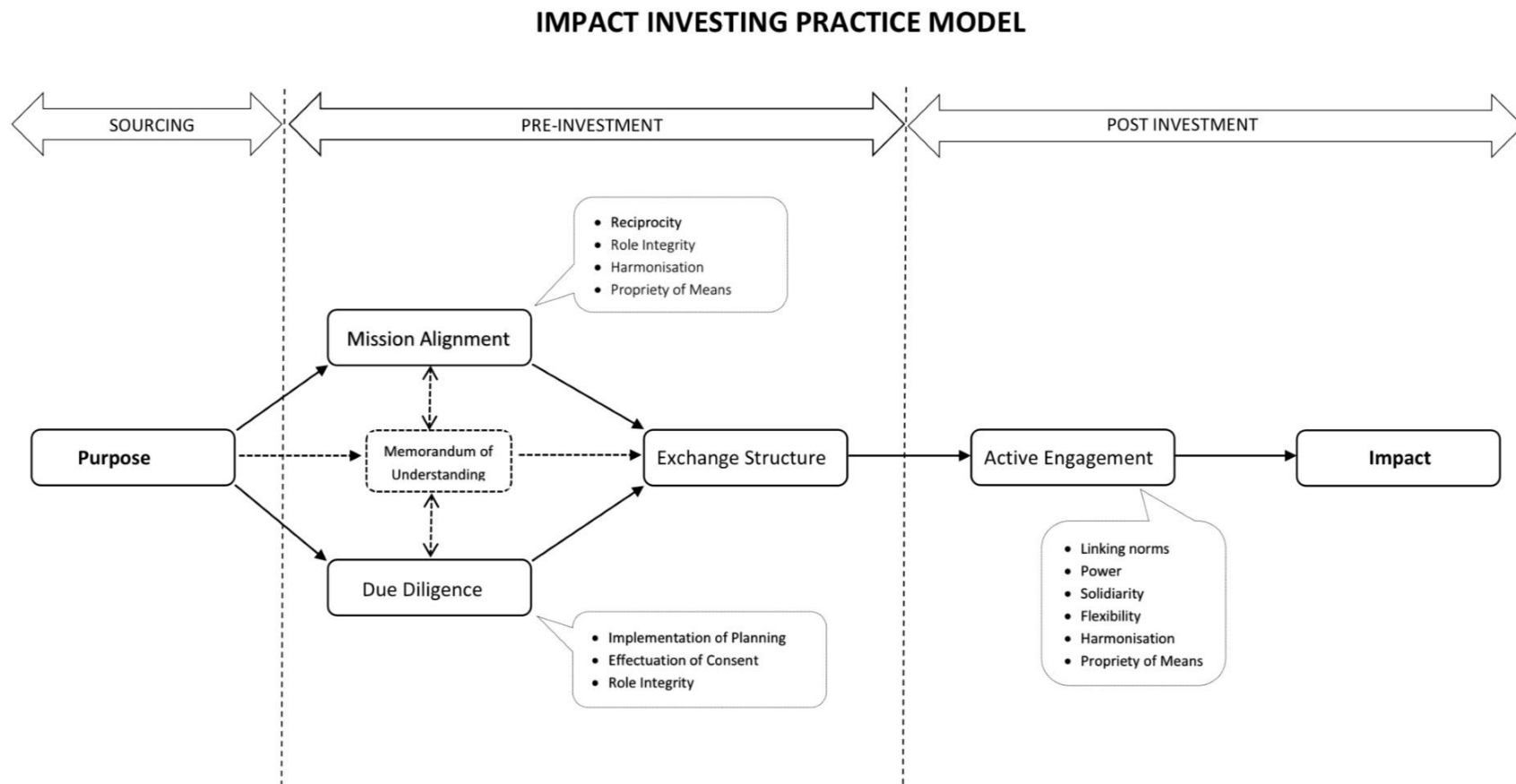


Figure 3-9: Proposed Model derived from evidence from interviewees

a) Sourcing and Screening Phase

The primary activities during the Sourcing and Screening Phase are focused on identifying exchange partners with clearly-defined themes/impact strategies. This will increase the chances that investees attract and investors allocate capital to investment strategies that focus on mission-aligned investees through equity and debt instruments.

b) Pre-Investment Phase

The pre-investment phase is made up of two distinct processes – mission alignment and due diligence. To date, there are no clear examples in practice that recognise these as two distinct processes at the pre-investment phase. It is also essential that the process is multi-directional and codified by investors, intermediaries and investees to maximize benefits.

The formal norms (reciprocity, implementation of planning and effectuation of consent) and informal norms (role integrity, harmonisation and propriety of means), defined in Table 3-5, underpin the activities carried out by exchange partners at this phase. This culminates an exchange structure that captures the objectives of impact investing – intentionality to deliver impact (environmental and/or social) alongside risk adjusted financial returns, and commitment to transparent measurement and reporting of outcomes.

c) Post-Investment Phase

The process of Active Engagement is underpinned by participatory governance (Geczy *et al.*, 2021). The activities undertaken during the pre-investment stage culminating in the Exchange Structure in place to drive the relationship are foundational to the Active Engagement required to optimise impact.

The formal norms underpinning this process are linking norms and power. These combined with informal norms – solidarity, flexibility, harmonisation and propriety of means (see Table 3-5) – guide the generation of

intentional social and/or environmental impacts in line with pre-determined objectives and targets.

A high degree of transparency is required in the reporting of impact outcomes. Impact definition, measurement and communication must be unambiguous and consistently implemented. This needs to be supported by strong commitment to a culture of monitoring to improve rather than simply monitoring to prove.

3.6.6 Policy and Practice Implications

There is scope for governments and policy-makers to occupy a significant role in the continued mainstreaming of impact investing through the creation of financial incentives to encourage increased private capital deployment; supporting the development of suitable investment instruments and fund structures; setting regulatory agenda to standardize performance measurement; building pipeline of investable projects; direct investment in financing models; and funding underpinning independent research to build legitimacy (Nicholls, 2010, 2021).

For example, the concept of a circular economy continues to gain significant traction as a sustainable alternative to the traditional linear economy (van Langen *et al.*, 2021). In a linear economy, resources are extracted, used, and discarded, resulting in waste and environmental degradation. In contrast, a circular economy strives to reduce waste through the design of products and systems that encourage the reuse, recycling, and regeneration of materials (Hina *et al.*, 2022; Neves and Marques, 2022; Tan *et al.*, 2022).

Transitioning to a circular economy requires fundamental changes not only in the production, consumption and management of increasingly scarce natural resources but also in the financial system that underpins these activities (Gonçalves *et al.*, 2022; Tan *et al.*, 2022). Tackling the depletion of natural resources is not just an environmental imperative but also represents a significant economic opportunity (Webster, 2021).

The financial system has a pivotal role to play in fostering the growth of a circular economy. However, the current financial system presents several inadequacies that hinder this transition. Its short-term profit orientation, lack of relevant metrics, complexity in assessing circular risks, absence of suitable financial products, regulatory barriers, and limited financial literacy all contribute to this inadequacy (Khalifa *et al.*, 2022; Saarinen and Aarikka-Stenroos, 2022; Schröder and Raes, 2021).

To overcome these barriers, financial institutions, policymakers, and businesses must work collaboratively to reshape the financial system. To succeed in this endeavour, the strategies, products, and services of the financial system needs to be aligned with circular economy principles (Schröder and Raes, 2021; Wasserbaur *et al.*, 2022).

Changes are required to adapt the practices and priorities in the financial system, focusing on key areas such as investment, risk assessment, and incentivizing sustainable practices, to enable the shift towards a circular economy. This could involve increased capital allocation, improved risk assessment methods, support for Extended Producer Responsibility (EPR) schemes, incentives for sustainable practices, support for innovation and collaboration, developing new financial metrics, creating tailored financial products, and providing education and training to enhance financial literacy about circular principles (Gonçalves *et al.*, 2022; Saarinen and Aarikka-Stenroos, 2022; Schröder and Raes, 2021; Wasserbaur *et al.*, 2022).

Addressing these shortcomings, and embracing the required changes, could pave the way for a financial system that truly supports the circular economy and harness its promise of sustainability and resilience. This will represent a critical step to transform the financial system into a powerful enabler of the circular economy.

Articulated within the context of mission alignment (see 3.5.1) and due diligence (see 3.5.2) participants were clearly alert to the need to address public concerns about ‘greenwashing’ and ‘impact washing’. Rising regulatory oversight on a

global scale such as captured within The European Union (EU) Sustainable Finance Action plan – a major policy objective aimed at leveraging financial markets support towards sustainable economic growth, alongside environmental, social and governance (ESG) risk mitigation, within Europe (Morningstar, 2022a). This has been reinforced in the European Council approved Corporate Sustainability Reporting Directive (CSRD) with calls for increased transparency and accountability (Bengo *et al.*, 2022; Chesney, 2023; Schütze and Stede, 2021; Tao *et al.*, 2022).

There are also policy and regulatory developments in various jurisdictions in response to increased transparency and accountability (IPSF, 2022). For example, the Markets in Financial Instruments Directive II (MiFID II)⁹ suitability assessment requires intermediaries to ask their clients about their sustainability preferences in specific terms (Morningstar, 2022b). Intermediaries are then required to source products that have minimum proportions of sustainable instruments as defined by the SFDR or EU Taxonomy (European Parliament and the Council, 2020). In tandem, The Financial Conduct Authority (FCA) issued a discussion paper in November 2021 followed by a consultation paper in October 2022 on Sustainability Disclosure Requirements (SDR) and investment labels. The FCA's stated aim is to introduce labels to help address growing concerns about 'greenwashing'.

In response to regulatory changes and increasing beneficiary interest, asset owners are shifting towards setting out minimum responsible investment expectations or standards – including specified practices or reporting requirements – within investment mandates. Trust building and transparency is clearly at the core of impact investing.

Processes geared towards impact measurement and reporting, captured within the context of active engagement (see 3.5.3), appear to be largely voluntary to

⁹ European Union Directive on Markets in Financial Instruments aimed at enhancing the regulation of securities markets. MiFID II came into force on 3 January 2018 (<https://www.esma.europa.eu/esmas-activities/investors-and-issuers/investment-services>)

prove impact but could be replaced by more stringent independent third-party verification to prove impact credentials.

From a practical perspective, the IIPM proposed in this thesis responds to calls for improved impact investing standards to ameliorate concerns around field integrity (Casalini and Vecchi, 2022). The IIPM advocates a systemic approach to establish and assess the potential contribution of the key actors towards the achievement of the expected impact of each investment. This is also aligned to the principles set out within the International Finance Corporation's *Operating Principles of Impact Management* (IFC, 2019).

The implementation of the proposed IIPM could guide investors, intermediaries and investees in the definition, monitoring, assessment and reporting on their collective actions related to expected environmental and social outputs and their respective contribution to the achievement of the impact outcomes. Conformity to the principles described within the model could be assessed by independent auditors to provide assurance as part of the impact validation and verification process. It provides the scope for key actors to develop bespoke tools that are aligned to the IIPM that could also support regulatory disclosure requirements.

3.6.7 Limitations and Areas of further research

3.6.7.1 Alignment of Goals and Objectives

The discourse assumes clear alignment of goals and objectives at the onset of the relationship. However, there is evidence (see section 3.5.1) to suggest that substantial refinement of goals and objective between investors, intermediaries and investees occurs during the pre-investment stage. In effect, a relationship that sets out as opportunistic is tailored to become 'mission aligned'.

This shares the attributes of 'angel investing' practice and is more likely where the investee has a well-defined impact strategy that is attractive to an investor/intermediary. This could have a significant influence on the legal structure of the exchange and appears to be the key driver for investors taking on multiple roles in the ecosystem. Further studies will be required to understand

preservation of role integrity in the legal structure of inter-related parties and its impact on reporting transparency.

3.6.7.2 Alternative Theoretical Perspectives

The study design and analysis actively draw on social exchange theory and relational contract theory. Careful reflection has provided fresh and sharper perspective on the data. It aids transferability of findings and study contribution to practice and wider academic understanding. However, concentration on these theories may have shrouded new learnings by advancing these over others. Future studies could explore the relationships in the impact investing ecosystem through other relational theories such as integrated social contract theory, stakeholder theory, and rational choice theory.

The study has focussed on the behaviours of parties in exchange relationship. The legal documents and mechanisms present in the contract language in place between exchange partners are outside the scope of the study. It would be useful to examine if the relational behaviours described by the participants are reflected in the legal constructs of exchange structures.

3.6.7.3 Feedback from Experts and Practitioners

The IIPM has been developed from a dual researcher-practitioner perspective. Additional input and ongoing refinement based on feedback from experts and fellow practitioners, further research, and evolving industry trends will be invaluable to the iterative process required to create a widely accepted conceptual framework.

Practical real-world experiences and the external validation provided by experts and practitioners will provide insights into nuances that may have been missed in this research study. This will ensure that the IIPM remains adaptable and accurately reflects the intricacies of an evolving impact investing practice.

3.6.7.4 Conceptualisation of Risk and Uncertainty

It is essential that risk and uncertainty is adequately managed within impact investing practice. Risk mitigation and adaptation strategies to evolving market

conditions need to be clearly identified. The incorporation of risk analysis into the IIPM will enable investors to make more informed decisions.

3.6.7.5 Highlighting Performance Metrics

Key performance metrics or indicators that are relevant within impact investing practice should be identified. Its dual purpose of intentionally delivering measureable positive social and/or environmental impact alongside earnings have given rise to a wide range of quantitative and qualitative metrics that could be used to measure success and effectiveness.

These metrics that will need to be tailored to specific strategies, include carbon emissions reductions, social impact metrics, financial returns, risk-adjusted performance, governance scores and other relevant benchmarks for evaluating the outcomes of the interventions. The number of academic studies focussed on the measurement and management in impact investing practice is growing. These need to be explored and reflected in the IIPM.

3.7 Conclusions

Exchange relationships are underpinned by formal (reciprocity, implementation of planning, effectuation of consent, linking norms, and power) and informal norms (role integrity, solidarity, flexibility, harmonisation and propriety of means). The study suggests that these norms are, consciously and sub-consciously, applied by impact investors, intermediaries and investees at both the pre-investment and post-investment phases. This means SET has been a useful lens to view impact investing.

The importance of norms is determined by exchange partners relative to the agreed objectives and/or goals. In impact investing practice the mission introduces uncertainty that requires parties to gravitate to the relational end of the exchange continuum.

Alongside mobilization of capital towards “good”, impact investors, intermediaries and investees need to pay careful attention to the exchange modalities between

exchange partners. The legal constructs of the exchange structure, language and mechanisms need to be adapted to clearly reflect expectations and behaviours.

The debate on competing institutional logic- “impact first” or “finance first” - is fuelled by the lack of attention to the exchange structure. The arguments of impact washing, purpose washing etc. may also have been given prominence by the disconnect between the legal constructs (contracts) that inform the exchange structure underpinning the exchanges. By default, the focus has been on financial metrics and increasingly impact measures are translated into financial value – monetisation of social value.

From a theoretical perspective, the operationalisation of relational norms in business-to-business relationships remains a huge challenge. The multiple objectives of impact investing to seek positive environmental and/or social impact alongside positive economic returns introduces contracting challenges for investors, intermediaries, and investees. This is compounded by the agency problems that arise between parties and a legal profession that abhors ambiguity (Geczy *et al.*, 2021).

An appreciation of the role of norms in exchange relationships could contribute to the building blocks of the conceptual foundations required to provide stability and shared meaning in impact investing (Daggers, 2020).

Concerns surrounding the risk of greenwashing, impact washing, and debate on competing institutional logics could be addressed when exchange structures are based on relational legal constructs that adequately reflect intended relational behaviours of exchange partners. However, this must be preceded by adequate due diligence undertaken to establish mission alignment and congruence between exchange partners with genuine purpose-driven strategies to tackle environmental and/or societal challenges.

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Appendix B

Appendix B-1 Semi-Structured Interview Guide

These questions are designed to identify the norms that underpin the relationships between impact investors, intermediaries and investee companies/businesses.

1. What is the purpose of your organisation?
2. What does impact investing mean to your organisation?
3. Why is your organisation motivated to invest for impact?
4. What do you consider to be the key characteristics of your relationship with your investor(s)/investee(s)?
5. What mechanisms are in place to achieve specified organisational outcomes/key impact objective(s)/impact target(s)?
6. How have parties resolved problems that arise in the relationship? /How do parties propose to resolve problems that arise in the relationship?
7. What do you consider to be the greatest barrier/threat to the expansion of impact investing?

Appendix B-2 Data Analysis and Coding Strategy Design

Stage 1	Stage 2		Stage 3		Stage 4	
	Broad Headings	Phenomena	First order codes	Second order themes	Emergent Relational Norms	Relational Behaviours
Detailed review of interview transcripts and notes. Data interrogation for emerging themes and coding strategy design.	Purpose of Organisation	Characteristics	Dependence	Reciprocity	Collaboration	Due Diligence
	Understanding of Impact Investing	Mechanisms	Trust	Implementation of Planning	Measurement and Reporting	Mission Alignment
	Motivation for Impact investing	Problem Resolution	Commitment	Effectuation of Consent	Long-term Orientation	Active Engagement
	Characteristics of Relationships		Co-operation	Linking Norms	Impact Assessment	
	Mechanisms to achieve outcomes		Relational Norms	Creation and restraint of Power	Equity and Inclusion	
	Overcoming challenges		Satisfaction	Role Integrity	Transparency	
	Barriers and Threats to impact investing			Contractual Solidarity	Stakeholder Engagement	
				Flexibility	Flexibility	
				Harmonisation with to Social Matrix	Alignment of Values	
				Propriety of Means	Evolving Practices	

CHAPTER FOUR

4 TOWARDS A CIRCULAR ECONOMY: SUBSTITUTING TRUST WITH MUTUAL OPPORTUNITY IN EXPEDIENT BUSINESS-TO- BUSINESS RELATIONSHIPS (A CASE STUDY)

ABSTRACT

Drawing on social exchange theory (SET), an extensive body of literature in management, business, marketing, and law has shown that trust plays an important role in business-to-business (B2B) relationships. Studies illustrate that trust develops through repeated positive and rewarding interactions over a period of time to create mutual dependence and satisfaction. The evolutionary nature of trust means that its development is stunted in expedient B2B relationships resulting in transactional arrangements that rely on contractual documents to guide behaviours. This paper examines how substitutes for trust could promote trust-like behaviours similar to long-term B2B relationships. A single qualitative case study is conducted to explore how the exchange partners engage with behaviour change interventions that substitute trust with a mutual opportunity to incorporate sustainable development initiatives in the delivery of an affordable housing development. The findings indicate that mutual goals increase collaboration and cooperation, but are curtailed by the outcome of cost benefit analysis which impinges on trust. Nevertheless, there is scope for impact investors to encourage the uptake of circular economy principles on construction projects through education and awareness with learning reinforced in project specific facilitated workshop settings.

4.1 Introduction

Trust in business-to-business relationships has been extensively studied (Blois, 1999; Gil-Saura *et al.*, 2009; Khalid and Ali, 2017; Scheer, 2022) and could be defined as the willingness of exchange partners to be vulnerable to each other, predicated on positive expectations of each other's intentions and behaviours (Akrouit and Diallo, 2017; Zheng *et al.*, 2019). Social exchange theory (see 3.7 above) suggests that these positive expectations are derived from a cost-benefit analysis of the proposed relationship compared to alternatives based on self-interest (Cropanzano *et al.*, 2017; Scheer, 2022).

Studies illustrate that trust develops through repeated positive and rewarding interactions over a period of time to create mutual dependence and satisfaction (Cropanzano *et al.*, 2017; Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001; Mitchell *et al.*, 2012). This evolutionary nature of trust development means that 'expedient' business-to-business relationships tend to rely on transaction driven contractual documents to guide and control behaviours, with provisions for strict monitoring and sanctions for breaches (Mouzas *et al.*, 2007).

To clarify the use of the term 'expedient', this paper follows the definition outlined by Mouzas *et al.*, (2007, p. 1025) "... *relationships that demonstrate a high degree of symbiotic interdependence and co-operation without depending on interpersonal trust*". These relationships tend to be time constrained and are sometimes described as short-term, temporal, or 'interimistic' (Akrouit and Diallo, 2017; Lambe *et al.*, 2000). Lambe *et al.*, (2000) posit that substitutes are required for the crucial role of trust in these short-lived exchanges.

Large-scale and complex dilemmas, such as pressing global social and environmental problems - broadly described as 'Grand Challenges' - need to be tackled through innovative ideas and unorthodox approaches (Eisenhardt *et al.*, 2016; Jarzabkowski *et al.*, 2019). One of such challenges is an awareness of the environmental pressures arising from the traditional economic model that converts "... *natural resources into waste, via production*" (Murray *et al.*, 2017, p. 371).

The need to utilise resources efficiently has gained momentum alongside the competitive business advantage offered by disruptive technologies and investment strategies (Bai *et al.*, 2022; Lacy and Rutqvist, 2015). This presents potential for mutual business opportunities that could trigger collaboration and interdependence between exchange partners in expedient business-to-business relationships (Lambe *et al.*, 2000).

The circular economy offers the opportunity to tackle the challenges arising from the unrestrained use of the world's natural resources (Ellen MacArthur Foundation and Systemiq, 2017; Geissdoerfer *et al.*, 2017; Ghisellini *et al.*, 2016, 2018; de Jesus and Mendonça, 2018; Kirchherr *et al.*, 2017). However, an increasing number of the innovative practices and enabling technologies currently espoused by circular economy business model literature require sustainable financing structures (Dewick *et al.*, 2020; Massaro *et al.*, 2021; Rosa *et al.*, 2020; Schröder and Raes, 2021).

Increasingly, the use of impact investing for the deployment of private capital is viewed as providing a platform to produce the desired social and environmental outcomes (Arena *et al.*, 2018; Busch *et al.*, 2021; GSG, 2018; Phillips and Johnson, 2021). The key attributes of impact investing – the intention to deliver measurable positive social and/or environmental outcomes alongside earnings – suggest it could be an appropriate investment vehicle to boost take up and fast-track the transition to a circular economy (Agrawal and Hockerts, 2021; Höchstädter and Scheck, 2015).

This paper builds on the themes that arose from the systematic review of literature on the potential offered by the nascent field of impact investing in capital deployment and seeks to explore the scope for impact investors to embed circular economy principles in affordable housing without increasing cost. Academic studies (Hart *et al.*, 2019; Pomponi and Moncaster, 2017) have identified a key leadership role for clients in the adoption of circular economy principles in the construction industry. However, the emphasis in these studies is usually in the context of overcoming financial barriers.

To date there has been little focus on business-to-business relationships, where exchange partners come together within ‘one-off’ integrated teams based on predetermined contribution to deliver projects, which is prevalent in sectors such as the construction industry (Jiang *et al.*, 2010, 2011; Laan *et al.*, 2011; Purchase and Olaru, 2004). Exchange partners within such low trust and high interdependence relationships tend to rely on contractual documentation (Ashnai *et al.*, 2016; Mouzas *et al.*, 2007).

With reference to this gap in knowledge, the purpose of this paper is to explore how exchange partners in a single embedded case study engage with substitutes for trust in expedient B2B relationships to promote trust-like behaviours.

- RQ1. How do exchange partners in an expedient business-to-business relationship engage with substituting mutual opportunity for trust?
- RQ2. To what extent does the application of behaviour change intervention techniques encourage the adoption of circular economy thinking in the built environment?
- RQ3. How can insights from the research be harnessed by impact investors to catalyse the uptake of circular economy principles in affordable housing?

The next section of this paper provides a background to social exchange theory in temporal business-to-business relationships, and highlights how impact investors could deploy capital to help tackle the challenge of inadequate affordable housing that could be delivered in circular economy thinking. The research design is outlined in Section 4.3 and the findings are set out in Section 4.4 Discussions and conclusions are provided in Section 4.5 and Section 4.6 respectively.

4.2 Background

4.2.1 Social Exchange Theory and Temporal Business-to-Business Relationships

The concept of relationship in business-to-business settings, assumes successful repeated interactions over an extended time period between exchange partners. (Jeong and Oh, 2017). These interactions incorporate both social and economic exchanges.

Social exchange theory provides an approach to explain exchanges within business-to-business relationships from a social and psychological perspective (Cropanzano *et al.*, 2017; Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001). Alongside economic outcomes in business-to-business exchange, SET facilitates an understanding of the non-economic, socio-psychological outcomes that predict the duration of an exchange relationship (Jeong and Oh, 2017).

The core idea of SET is that exchange partners seek to regularly carry out a cost benefit analysis of their relationships based on self-interest, and choose to continue or terminate based on the outcomes of the exercise (Cropanzano *et al.*, 2017). SET is built on the premise that each exchange partner will act rationally and calculatedly to maximise their economic and social outcomes whilst minimising their costs when exchanging resources or information (Jahan and Kim, 2020).

Studies in business-to-business settings indicate that relationships “... *develop and evolve through continuous evaluations of reciprocal outcomes and successful relationships are built upon mutual dependence and trust*” (Jeong and Oh, 2017, p. 116). The development of relational norms, mutual trust, and commitment are deterred by opportunistic behaviours at the same time dependence serves as the relationship’s governance norms foundation and it is precipitated by quality of relationship exchanges (Gundlach *et al.*, 1995; Jeong and Oh, 2017; Voss *et al.*, 2019).

Good communication and shared values contribute to the development of trust in business-to-business relationships (Laan *et al.*, 2011). Although trust is described

as a key mediating variable between relationship antecedents and outcomes in several SET studies (Jeong and Oh, 2017; Morgan and Hunt, 1994), the inconsistent operationalisation of SET has been highlighted in literature (Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001).

The operating variables of SET, including trust, dependence, communication, norms, commitment, and satisfaction, have been conceptualised and examined interchangeably in several studies as independent, moderating, mediating and dependent variables (Jeong and Oh, 2017). This interchangeability illustrates the theoretical ambiguity of SET and the ensuing challenge in its application to existing or new models (Cropanzano *et al.*, 2017; Cropanzano and Mitchell, 2005).

Business-to-business relationship studies have drawn from a varied range of disciplines that include organisational studies, sociology, marketing, economics, and law (Akrouf and Diallo, 2017; Jeong and Oh, 2017). These studies tend to explicitly or implicitly draw on the operating variables of SET such as trust, dependence, commitment, cooperation, relational norms and satisfaction to elucidate how exchange partners develop rewarding relationships (Lambe *et al.*, 2000, 2001).

The application of SET perspective to business-to-business exchanges integrates the social and economic attributes that underpin business-to-business relationships (Bunduchi, 2008; Cropanzano *et al.*, 2017; Lambe *et al.*, 2000). However, it is broadly accepted that relationship development evolves over a period of time (Jeong and Oh, 2017; Lambe *et al.*, 2000). This suggests that the effectiveness of some operating variables of SET are less pronounced at the early stages exchange relationships.

Studies by Lambe *et al.*, (2000) indicate that trust is one of such essential variables that strongly influence exchange dynamics at the early stages compared with at the later stages of relationship development. The authors introduced the concept of 'interimistic exchange' and 'enduring exchange' to distinguish between early stage exchange and later stage exchange relationships respectively, and proceeded to posit that the interimistic exchanges are less

relational than early stage exchange relationships are exposed to time pressures that require high levels of joint planning and cooperation

Interimistic exchanges tend to be reliant on rigidly defined contractual terms to govern relationships and achieve the expedient short-term objectives (Lambe *et al.*, 2000; Mouzas *et al.*, 2007). As a result, the arrangements are more reflective of an economic exchange (Haaskjold *et al.*, 2020).

4.2.2 Trust in Business-to-Business Relationships

In business-to-business settings, trust is belief in the actions or decisions of an exchange partner, and a sense of confidence that the exchange partner can be relied upon (Blois, 1999; Dowell *et al.*, 2015; Franklin and Marshall, 2019; Shanka and Buvik, 2019). Positive working relationships are reinforced by trust, resulting in successful cooperation between exchange partners.

Trust is frequently studied in business-to-business relationships (Scheer, 2022) and could be defined as the willingness of exchange partners to be vulnerable to each other, predicated on positive expectations of each other's intentions and behaviours (Akrouit and Diallo, 2017; Swärd, 2016; Xue *et al.*, 2022). Social exchange theory suggests that these positive expectations are derived from a cost-benefit analysis of the proposed relationship compared to alternatives based on self-interest (Cropanzano *et al.*, 2017; Mitchell *et al.*, 2012; Scheer, 2022).

The lack of trust in a business-to-business relationship undermines the basis for positive interactions between exchange partners (Yan and Zhang, 2020). In construction projects, trust facilitates the proactive sharing of relevant information and prompt resolution of unforeseen challenges or inevitable ambiguities (Malhotra and Lumineau, 2011). The close collaborative relationship and frequent communication created by trust in business-to-business relationship can help reduce the construction project risks (Laan *et al.*, 2011; Pinto *et al.*, 2009; Sun *et al.*, 2019). That being the case, trust could be deemed a basic requirement and an essential ingredient in determining the soundness and success of business exchange relationships (Akrouit and Diallo, 2017; Camén *et al.*, 2011).

Trust is considered a pivotal operational variable within SET and is paramount in business-to-business relationships (Bunduchi, 2008; Lambe *et al.*, 2000, 2001; Mouzas *et al.*, 2007). In this context, business and management literature has explored the role of trust in exchange relationships as an independent variable, dependent variable, or mediating variable (Sharma *et al.*, 2022).

This multi-definition of trust has led to the ambiguity that is compounded by the notion that ‘trust’ in business settings is a human construct and largely interpersonal in nature (“people do business with people, not companies”). Nevertheless, trust is broadly regarded as an important component and determinant of the quality of business exchange relationships conceptualised by an understanding of people and organisations (Akrouit and Diallo, 2017; Mouzas *et al.*, 2007).

Deemed to gradually develop and mature as a result of multiple interactions over time, trust is associated with reliability and integrity of exchange partners and contributes to commitment (Akrouit and Diallo, 2017; Camén *et al.*, 2011; Morgan and Hunt, 1994; Mouzas *et al.*, 2007). Studies on the development of trust in business-to-business relationships indicate that this evolves during the second, third and fourth stages of Dwyer *et al.*’s (1987) five stage relational cycle model: awareness, exploration, expansion, maintenance, and termination (Akrouit and Diallo, 2017; Jeong and Oh, 2017). This is shown in **Figure 4-1**.

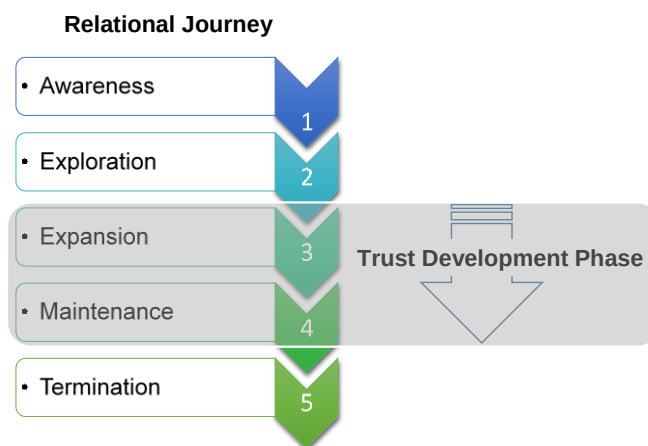


Figure 4-1: Dwyer et. al.’s Five Stage Relational Cycle Model
(derived from Akrouit and Diallo, 2017; Jeong and Oh, 2017)

However, in the absence of prior interactions between exchange partners, Lambe, et al (2000) posit that substitutes are required for trust at the early or exploratory stages of an exchange relationship or in circumstances where limited time is available to develop trust. Such time constrained circumstances within businesses-to-business exchanges are sometimes described as short-term, temporal, symbiotic, interimistic, or expedient relationships (Akrouf and Diallo, 2017; Lambe *et al.*, 2000; Mouzas *et al.*, 2007).

This type of relationship is prevalent in the construction industry where exchange partners come together within 'one-off' integrated teams based on predetermined contribution to deliver construction projects (Jiang *et al.*, 2010, 2011; Purchase and Olaru, 2004). Exchange partners within such low trust and high interdependence relationships tend to rely on contractual documentation (Ashnai *et al.*, 2016; Mouzas *et al.*, 2007).

These exchanges tend to be financially driven and focused on inter-organizational trust (sometimes described as 'reliance') but require more active monitoring (Cropanzano *et al.*, 2017). The increased monitoring introduces an additional cost to the relationship (Ashnai *et al.*, 2016). A key characteristic of a construction contract is that relationships are governed by obligations with clear performance standards, expectations and monitoring and focus more on reliance than the inter-personal construct of trust (Laan *et al.*, 2011; Mouzas *et al.*, 2007).

4.2.3 United Nations Sustainable Development Goals

'Grand Challenges' broadly describe large-scale and complex dilemmas, such as pressing global social and environmental problems, that need to be tackled through innovative ideas and unorthodox approaches (Eisenhardt *et al.*, 2016; Jarzabkowski *et al.*, 2019). The set of 17 United Nations Sustainable Development Goals (UNSDGs) adopted by 193 United Nations member states in September 2015 (Figure 4-2) are possibly the most universally recognised 'Grand Challenges' that extensively articulate global issues that could be addressed through coordinated and collaborative action (George *et al.*, 2016).

The 17 UNSDGs are detailed through 169 targets that set out more precisely how governments and varied types of organisations could contribute the achievement of the UNSDGs (Suehrer, 2019). Seven of the UNSDGs are directly relevant to management studies with several others providing context (George *et al.*, 2016).

In response to the financing challenge, impact investing has emerged as a platform for investors to generate and deploy capital through debt and equity instruments and contribute to the achievement of the UNSDGs by 2030 (Carroux *et al.*, 2022; Phillips and Johnson, 2021; Rizzello and Kabli, 2020; Weber, 2019).



Figure 4-2: United Nations Sustainable Development Goals

(Source: United Nations <https://sdgs.un.org/goals>)

4.2.4 Impact investing in Real Estate

Impact investing has taken root since the term was first coined in 2007 (Höchstädter and Scheck, 2015). Pigeon-holing its continued growth as a fad is to detract from the opportunity afforded to deploy private capital towards doing measurable good (Milligan and Schoning, 2011; Reisman and Olazabal, 2016; Wilton, 2021). The debate is moving from making a case for impact investments to expanding the pool of investable products/business models, and an urgent need for effective impact measurement/assessment methods to guard against

‘impact washing’ (Busch *et al.*, 2021; Daggers, 2019; Viviani and Maurel, 2019; Williams and Whiteman, 2021).

Definitional and terminological misunderstandings, arising from similarities with connected concepts operating under the social impact investment umbrella, mask the value of what has been achieved in a relatively short period (Daggers, 2019; Daggers and Nicholls, 2016; Höchstädter and Scheck, 2015). Nonetheless, there is broad agreement amongst most academics and practitioners (Carè and Wendt, 2018; Clarkin and Cangioni, 2016; Daggers and Nicholls, 2016; Drexler *et al.*, 2013; Greene, 2014; Höchstädter and Scheck, 2015; Rizzello *et al.*, 2016; Roundy *et al.*, 2017) on the three key attributes that underpin impact investing:

- deliberate intention to deliver social and/or environmental impact;
- active measurement and reporting of outcomes; and
- deliver financial returns.

Buoyed by an inspired millennial generation, with a renewed sense of purpose, impact investing is progressively being recognised as the conduit to ethically deploy capital that will yield social and environmental benefits (Arena *et al.*, 2018; Busch *et al.*, 2021). It offers the prospect to engender an overwhelming cultural change in the way societal problems are dealt with and purposefully seeks to tackle social/environmental challenges by adopting investment strategies that place these alongside earnings (Daggers, 2020, 2022; Mudaliar and Dithrich, 2019). Essentially, social and/or environmental outcomes are as highly valued as financial returns, closely monitored and carefully analysed (Phillips and Johnson, 2021).

Investors can be categorized along a spectrum from ‘impact-first’ to ‘finance-first’ goals. The range of investments from both ends of the continuum indicates that achieving healthy financial returns and delivering positive social and/or environmental impact are not mutually exclusive. Indeed, some asset managers suggest that risk-adjusted returns can be improved if correctly done (Callender and Van Oosterom, 2022). Increasing the supply widens the pool of investable

opportunities aligned with investors' attitude to financial returns and value attributed to uncertainty.

The primary distinction between 'traditional' and impact investing in real estate arise from the operation of the property asset rather than ownership. Positive, measurable social and environmental impact is generated through the set up and ownership or careful selection of an 'impact-driven' operating partner (Matthews *et al.*, 2017). Alternatively, investments could be made in a social enterprise where property ownership is integral to delivery of its business model and social mission (Bengo *et al.*, 2021; Petrick, 2014).

In this context, investments in real estate such as affordable housing offers investors the opportunity to genuinely deliver intentional impact to achieve environmental and social goals alongside earnings (Phillips and Johnson, 2021). Housing supports 15 of the 17 UNSDGs, it is an integral part of seven goals, direct contributor to six goals and indirect contributor to two goals (Habitat for Humanity, 2021).

Investing in real estate cuts across multiple themes, affordable housing in particular combines this with tackling the root cause of many societal challenges (Butler, 2022; Hyman, 2016; Rolfe *et al.*, 2020; World Health Organization, 2018). From a profitability perspective, Matthews, *et.al.*, (2017) suggest that the attractiveness of real assets is based on three inherent characteristics:

- Low correlation between public equities and that provide safeguards during economic crisis.
- Good hedging protection against inflation.
- Predictable long-term cash flows.

Affordable housing, particularly for rental purposes, requires substantial investment of patient capital (Phillips and Johnson, 2021). As asset owners, the acquisition, development and ownership structure of affordable housing is critical for an impact investor, and requires active engagement and co-creation of long-term value (Schramade, 2019).

The inherent characteristics of the affordable housing sector is an attractive proposition for impact investing – it offers scope for scalable investment and measurable impact (Phillips and Johnson, 2021). High quality affordable housing is a catalyst for positive social change.

Complicated problems require innovative solutions. Access to impact investment capital enables investee companies/businesses the opportunity to address these with the required urgency and ingenuity. Impact investments offers the platform for decisive intervention and taking calculated risks (Hockerts *et al.*, 2022).

Affordable housing is an emerging sector for impact investors who wish to contribute quickly to address the shortfall (Callender and Van Oosterom, 2022; Evans, 2018; Forster *et al.*, 2021; Hyman, 2016; Phillips and Johnson, 2021). Unlocking the potential requires a healthy pipeline of opportunities, transparency, and commitment to a culture of monitoring to improve rather than simply monitoring to prove (Basu, 2017; Lall, 2017). A constructive and purposeful engagement between key players will stimulate further investment and ensure that capital flow is not inhibited (Bengo *et al.*, 2021).

Impact investors can influence to shape and catalyse the uptake of circular economy thinking in residential real estate. Whilst the default approach tends to focus on additional capital project expenditure, the creation of the right climate for innovative practices along with long term strategic partnering opportunities across multiple projects that could help stakeholders spread the associated of research and development costs could be a huge incentive.

4.2.5 Circular Economy in the Building Sector

The built environment describes the physical surroundings created by human activity and consists of building, infrastructure and industrial sectors (Gürdür Broo *et al.*, 2021; Kaklauskas and Gudauskas, 2016; Rios *et al.*, 2022). It encompasses diverse organisations that produce a wide range of products. Construction activity undertaken as public and/or private ventures within these sectors that deliver economic and social infrastructure are broadly classified as residential, non-residential and engineering projects (Rios *et al.*, 2022).

The assets produced by the construction industry for the built environment are responsible for a predominant proportion of human induced material flows in the wider economy and the pressures exerted on natural resources by the built environment are substantial (Bringezu, 2015; Guerra *et al.*, 2021; Mhatre *et al.*, 2021; Munaro *et al.*, 2020; Pomponi and Moncaster, 2017). The challenge is compounded by the increasing global population projected to attain 9.7 billion by 2050 (United Nations, 2019) alongside earlier predictions that c.70% of the projected total will be living in urban areas (Guerra *et al.*, 2021).

The built environment generates approximately 40% of the total global energy related CO₂ emissions and a similar proportion of global resources in its lifecycle (van Stijn and Gruis, 2020). Alongside building construction activities generate around 40% waste (Akhtar and Sarmah, 2018). As a key contributor to the negative climate impact, is essential that strategies to attenuate energy demand and carbon dioxide emissions are implemented in the (Marchesi and Tweed, 2021).

These are directly aligned to UN Sustainable Development Goal 11 – Sustainable Cities and Communities; and Goal 12 – Sustainable Consumption and Production, while directly contributing to Goal 7 - Affordable and Clean Energy (United Nations, 2016). Concerted action by investors, building owners and businesses, guided by science based targets and sector wide stakeholder engagement are required to build partnerships and scale up the adoption of circular economy concepts to drive down construction materials demand, reduce embodied carbon and enhance building resilience by increasing the uptake of nature-based solutions (Hamilton *et al.*, 2020).

The activities involved in the development, operation, maintenance and refurbishment of buildings consumes a significant proportion of energy and generates a considerable amount of solid waste (Çetin *et al.*, 2021; Huang *et al.*, 2018; Tabrizikahou and Nowotarski, 2021). This offers multiple intervention opportunities for the adoption of circular economy principles in the building sector.

The circular economy offers the opportunity to tackle the resulting environmental and societal challenges arising from the unabated dissipative use of the world's

natural resources (Benachio *et al.*, 2020; Bocken *et al.*, 2016; Çetin *et al.*, 2021; Ghisellini *et al.*, 2016; Hossain *et al.*, 2020; Joensuu *et al.*, 2020; Mhatre *et al.*, 2021; Munaro *et al.*, 2020; Ness and Xing, 2017; Norouzi *et al.*, 2021; Pomponi and Moncaster, 2017; Rios *et al.*, 2022; Schroeder *et al.*, 2018; Stahel, 2016).

Circular economy strategies are increasingly considered as the possible solution to decouple economic growth from environmental degradation in the built environment by narrowing, slowing and closing resource loops tackles the limitations of recycling to reduce material use and carbon emissions on a global scale (Circle Economy, 2019; Gallego-Schmid *et al.*, 2020; Rios *et al.*, 2022).

Academic and practitioner literature on circular economy has grown exponentially over the last five years (Anaruma *et al.*, 2021; Mas-Tur *et al.*, 2019; Rios *et al.*, 2022) largely building on the widely referenced studies of Geissdoerfer, *et al.* (2017), Ghisellini, *et al.* (2016), Murray, *et al.* (2017) and Pomponi and Moncaster (2017). This has boosted the popularity of the concept as a means to combine economic and business growth that delivers environmental and societal benefits through tackling climate change and the continued depletion of natural resources triggered by population growth and urbanisation (Cantzler *et al.*, 2020; Fullerton *et al.*, 2022; Marchesi and Tweed, 2021).

In the same period, industry-led charitable networks such as the UK Green Building Council (UKGBC) with over 650 members, has collaborated with industry leaders to influence progressive national policies, co-created and shared best practice guides to tackle environmental and social challenges faced by the UK construction industry (UKGBC, 2022). A key impact area has been the promotion of a solutions-based approach to encourage industry wide adoption of circular economy principles (UKGBC, 2019a, 2019b, 2021, 2022).

The UKGBC conducted a complimentary research amongst its Gold Leaf members¹⁰ in 2017 to explore the circular economy topic. In addition to the overall

¹⁰ UKGBC Gold Leaf members are required to demonstrate their ambition and commitment by formally joining the Race to Zero campaign and aligning their activities with its criteria. (source: <https://www.ukgbc.org/become-a-ukgbc-member/>)

360 Review, 52 Gold Leaf members were interviewed to understand what member organisations were doing around Circular Economy, the opportunities, barriers and solutions. In particular, the survey informed the planned UKGBC Circular Economy interventions (UKGBC, 2019a).

The 2020 Global Status Report for Buildings and Construction highlights the increased recognition of materials and the circular in the sector. The emergent issues include “... *the need for closed-loop systems, reduction of virgin materials, and potential of bio based materials; the potential of nature-based solutions for greening cities and buildings while lowering energy and cooling demand; the reciprocal relationship between housing and health and wellbeing; and the urgent need for sustainable cooling solutions for resilience and adaptation.*” (Hamilton *et al.*, 2020).

However, despite the 3% year on year increased investment (c.£120 billion) to deliver energy efficient buildings from 2018 to 2019, this is small relative to the c.£4.1 trillion expended globally across the building and construction sector. The 1:37 spend ratio underlines the need for increased investment in decarbonisation and energy efficiency of buildings to embed in investment strategies.

Several studies have identified barriers and enablers to the implementation of circular economy in the built environment. Hart, *et al.* (2019) posit that many of these are not unique and are also applicable to the traditional economy. The widely referenced study undertaken by Pomponi and Moncaster (2017) highlighted the dearth of circular economy literature on the behavioural dimension and advocated an acceleration of research on the key role people play to implement circularity in the built environment (Pomponi and Moncaster, 2017).

Building on studies undertaken by ARUP(2016), Adams, *et al.* (2017), de Jesus and Mendonça (2018), and Kirchherr, *et al.* (2018), barriers and drivers to the adoption of circular economy principles in the built environment were identified and allocated by Hart, *et al.* (2019) under the cultural, regulatory, financial and sectoral categories. They conclude that the emergent consensus is that the key obstacles to a more circular economy are cultural and financial.

Strong leadership and the setting of clear vision and strategy, are considered pivotal to catalyse the uptake of circular economy from project inception through to 'end of life' in the built environment (Adams, Osmani, Thorpe and Hobbs, 2017; Adams, Osmani, Thorpe and Thornback, 2017; Hart *et al.*, 2019; Whicher *et al.*, 2018). The key role of the client and investors in driving the agenda are crucial in a fragmented and inherently risk adverse construction industry (Hart *et al.*, 2019).

For example, the International Finance Corporation (IFC) estimates the investment market in green buildings to be c.£19.5 trillion by 2030 (Likhacheva *et al.*, 2019). Although, the realisation of this opportunity requires regulatory underpinning, prioritisation of the inclusion of building decarbonisation in post-pandemic recovery programmes by national governments, as owners of and investors in a large proportion of real estate, will in turn drive investment into low-carbon technologies and buildings, generate employment opportunities and result in increased real estate valuation (Hamilton *et al.*, 2020; Likhacheva *et al.*, 2019).

4.2.6 Study Aims

The potential of impact investing to deliver positive social and environmental outcomes, alongside earnings, through affordable housing could be increased by addressing the issue of trust in expedient business-to-business relationships (Gad and Shane, 2014; Laan *et al.*, 2011; McDermott *et al.*, 2005). The fragmented nature of the construction industry and the prevalence of temporal relationships present a unique challenge compared with other sectors and settings (Faris *et al.*, 2022; Lau and Rowlinson, 2009; Sunding and Ekholm, 2015; Zhang *et al.*, 2022).

This is compounded by the fact that nature of relationships in the construction sector means the exchange partners could be collaborators on one project and competitors on the other (Lambe *et al.*, 2000). The diverse agendas of the myriad of organisations and individuals that come together to deliver a construction project probably reinforces the need to identify incentives that can create substitutes for trust between exchange partners with minimal disruption to established organisational practices (Lambe *et al.*, 2000).

The aim of this study is to elaborate on the idea set out in Lambe *et al.*, (2000) that "... mutual business threats and opportunities can create substitutes for trust within an exchange relationship" (Lambe *et al.*, 2000, p. 219). The exploratory study is undertaken through the application of behavioural change interventions in an expedient business-to-business relationship within the construction industry to substitute trust with the mutual opportunity offered by the pursuit of sustainable development initiatives. In addition, the study seeks to understand if the intervention could enable impact investors encourage the adoption of circular economy principles in the development of affordable housing.

4.3 Research Design

The conduct of a research is influenced by the researcher's philosophical stance and orientation, the choice of research strategy and the research instruments employed to pursue the research objective and to provide answers to the research questions. A review of common philosophical assumptions is presented in this section and it identifies the pragmatist interpretivism paradigm as the study framework.

A description and rationale for employing a case study research methodology combined with a workshop and ethnography action research is provided. Alongside the research process, the research instruments, data collection and data analysis methods employed in the study are discussed.

4.3.1 Research Philosophy

The implicit or explicit philosophical assumptions that underpin research shape the conclusions drawn from data collected and its subsequent analysis (Bell *et al.*, 2022) . The assumptions are influenced by the researcher's ontological (understanding of reality) and epistemological (understanding of knowledge) stance that in turn drive the methodological approach to the study (Passey, 2020). Researcher creativity and research quality is enhanced by an awareness of these philosophical assumptions (Easterby-Smith *et al.*, 2012).

An ontological outlook considers the existence of reality independent of individual consciousness (objective) or existence of reality dependent on interpretation

derived from individual consciousness (subjective). These contrasting standpoints view reality as a world that can be understood positively (realist ontology) or as a world where different individuals have different perceptions (relativist ontology) (Crotty, 1998; Guba and Lincoln, 2005; Passey, 2020; Saunders *et al.*, 2019).

In a research context, epistemology is related to sense making and focussed on the peculiarities of the validity, scope and method of knowledge acquisition (Saunders *et al.*, 2019). Three possible viewpoints are objectivism; constructivism; and subjectivism:

- Objectivism surmises that an objective reality exists in an object outside, or independent of the researcher. Studies undertaken from this angle are designed to provide consistent results that are applicable to other contexts.
- Constructionism emphasizes the creation of meaning from the interaction between the researcher and object. It surmises that the researcher constructs the reality and generates an understanding of the context.
- Subjectivism suggests that meaning is imposed on the object by the researcher to shape reality. It reveals the impact of the researcher's experience on their perception of reality.

Philosophical perspectives stem from a researcher's ontological and epistemological standpoints and these strongly influence the theoretical framing (methodological approach) of an academic study.

4.3.2 Research Paradigm

The research paradigm is derived from the researcher's ontological and epistemological standpoints and methodological approach (Guba and Lincoln, 2005; Harrison *et al.*, 2017; Rashid *et al.*, 2019; Wilson, 2014). The theoretical framing represents the researcher's philosophical orientation that guides the approach to drawing conclusions and developing findings about the study area. This also supports an effective research design (Mills *et al.*, 2006).

Different research perspectives are underpinned by a range of philosophical orientations that draw on the complexity of viewpoints. These include five major

orientations predominant in business and management studies - positivism, critical realism (post-positivism), interpretivism (constructivism), post-modernism, and pragmatism (Saunders *et al.*, 2019).

Social Exchange Theory is focused on an understanding of social interactions and justifiably the knowledge of the nature of individuals or group experiences, expectations, motivations, values, and perceptions (Tyrie and Ferguson, 2013). The key objective of this study was to extend the proposition that "... mutual business threats and opportunities can create substitutes for trust within an exchange relationship" (Lambe *et al.*, 2000, p. 219)..

The philosophical orientation (methodological approach) adopted to observe the response of exchange partners, poised to deliver a construction project in a real-life scenario, to behaviour change interventions designed to substitute 'trust' with 'sustainable development initiatives' combines elements of pragmatism and interpretivism.

The underpinning construct and emergent research paradigm in this study is built on a relativist ontological position and a constructionist epistemological stance. To the best of the researcher's knowledge, a similar research has not been undertaken on impact investment and the green economy, and it is appropriate to adopt a relativist ontology and assume non-existence of reality. This is considered appropriate given the exploratory nature of the proposed study coupled with the intended behavioural interventions. The researcher's view that there are no absolute 'truths' and that all claims are given equal validity should aid an objective analysis and interpretation of emergent data. Constructionism is justified by the need for collective sense making through interplay between the researcher and study participants. This was enacted utilising a facilitated workshop within an ethnographic action research case study.

A pragmatic methodological approach is shaped by an anti-dualistic philosophical stance that encourages improvising and creativity (Ansell and Boin, 2019). Pragmatism seeks the best solution to a research problem and considers objective and subjective philosophical research outlooks as situated along a continuum rather than opposites (Wahyuni, 2012).

As a methodological stance, interpretivism – often related to a relativist position – recognises the contextual nature of knowledge that is attributed to relationships through individuals or groups to external or internal influences (Passey, 2020). Interpretivism focuses on multiple culturally derived and historically situated meanings of individual or group experiences (Moon and Blackman, 2014; Passey, 2020).

Interpretivism provides the researcher with the varied perspectives of study participants and consequently diverse viewpoints to a research problem (Greener, 2008; Rashid *et al.*, 2019). In effect, deep understanding of the phenomenon under study is subjectively and empathetically derived through interaction with study participants (Ragab and Arisha, 2017; Rashid *et al.*, 2019).

Pragmatist interpretivism seeks to understand how inferences are drawn by individuals (and researchers) about their situations, and the intentions and motives others within a defined context (Ansell and Geyer, 2017). The combination of pragmatism with interpretivism guards against potential researcher subjective bias arising from literature and verbal discourse interpretation and results analysis (Fulcher *et al.*, 2022).

This theoretical perspective was adopted in order to analyse the perceptions, values, behaviours of exchange partners to understand the phenomena under investigation. This research design was contextualised within a case study methodology incorporating ethnographic action research. This facilitated embedded observation at close quarters enabling deep exploration and understanding of the participants' behaviours in response to new ways of practice and provided the platform for an engaging reflective process (Roberts *et al.*, 2010).

4.3.3 Research Methodology

Case study research methodology provides a platform for researchers to closely observe individuals or groups, and undertake detailed analysis that explore intricate contemporary phenomena within specific realistic contextual settings which contain many variables (Harrison *et al.*, 2017; Ridder, 2017). It facilitates

the investigation and revelation of diverse components of a phenomenon using multiple lenses and a varied sources of data (Rashid *et al.*, 2019).

The lack of definitional clarity arising from varied terminologies employed in case study discourse creates ambiguity and terminological confusion about the application of case study as a methodology or method in research endeavours (Harrison *et al.*, 2017). This challenge emphasises the need for a clear description of the methodology that underpins a case study, and congruity between the researcher's philosophical assumptions and the research methods employed to inform and justify the choices made (Harrison *et al.*, 2017; Ketokivi and Choi, 2014).

Case study as a methodology or method has a versatile approach that is not welded to a particular ontological or epistemological standpoint. The versatility of the case study methodology makes it possible to employ a wide range of quantitative (experiments, surveys, forecasting, simulation) or qualitative (interviews, observations, archival sources,) methods in the study (Ayres *et al.*, 2003; Brigley, 1995; Brown, 2008; Conaty, 2021; Flyvbjerg, 2006; Goffin *et al.*, 2019; Järvensivu and Törnroos, 2010; Masud, 2018; Mtisi, 2022; Ridder, 2017). This is well-suited to a pragmatist's philosophical orientation and offers the potential for several variables to be analysed. It facilitates the introduction and use of the best methods to answer the research question (Ansell and Boin, 2019; Ansell and Geyer, 2017; Kaushik and Walsh, 2019; Morgan, 2014) to take advantage of 'the duality criterion' of case study research (Ketokivi and Choi, 2014).

Case study design in academic studies have been predominantly influenced by the approaches used by three seminal authors - Robert K. Yin, Sharan Merriam, and Robert E. Stake. (Brown, 2008; Harrison *et al.*, 2017; Rashid *et al.*, 2019). Literature point to heterogeneity of theoretical and epistemological underpinning as a major contributor to the complexity of case study research (Ketokivi and Choi, 2014; Ridder, 2017). This is compounded within business-to-business settings given the varied contextual parameters that sway organisational behaviour (Johnston *et al.*, 1999).

4.3.4 Research Strategy

From a theoretical perspective case study research is employed to generate (build), elaborate (develop) and test (validate) theory (Ketokivi and Choi, 2014; Ridder, 2017). These three modes of conducting case studies are deemed to be located on a theory continuum and differentiated by the research strategy:

- Theory generation (building) attempts to understand an interesting phenomenon by observation and interpretation. The starting point is aligned with an inductive approach.
- Theory elaboration (development) combines simultaneous and balanced investigation of existing theory and the contextual setting. It entails openness to unexpected results and the prospect of theory reconstitution. Theory elaboration involves modification of general theory logic and reconciliation with contextual peculiarities through an abductive reasoning approach.
- Theory testing is described as deductive.

The design of case study research has distinct purposes in contribution to theory that should not be confused. The theoretical contribution of case study research to scientific progress is weakened by the inconsistent utilization of appropriate methods (Ridder, 2017). Notwithstanding the fact that the purpose of research is to advance knowledge through understanding and application, it is an essential part of problem solving that can take several forms. The three predominant purposes of research associated with case study methodology (Brown, 2008; Harrison *et al.*, 2017; Runeson and Höst, 2009; Yin, 2013) are:

- Exploratory – generating ideas and/or gaining new insights into a contemporary phenomenon, and developing propositions or hypothesis for more extensive studies. It usually entails gathering and delving into extensive unstructured information to draw out rich data and increase understanding of the phenomenon. The aim is to provide a platform for further in-depth study rather than a conclusive answer.
- Descriptive – seeks to record and report on the ensuing situation and/or phenomenon using varied data-gathering methods. The primary intention

being to expand understanding by focussing on the 'how' and 'what'. The aim is to illuminate and produce a comprehensive picture of the unique characteristics of the phenomenon to gain deeper meanings.

- Explanatory – usually experimental in nature and designed to explain a phenomenon. The primary focus is on the 'why', usually to confirm existing theories or to identify and ascertain causality and establish effects in order to predict the outcomes in response to changing circumstances or varying conditions.

The flexible design of case studies suggests they can accommodate other research purposes such as evaluation, intervention, confirmation, and improvement (Järvensivu and Törnroos, 2010; Rashid *et al.*, 2019; Ridder, 2017).

This case study research is centred on the analysis of the actions, motivations, and perceptions of the project delivery team assembled to construct an affordable housing development under a two-year building contract when trust is substituted with 'non-financial' incentives to promote 'trust-like' behaviours. The subjective viewpoints of the exchange partners are a critical focus of the study that is triggered by a behavioural intervention.

4.3.5 Research Methods

There is an inextricable connection between the research questions, data source and the techniques adopted for data collection and analysis (Saunders *et al.*, 2019). The primary purpose of the study was to elaborate on the proposition that shared business risks and potentials could serve as substitutes for 'trust' in short term business-to-business relationships to promote 'trust-like' behaviours (Lambe *et al.*, 2000). It specifically explores how the introduction of sustainable development initiatives influences behaviours amongst exchange partners in a real-world case study context within the construction industry (Byerly *et al.*, 2018; Steg *et al.*, 2014; Wee *et al.*, 2021).

4.3.5.1 Case Studies

Although case studies are conducted using quantitative and qualitative methods, the suitability in any study is determined by the context, purpose and nature of

the specific study. The objective of studying exchange partners, in an expedient business-to-business relationship, as they make sense of a behavioural intervention (Gitlin and Czaja, 2015) involves an interpretive approach that is suited to qualitative research methods (Domegan and Fleming, 2007; Lincoln and Denzin, 2003; Myers, 2009).

Case studies are extensively used to explore, explain, or describe occurrences, and to answer how, what, and why questions in academic literature (Fusch *et al.*, 2017; Yin, 2018). The case study approach facilitates researcher and participants' collaboration and helps to break down the traditional researcher-participant divide. This enables researchers to undertake comprehensive, varied explorations of an interesting phenomenon in a real-life setting (Crowe *et al.*, 2011).

Case studies facilitate deep investigation into topical issues that could provide valuable insights (Yin, 2014). Compared to other research methods, case studies are particularly useful in tackling why or how research questions in situations where control is not required over behavioural and contemporary events being studied (Yin, 2014). It provides the opportunity to explore the social phenomena as they exist in natural setting, while capturing data in multiple ways within the case study contributes to an improved understanding (Wahyuni, 2012).

The analytic stage of a case study research requires careful advance planning (Yin, 2014). This will ensure that the case studies are not stalled. A general analytic strategy linking case study data to concepts of interest to provide a general steer in data analysis (Yin, 2014). The study employs the constructivist model of learning by doing, combined with reflection.

4.3.5.2 Ethnographic Action Research

Human behavioural studies suggest that decision making can be disproportionately impacted by frequently overlooked psychological factors such as choice framing, contextual cues, phasing of costs and benefits, situational complexity and presence of friction (Eden and Ackermann, 2018; Sunding and

Ekholm, 2015). As social beings, people tend to make group decisions that are influenced by culture and the prevailing institutional framework (Fiske, 2018).

Ethnographic action research provides an appropriate vehicle for a practitioner-researcher to directly introduce predetermined interventions in a live setting and contemporaneously study the circumstances that help stimulate the desired behavioural change (Tacchi, 2015; Tacchi *et al.*, 2003). Ethnographic action research combines participatory techniques, ethnography and action research (Tacchi *et al.*, 2003). Participatory techniques provide the platform for a practitioner researcher to develop a better understanding of inherently complex issues through active involvement (Chambers, 2012).

Ethnography offers the route to make sense of the studied culture and overcome presumptions to discover emergent ideas. Action research connects the ethnographic research process through active participation, carefully selected action-based methods and generating action (Tacchi *et al.*, 2003). It facilitates deep engagement with participants and covers a range of styles brought together by a common purpose of seeking to effect change the status quo within an organisation albeit frequently challenged as a result of the limited generalisation capacity (O’Gorman and MacIntosh, 2015). Furthermore, knowledge acquired can be turned into actions that could be modified as appropriate (Fusch *et al.*, 2017).

Ethnographic action research is considered appropriate for this study as the researcher is an active participant in the case study. Tacchi *et al.*, (2003, p. 5) indicate that there are four key questions that guide ethnographic action research:

- What are we trying to do?
- How are we trying to do it?
- How well are we doing?
- How can we do it differently/better?

Repeatedly asking and answering these key questions, at regular intervals during the study, and identifying additional study specific questions, increases the effectiveness, evaluation and development of the research (Tacchi, 2015).

Researchers engaged in ethnographic action research frequently use of a range of methods to unearth tacit knowledge and investigate research topics as multi-methods tend to uncover diverse viewpoints and offer varied data that deepen the robustness of the findings (Tacchi, 2015). These include participatory techniques such as behavioural change interventions; observation and field notes; structured, semi-structured, and unstructured interviews; questionnaires; and diary notes and personal logs (Tacchi, 2015).

Human behaviour is a major contributor to the global environmental and societal issues that continue to dominate current discourse. There is a strong correlation between the topical issue of climate change and the unabated and wasteful use of natural resources (Lehner *et al.*, 2016; Wee *et al.*, 2021). Studies suggest reinforcement of positive pro-environmental and pro-social human behaviours using nudges could promote beneficial outcomes for the environment and society (Byerly *et al.*, 2018; Ghesla *et al.*, 2019; Henkel *et al.*, 2019; Lehner *et al.*, 2016; Michaels and Powell, 2017; Schubert, 2017; Wee *et al.*, 2021; Westerink, 2022).

4.3.5.3 Mini-Ethnographic Case Study

The case study research design is an excellent tool to explain interactions that occur within a defined community and the resulting impacts (Yin, 2018). Ethnography often requires extensive time and immersion in the study field (Holloway *et al.*, 2010) whereas a mini-ethnography is employed for specific and focussed inquiry in the face of time constraints (White, 2009). This enables researchers to develop an in-depth understanding of the cultural norms, values, and roles of participants within a defined context.

In a mini-ethnography, researchers can understand the cultural norms, values, and context of a community, and the case study design bounds the mini-ethnographic research within a specific setting (Dooley, 2020).

Mini-ethnographic case studies are particularly useful when the investigation is focussed on a specific or narrow area with time and monetary constraints (White, 2009). They are generally completed within relatively short time frames and data saturation is achieved sooner (Alfonso *et al.*, 2012; Fusch, 2013; Vom Lehn, 2019; White, 2009).

This study employs a mini-ethnographic case study design to facilitate a deeper understanding within a real world application. It employs an ethnographic approach within a case study methodology (Fusch *et al.*, 2017) while providing a researcher with time and resource limitations the opportunity to conduct rich, comprehensive, and collaborative research within a real-world context (Yin, 2018).

This methodological selection is supported by the intention to introduce a situated behaviour change intervention (Papies, 2017). It is designed to explore interactions and capture responses to nudge interventions and offers the opportunity to draw inferences from the statements and actions of participants.

However, the interpretation of data is susceptible to the researcher-practitioner's cultural and experiential background – ideologies, biases, and values (Bernard, 2013). A clear recognition of the researcher-practitioner's positionality is a critical when interpreting observed behaviours.

4.3.5.4 Behaviour Change Interventions

Behaviour change interventions came into prominence following the publication of *Nudge: Improving Decisions About Health, Wealth and Happiness* (Thaler and Sunstein, 2008) and has been widely applied to human behaviour science. The theory seeks to create an environment that prompts people towards more efficacious choices and related practices by discovering ways to influence practices and changing the behaviour change (Bukoye *et al.*, 2022).

The field of behavioural economics increasingly build on psychological insights into human behaviour to explain economic decision making (Mertens *et al.*, 2022). Behavioural economics combines insights from psychology and economics to provide the platform to influence decisions (de Ridder *et al.*, 2022).

It recognises the fact that people make decisions that may not be in their best interest. Behavioural economics challenges the ‘traditional’ economic assumption that people rationally weigh the costs and benefits, and make decisions that maximise their gain in the long term while recognising that the available information may be imperfect. (Chetty, 2015; Etzioni, 2011). This presupposes that people carefully consider and alter decisions they make based on a correct analysis of the full range of evolving information that has been made available to them.

Behavioural economics is underpinned by bounded rationality, a concept that advocates that the limited resources available to people - time, information, knowledge and human thinking capacity - hinders their ability to optimise decision making (Corr and Plagnol, 2018). Consequently, the fall-back position occupied by heuristics and judgment biases prevent people making fully rational decisions. is limited by available information and time (Corr and Plagnol, 2018)

As an example, Sarpy, *et.al.*(2021), identified some common biases and heuristics (**Table 4-1**) that influence health and safety (H&S) decisions in the construction industry.

Table 4-1: Common Biases and Heuristics influencing H&S in construction

Biases/Heuristics	Definition
Status quo bias (inertia)	Preference for the familiar and current situation, rather than risk change, which often leads to procrastination in decision-making
Choice overload	The presence of too many choices for a particular decision, which makes it difficult for individuals to evaluate and decide
Loss Aversion	A tendency to be more attuned to losses than to gains
Availability bias	A reliance on information that readily comes to mind rather than using a comprehensive set of facts that evaluates all options
Overconfidence bias	Taking risks based on perceived ability rather than actual performance.

Behavioural economics recognises that people can be encouraged to change their attitude and the influence of context. It seeks to focus on optimal decisions

by directing the decision maker away from heuristics and ingrained biases (Tagliabue *et al.*, 2019).

The central idea of nudging is that small changes in the presentation of choices can significantly sway decisions people make (Healey *et al.*, 2016; Marchiori *et al.*, 2017). Behaviour change interventions (nudges) are designed to steer people away from known deviations to rational choices toward better decisions.

Within organisations, the introduction of behavioural nudge techniques is intended to subconsciously influence motivation, encourage collaboration and decision making processes without altering the economic incentives significantly or restricting individual and/or organisational ability to choose (Löfgren and Nordblom, 2020).

To be considered a nudge, it is vital that behaviour change techniques are delivered at a low cost, provide freedom of choice, and be apparent to the decision-maker (Bruns *et al.*, 2018; Soman and Yeung, 2020). Studies have indicated that transparency does not diminish the effectiveness of nudges (Bruns *et al.*, 2018).

The increased use of behaviour change interventions by organisations and governments to influence policies and practices has triggered a growing body of literature that examine the impact and effectiveness of behaviour change interventions across domains (Arno and Thomas, 2016; Broers *et al.*, 2017; Cho and Bates, 2018; Mitchell *et al.*, 2013; Möllenkamp *et al.*, 2019; Wang and Groene, 2020).

About the same time, the central role of the behavioural aspects associated with strong client leadership required to influence the application of circular economy principles was set out in studies by Adams, *et. al* (2017) and Hart, *et. al* (2019). It is recognised that behavioural dimensions are crucial in driving real change (Chizaryfard *et al.*, 2021). In the intervening period, research has focused largely on consumer behaviour in the circular economy (Adabre *et al.*, 2022).

With respect to the wider construction industry, the design and implementation of behaviour change interventions in recent years have centred on health and safety

practices of workers (Sarpy *et al.*, 2021), pro-environmental behaviours (Adabre *et al.*, 2022; Grilli and Curtis, 2021), and waste management (Ghosh and Agamuthu, 2018; Gopinath, 2020). These studies suggest that behavioural change interventions may have the potential to positively influence uptake of circular economy principles in the construction industry.

4.3.5.5 Facilitated Workshops

The opportunity to instigate a circular economy adoption study for the case project was fortuitous. It was simply case of being at the right place at the right time, with the influence to make the call. This reinforces the role of leadership in the construction industry and the pivotal role of building owner and investor in instigating and driving change (Challender and Whitaker, 2019; Georgiadou, 2019; Giorgi *et al.*, 2022; Hossain *et al.*, 2020).

Nevertheless, there were financial constraints given that the construction project had secured full investment committee funding approval with no scope to increase financial commitment. This constraint provided both a challenge and an opportunity.

The primary challenge was that a traditional fixed price design and build contract had been executed by the Building Owner/Investor as Client and the Property Developer. to deliver the housing project. In such circumstances, Client initiated specification or material changes are considered client variations that would generally trigger a legitimate application for cost increase. The project budget did not contain any Client contingencies¹¹.

In addition, the project delivery team, with the exception of the Client Monitoring Surveyor, Building Operator and Local Authority employees, were contractually

¹¹ Client contingencies in construction contracts typically refer to provisions or allowances made within the contract to account for unexpected or unforeseen circumstances that may arise during the construction process. These contingencies are designed to provide the client with some flexibility and financial protection in case changes, delays, or additional work is required beyond the original scope of the contract.

directly responsible to the property developer. This introduced an additional limitation to Client influence on the project.

The identified constraint and limitation provided the opportunity to introduce behaviour change intervention techniques such as adapting attributes to enable the processing of information to shift perspective of decision maker; providing access to relevant data, and change available options to tackle inertia and risk aversion, that subconsciously influence motivation, encourage collaboration and decision making processes without altering the economic incentives significantly or restricting choice availability to the individual and/or organisation (Löfgren and Nordblom, 2020). This offered the platform to transparently deliver interventions at a low cost while providing freedom of choice to the decision-maker (Bruns *et al.*, 2018; Soman and Yeung, 2020).

The engagement strategy with the new project architect was initiated on this basis. It was serendipitous that the project architect was very much interested in promoting sustainability in architecture and was a willing party to the adoption of circular economy principles on the case project. The architect has a pivotal role in delivering circular economy housing projects by connecting key players (Kanters, 2020) and any lack of interest would have impeded progress (Hart *et al.*, 2019).

Despite securing the project architect's commitment, the contractual arrangements meant it was crucial that the Property Developer was completely on board with the proposals. Although there was no immediate resistance to the idea put forward by the researcher in the role of Building Owner/Investor, it was clear that the Property Developer was apprehensive.

This appeared to have been driven by lack of awareness of the potential benefits of the circular economy and the recognition that additional funds were not available. The solution was to clearly articulate the potential long term financial incentive (Hossain *et al.*, 2020) alongside stipulating that the overarching condition that agreed design and material changes to the case project must be delivered within pre-determined costs. These parameters were incorporated in

the Briefing Document that was prepared by the project architect at the instigation of the researcher.

The solutions to the identified constraints and limitations informed the selection of the research methodology. Conducting the investigation in the context of a mini-ethnographic case study protocol provided a feasible research setting to integrate qualitative methodology from a critical perspective (Fusch *et al.*, 2017).

From an academic perspective, workshops provide a platform for human interaction to facilitate learning, create awareness, gain knowledge, stimulate innovative thinking and actively engage in problem-solving (Ørngreen and Levinsen, 2017; Thoring *et al.*, 2020). The literature review undertaken by Ørngreen and Levinsen (2017) identify three levels of workshop knowledge which they described as “... *workshops as a means, workshops as practice, and workshops as a research methodology*” (Ørngreen and Levinsen, 2017, p. 72).

When employed in a research setting, the dual objectives of the workshop format help meet participants’ expectations to gain new knowledge and/or skills, and fulfil a defined research purpose resulting in the production of sound and credible data about the study domain (Bryman, 2016; Creswell and Poth, 2016; Culpepper *et al.*, 2020; Ørngreen and Levinsen, 2017; Thoring *et al.*, 2020).

However, the dual objectives that drive workshops as a research methodology introduces challenges for both researchers and participants in relation to the individual roles, personal expectations and interests, and compounded during interactive sessions. The researcher has the added challenge of finding a careful balance between focussing on the needs of the participants and that of being the ethnographer in the study (Ørngreen and Levinsen, 2017; Thoring *et al.*, 2020). It is important that the researcher is aware of and takes account of this challenge both in the research design and reporting of workshop findings.

However, a mini-ethnographic case study bounded in a workshop setting introduced the added complexity of establishing a careful balance in the researcher-practitioner role (Ørngreen and Levinsen, 2017; Thoring *et al.*, 2020).

Although the researcher's positionality could benefit the study, it is necessary to mitigate consequential risks and biases in the research design (Cook, 2008).

Undertaking the study in a familiar context requires the researcher-practitioner to recognise and keep top of mind the potential challenge arising from pre-conceptions of practice and having shared experience with some of the participants (Alvesson and Jonsson, 2022; Alvesson and Sandberg, 2022; Brannick and Coghlan, 2007; Finlay, 2002; Holmes, 2020; Jones and Bartunek, 2021; Lin, 2015).

The mitigation strategy adopted for the mini-ethnographic case study workshop was to introduce an independent external facilitator. An independent facilitator, with considerable experience in the construction industry and sound knowledge of circular economy principles, was identified by the project architect. The key task was for the researcher to identify and work alongside the facilitator to design and plan the workshops while providing sufficient autonomy to the facilitator.

On reflection, this was another vital role in the research study that was not quite obvious at the outset. The choice of facilitator and the skills required to engage and motivate workshop participants cannot be underestimated and could have a bearing on the outcome. The planning exercise was made easier due to the facilitators enthusiasm and passion for the uptake of circular economy in the built environment.

The decision to make available copies of the Briefing Document and provide background reading for participants (Appendix C1) was a particularly helpful scene setting tool. It was obvious at the workshop that participants with no prior understanding or awareness of the benefits of the circular economy but had fully engaged with the reading materials ahead of the workshop were more curious.

4.3.6 Case Description

The case project is structured around the development of an affordable housing development for older people in the South East of England. The case project was originated by the researcher in his business development role within a social

impact investment company that is set up to build and acquire affordable housing that delivers financial and social returns for the communities within which it operates and its investors.

The social impact investment company was established to build a diversified portfolio of affordable housing investments across the UK to achieve its social and economic objectives. It secures and deploys a new source of private capital that contributes to the alleviation of the chronic shortage in the provision of affordable housing in the UK, and prioritises localities where the need for affordable housing is demonstrated.

There is a broad consensus amongst scholars, practitioners, commentators housing analysts, and policymakers that the current provision of affordable housing in the UK is inadequate (Bramley, 2019; Fields and Hodgkinson, 2018; Foye, 2022; Gibbons, 2021; Meen and Whitehead, 2020; Mulheirn, 2019; Perry and Stephens, 2018; Stephens, 2019; White and Nandedkar, 2021). While there are varied opinions on the size of the gap – the current UK government manifesto seeks to deliver 300,000 new homes each year (Williams *et al.*, 2020).

Recent studies indicate the current housing need backlog in the UK is 3.91 million households (Bramley, 2019). The report, produced for Crisis and the National Housing Federation also suggests 4.65 million households live in poverty, following payment of housing related costs. In addition, there are approximately 250,000 private renters (under 40 years old) unable to afford the homes they live in when assessed under the standard criteria set within the study (Bramley, 2019).

The report recognises that addressing the housing backlog cannot be instantaneous and advocates a new house building programme spread over a 15-year time horizon. Based on partially distinct methodologies this estimates an annual completion across the UK of 380,000 new homes is required with approximately 50% designated as affordable housing (Bramley, 2019; IPPR, 2017; Mulheirn, 2019; Wilson, 2022). In the face of grim statistics, there is broad political consensus that the UK has an affordable housing crisis and increased

housing supply is required to address the shortfall and tackle the myriad of associated challenges.

Currently new housing supply delivered annually across the UK is lower than the collective targets set by the England parliament and devolved governments (Wilson, 2022) and there are repeated calls for the governments to set more ambitious targets (IPPR, 2017). However, other independent commentators argue against fixation on historical ideological stance that have influenced the framing of the housing crisis and instead recognise its complexity and the need for multiple interventions (Foye, 2022; IPPR, 2017; Mulheirn, 2019; Potts, 2020).

Putting aside the lack of agreement on precise number, there is consensus that new housing supply is required across the UK. Increasing supply presents challenges and possible solutions include increased public sector investment. Adequate land supply, proper resourcing of local authority planning departments, improve participation of SME building firms and provide skills training (Wilson, 2022).

Nevertheless, the delivery of new housing to meet the supply challenge will put further pressure on natural resources and energy consumption (Drewniok *et al.*, 2022; Mancini *et al.*, 2022; zu Ermgassen *et al.*, 2022). Housing is responsible for approximately 20% of all UK carbon emissions and decarbonisation of housing is central to the achievement of the UK Government net zero target by 2050. This offers a role for the adoption of circular economy principles in the residential building sector.

A study commissioned by the Impact Investing Institute and co-funded with Homes England and Investment Property Forum (IPF) analysed the investment of capital raised by Private Registered Providers to invest in social and affordable housing. The report by Colley and Fear (2021) estimates that about 70% (up from 30-40% in the first decade of this millennium) is predominately debt raised from private financing sources. It outlines the potential merits of the inclusion of affordable residential real estate within institutional investment portfolios. The research findings also indicate that:

- Equity capital is required to bridge the funding gap required to increase supply of affordable housing
- Market growth offers the potential for institutional investors to include affordable housing as a source of index-linked income streams, alongside the more familiar sectors of infrastructure and commercial real estate.

It concludes that impact investing can bring about systemic changes and play a significant role in alleviating the housing crisis by helping to increase the supply of affordable housing.

The social mission of affordable housing goes back centuries, with philanthropists and government at its heart. This has been the domain of Registered Providers over much of the last century. Positive environmental impact has probably been more challenging but is certainly achievable – particularly if the principles of circular economy are adopted in new housing construction and refurbishment.

Alongside, tackling the undersupply of affordable housing in the UK offers the added opportunity to consider the social dimension of the circular economy concept such as employment opportunities, health and safety, and education and awareness (Mies and Gold, 2021). However, the definition, measurement and communication of impact must be unambiguous and implemented consistently.

The social purpose of the social impact company is to increase the provision of high-quality affordable housing geared towards improving the lives of people in social need. Alongside, it seeks to deliver an acceptable financial return to investors. It aims to maximise the affordability of its homes and approximately 50% its properties located in the lower quartile of the most deprived local authorities in the UK.

The social impact company's 'theory of change' is directly aligned to the UN Sustainable Development Goal 11 - Sustainable Cities and Communities, and its homes achieve above average energy performance ratings. A theory of change explains how the proposed interventions are expected to realise the intended outcomes (Clarkin and Cangioni, 2016; Hebb, 2013; Jackson, 2013; Wendt, 2021).

The case project's objective is to deliver 75 new affordable homes for older people. The local Council had put in place a strategy focused on providing over 500 homes across multiple sites that promote the independence and choice of older persons, with appropriate care and support. Satisfactory delivery of the case project will put the construction project team members in a good position to secure contracts to delivery future projects. The development proposal for the housing scheme consists of one and two bed self-contained apartments along with a restaurant/café and ancillary spaces.

The organisations (Appendix C-1) involved in the delivery of the case project (save for the architect) had commenced work on the delivery of a flagship retirement community development 12 months prior, and had established a cordial working relationship. This meant that the case project could benefit from recent experience and offer the team the opportunity to be well positioned to secure future projects to deliver the pipeline projected by the Council.

The researcher had also been responsible for the flagship retirement community development consisting of over 100 new homes with a range of ancillary facilities for older people and was actively involved in its realisation and delivery. There was first-hand experience arising from the practices adopted by the project delivery team on the retirement community development that pointed to the potential to change behaviours towards building in circular economy thinking. The decision to engage a new project architect on the case project offered a unique opportunity to introduce the subject of circular economy.

An initial meeting was arranged with the new architect and developer by the researcher during which the research interest in the exploring the adoption of building in circular economy thinking was discussed. It was agreed that the case project offered the opportunity to build a housing development that espouses circular economy principles in its design, construction, operation, and maintenance. This was captured within the project vision of the Briefing Document (Appendix C-1) along with the overarching objective to eliminate waste and pollution through 'purposeful design', efficient construction techniques (and procurement) and systematic asset management processes that will keep the

built assets at peak value during its lifecycle and is supported by digital technology.

However, the construction budget for the case project had been agreed and approved by the investment committee, with no contingencies, prior to site acquisition. This meant that one of ways the objective to implement circular economy principles could be achieved is through subtle nudge interventions, for instance adapting attributes of existing information to change the perspective of the primary decision makers (Mertens *et al.*, 2022). The targeted behaviour of the key decision makers is the tendency to simply replicate established specifications, methods and practices prevalent in the construction industry. This was particularly relevant to the case project as the agreed cost parameters had been based on the earlier project.

The behaviour change technique was to create awareness and educate the project team members on the circular economy concept using a facilitated workshop as the research methodology. The intervention was designed to introduce the participants to circular economy thinking through facilitated discussion and action planning at a full day workshop, providing insights as appropriate. A facilitated workshop offered the opportunity to stimulate learning, cultivate rich understanding and increase likelihood of operationalization.

The secondary purpose of the workshop was to identify viable opportunities, within pre-determined whole-life costs, to implement circular economy principles into the case project during the detailed design stage. This is within the context that the fragmented nature of the construction industry and the prevalence of short-term relationships introduces a unique set of challenges that often stifle innovation and change (Sunding and Ekholm, 2015).

4.3.7 Ethical Considerations

The commercial sensitivities dictated the preservation of information confidentiality. At the outset of the workshop, participants completed and signed a consent form confirming their willingness to contribute to the study. Participants were assured of full anonymity and informed they could withdraw at any time

during the research (Clark *et al.*, 2021; Harley, 2019; Husband, 2020; Rashid *et al.*, 2019) Ethical clearance for the study was sought and obtained ahead of the data collection.

4.3.8 Data Collection

This paper relies on multiple data sources including observations at a facilitated workshop and site meetings, contract documentation, minutes of site progress meetings and supporting reports, and semi-structured interviews.

4.3.8.1 Unit of Analysis

As determined by the research question, the unit of analysis in the case study are relationships between the organisations represented by the workshop participants – the exchange partners in the expedient business-to-business relationship. The focus is on their engagement with the behavioural change intervention that introduced building in circular economy thinking.

4.3.8.2 Participants/Sampling

The quality of case study research is increased by utilising multiple data collection methods that provide varied sources of evidence (Merriam, 2009; Stake, 1995; Yin, 2014). Evidence for this study was obtained from observations during a facilitated workshop and attendance at project meetings, archival documentation including action plans, project documentation, building contract documents, records of site meetings, and semi-structured interviews.

The project delivery team consist of the design team, property developer, building contractor, sub-contractors, independent monitoring surveyor, local authority commissioner and building owner/investor. In total, 20 participants attended the workshop. The workshop was attended by 20 people – including the independent facilitator, the external expert and the researcher who had the dual role of representing the building owner and investor. An awareness of the potential influence of the unintended actions of an ethnographer on the study outcome is crucial. It was necessary for the researcher to carefully balance the dual roles of being an actor and an observer.

Table 4-2: Facilitated Workshop Participants

Participant Number	Organisation	Role	Prior CE Knowledge
1	Architect	Project Architect	Yes
2	Subcontractor - Framework	Estimator	No
3	Subcontractor - Framework	Director	No
4	Real Estate Advisor	Valuation Surveyor	Yes
5	Real Estate Advisor	Monitoring Surveyor	Yes
6	Building Owner/Investor	Director	Yes
7	Material Manufacturer/Supplier	Manager	No
8	Building Contractor	Director	No
9	Building Contractor	Quantity Surveyor	No
10	Building Operator	Manager	No
11	Property Developer	Business Development	Yes
12	Local Authority	Commissioner	No
13	Local Authority	Commissioner	Yes
14	Property Developer	Director	No
15	Social Impact Advisory	Advisor	No
16	Building Services - Heating/Plumbing	Director	No
17	Employers Agent	Director	Yes
18	Building Operator	Maintenance Manager	No
19	CE Foundation	Senior Expert	Yes
20	Consultant	Facilitator	Yes

The workshop participants were identified and put forward by their respective organisations given their anticipated roles in the delivery of the case project. These organisations have been assembled to deliver the affordable housing development and typifies the core project delivery team on any residential development project.

Primary data was collected from facilitated workshop and semi-structured interviews. The facilitated workshops provided the opportunity to capture and record direct participant observations (Yin, 2014)

4.3.8.3 Facilitated Workshops – Planning and Delivery

The facilitated workshop was designed from a constructionist perspective with emphasis on learning through collaboration aimed at providing participants with practical insights and efficacious results that are aligned to their interests and producing sound and veridical research data (Ørngreen and Levinsen, 2017; Rob and Rob, 2018).

The full-day workshop was planned in conjunction with the independent facilitator and the project architect to align with a constructionist approach to enable workshop participants work on a real-life project to produce an outcome that could drive behaviours (Rob and Rob, 2018). The role of facilitating the workshop was intentionally outsourced to create a clearer distinction between the participant-researcher role during the workshop, reduce scope for unconscious researcher influence, as well as leave scope for researcher to carry out close observation.

The workshop participants were from organisations representing the building owner and investor, the developer, the local council, the architect, the building contractor, the employer's agent, the building services engineer, key sub-contractors and suppliers, and the building operator. The individuals had been identified by their organisations and nominated because they were either key decision-makers or influencers at their respective organisations.

One week ahead of the workshop, each participant received the Workshop Agenda (Appendix C-2) along with the Briefing Document and recommended background reading material. Participants were encouraged to review the documents ahead of the workshop to ensure that they had adequate understanding of the subject, improve the quality of interactions and time effectiveness at the workshop.

On arrival at the workshop venue, participants were provided copies of the Informed Consent Form and asked to confirm their willingness to participate in the research study. All participants were assured their personal and organisation's anonymity. The workshop was audio recorded and transcribed afterwards. The discussion and ideas generated during the workshop were stored

on post-it notes and converted to digital format after the workshop was completed to ensure theirs and the anonymity of their company.

The workshop followed a structured protocol and started with the facilitator briefly explaining the purpose of the workshop and introducing the planned activities. The researcher was then invited to present the background to the research study who opened the session by reading out an extended abstract titled '*Financing the transition to a circular economy*' (Appendix C-3).

The researcher explained that this study builds on the emerging themes arising from a systematic literature review that sought to establish the links between circular economy and impact investing. Furthermore, the researcher outlined his unique project client role on the case project, primarily representing the interests of the social investment company as long term investors and building owner.

A board director and key decision-maker of the Developer, provided an overview of the housing project and reiterated the Developer's commitment to the process of exploring opportunities to adopt circular economy principles. He also outlined the potential long term benefits to the project delivery team.

Following the scene setting, the facilitator invited participants to introduce themselves, the organisations they represent and their role in the project. Participants were also asked to briefly outline their current understanding of circular economy and set out what they hope to achieve from taking part in the workshop.

The individual introductions were followed by a presentation from a representative of an Educational Foundation that actively promote the benefits of a circular economy. The 25-minute presentation provided an introduction to the circular economy with examples directly relevant to the built environment. Participants were then invited to ask questions or contribute other examples from personal experience.

The presentation introduced a series of examples that serve as preference and moral nudges (Löfgren and Nordblom, 2020). Moral nudges are intended to steer individuals towards making the right choices or discouraging wrong choices.

Providing positive feedback on what has been achieved by organisations that have adopted circular economy principles is intended to stimulate participants interest (Carlsson *et al.*, 2019).

For the next session, the Facilitator built on the previous presentation with more emphasis on the potential environmental and financial benefits of the circular economy. This 25-minute presentation highlighted the construction industry's contribution to the climate challenge, waste generation, and the evidently poor productivity levels across the industry. Although, people are aware of the environmental and financial impacts arising from construction processes there is less appreciation of the fact that these are driven by ingrained habits and behaviours that have remained unchallenged (Lehner *et al.*, 2016).

Following on, participants were randomly assigned to four groups to explore and agree a circular economy vision for the case project. The breakout, offered participants the opportunity to reflect on the key messages in a group setting and collaborate to develop a shared vision (Sutherland *et al.*, 2011).

The main and breakout sessions of the facilitated workshop was audio taped and transcribed. This provided approximately 12 hours and 15 minutes' worth of data. These recordings served as a valuable source of information both to validate observation notes and capture discussions that occurred while to researcher was moving between breakout rooms.

The second half of the morning session commenced with group feedback on the vision exercise that dovetailed into a Facilitator led participants' discussion centred on wider circular economy themes to deepen understanding. Participants were then asked to reconvene within the original four groups and seek to provide a response to the statement: 'Why we want to do this ...'

The afternoon sessions were designed to be interactive and kicked off with a detailed feedback from the groups on key drivers to the wider group. The session provided the opportunity to challenge and stimulated wider interaction amongst participants. Afterwards participants had a further breakout and feedback sessions.

The final two sessions to close out the workshop were facilitator led and designed to agree key performance indicators and identify champions for agreed actions.

An understanding of the researcher position was developed through a reflexive process (Holmes, 2020). This meant taking conscious actions to disconnect personal experiences from that of participants during the study but avoid becoming so detached as to relegate the vital leadership role of building owner/investor as client that is key to delivering circular economy in the built environment (Hart *et al.*, 2019).

The 25-minute presentation delivered by the circular economy expert following participants' introductions provided a series of examples showing the application of circular economy principles in the built environment. The presentation outlined the environmental and financial benefits derived by the forward thinking organisations.

4.3.8.4 Archival Sources

Archival documentation was a major source of data employed in this research. Access was provided to a full set of the signed contractual documents, design proposals, minutes of monthly site progress meetings, contractor's monthly progress reports, monthly project risk register, and emails. These were carefully analysed to identify and/or validate relevant data.

The primary focus was on reviewing the minutes of the 29 monthly project site meetings, accompanying updated risk registers, contractor's monthly progress reports, and monthly monitoring surveyor reports.

4.3.8.5 Semi-structured interviews

Semi-structured interviews provide the opportunity to collate rich empirical data and interview bias is reduced by engaging with knowledgeable interviewees (Eisenhardt and Graebner, 2007). The semi-structured interviews were conducted at project close to capture the reflections of the interviewees. With the express permission of the interviewee, the interviews were recorded (approximately 330 minutes in total) and transcribed verbatim were transcribed

amounting to 90 pages. Alongside, there are 10 pages of hand-written notes made during the interviews.

The semi-structured close-out interviews were based on a standard format and the primary questions were provided to interviewees ahead of the sessions that were scheduled to last 60 minutes each. With the exception on one interviewee, others had participated in the Workshop and at the commencement of the interviews, the interviewees were reminded of their rights in the study and given the opportunity to seek further clarification and consent to the electronic recording of the interviews.

4.3.9 Data Analysis

Case studies tend to provide extensive in-depth data (Ayres *et al.*, 2003; Harrison *et al.*, 2017; Rashid *et al.*, 2019; Ridder, 2017), more so when combined with ethnographic action research methods (Côté-Boileau *et al.*, 2020). There were four key sources of information – recordings of the workshops, researcher observation notes taken at workshop and project site meetings, review of extensive project documentation, including minutes of site progress meetings, monthly risk registers, building contract documentation and supporting documents, and finally the semi-structured interviews.

The workshop provided an opportunity to observe how the exchange partners engage with the behavioural change intervention seeking to substitute trust with sustainable development initiatives on the construction project.

The first stage of the analysis involved a detailed review of the workshop transcripts and notes taken on the day. These provided the opportunity to get fully immersed in the material and fill in the inevitable observation gaps due to the fact that researcher could not be present with all groups at the same time during the group breakout sessions. The feedback sessions following each breakout session was also extremely valuable to make sense of the data.

The Workshop Report (Appendix C-4) independently produced by the facilitator and circulated following the workshop helped to validate the data and recorded observations.

Site meeting records and observations of behaviours and attitudes at the post contract stage offered the platform for the researcher to gauge the ongoing engagement of the project delivery team with the mutual opportunity that was set out at the workshop. The key question at this stage was to take detailed note of the extent to which participants continue to engage and push forward the agenda particularly in the knowledge that funding for any initiatives will need to be contained within pre-determined cost parameters.

The semi-structured interviews undertaken at the post completion stage provided the final set of data that was examined from the social exchange theory perspective. Intimate knowledge of the material, facilitated data interrogation and the emerging themes and design the coding strategy (Rinehart, 2021; Tavory and Timmermans, 2019; Vila-Henninger *et al.*, 2022).

The first step was to code the interview data - observations, expressions and language - under two broad groupings – Actualisations (what worked?) and Quandaries (what did not work?). At the second stage of the analysis, the data was further interrogated to relate data to the mutual opportunity introduced at the workshop and six operational variables of SET – dependence, trust, commitment, co-operation, relational norms and satisfaction (Lambe *et al.*, 2001).

This exercise is undertaken to understand the extent to which interactions between the exchange partners during the design and development phase of the construction project focused on the mutual opportunity as a substitute to trust. The expectation is that relational norms will form the backdrop for the exchanges without the need for negotiating precise terms to cover all possible eventualities in advance (Ivens and Blois, 2004).

4.3.10 Data Validation

The use of multiple data sources comprising 'field' notes that were taken prior to the workshop, during the workshop, design development phase and post completion; transcribed notes of the audio recording of the workshop and interviews, independent workshop report produced by facilitator, and access to a

full set of contract documentation and site meeting record; and documents provided by interviewees, provided the opportunity to triangulate data.

4.4 Findings

The findings of this study derive from observations and reflection on behaviour change intervention techniques employed at the full day workshop, interactions between participants during the workshop, post-workshop actions of participants during design development and construction phase in real time setting, and feedback obtained from interviews conducted following project completion and handover.

In this section, the results are presented under three categories: (1) Pre-Commencement Stage: Mini-Ethnographic Workshop; (2) Post-Commencement Stage: Design Development and Construction (3) Post-Completion Stage: Feedback/Review

4.4.1 Pre-commencement Stage: Mini-Ethnographic Workshop

The questions and discussions that ensued among participants following the opening presentations at the workshop demonstrated strong engagement that lifted the energy in the room. It was evident that participants with partial or no prior understanding of the circular economy concept had some clarity of what it meant.

Early indications were that the subtle interventions through the simplification of an otherwise complex message was removing any confusion. It was easy to observe that participants were stimulated and open to learning (Carlsson *et al.*, 2019). Simplification of the message improves engagement and can help encourage individuals towards the desired positive outcome.

The facilitator deepened participants' engagement by highlighting the links between the activities of the construction industry and climate change (Gallego-Schmid *et al.*, 2020). The session sought to create awareness that efficient resource utilisation in the building sector is aligned with the modification of the attitudinal, behavioural and cultural disposition of stakeholders (Chileshe *et al.*,

2012). The lingering question that was not verbalised by the facilitator at the end of the session appeared to be what are you lot going to do about this challenge on your project? Rather, the task was to explore and agree a circular economy vision for the affordable housing project.

On reflection, this was a particularly useful means of getting the workshop participants to construct a meaningful outcome in a real world context. From a constructionist perspective, it offered the opportunity for participants to co-create through interaction with each other (Rob and Rob, 2018).

The group exercise encouraged randomly assigned team members reflect on the information provided in the preceding sessions and attempt to articulate what changes they would wish to pursue on the case project. The ideas were captured on flip charts and shared with the wider group:

Table 4-3: Workshop Feedback Summary

Group	Circular Economy Vision
A	To improve our social and environmental impact whilst providing homes that can be operated and run efficiently affordably and with an appreciation of future use and reuse.
B	To enhance the social and environmental value for the end user and wider community. To identify innovation through value engineering with a trusted supply chain.
C	To create positive housing and community solutions by having a different long term approach to how we build and use assets.
D	To meet our responsibilities for future generations to provide a safe environment for the end users, but also to discover new ways of doing things, new products that we can use to be more effective and to help change the cost mind set.

The group feedback session provided the opportunity for participants to interact and challenge ideas to develop a shared vision. The co-creation and co-construction learning process contributed to increased engagement (Rob and Rob, 2018). This also provided the platform to clarify terminologies such as end user and the potential conflict between ‘efficiency and effectiveness’.

The exercise appeared to break down prior apprehensions and also identified participants with strong views that could dominate discussions. It was observed that two participants were quick to recognise and promptly challenge negative framing that emerged during discussions. Such negative framing could have stifled progress if left unchecked. Counteracting conscious or unconscious behaviours in group settings helps to reduce the risk that learning and motivation will be obstructed (Sunding and Ekholm, 2015).

The interactive facilitator led sessions held during the afternoon took place in both smaller and wider group settings. This enabled the facilitator to introduce 'Design for Disassembly Principles' that are core to the idea of circularity (Cheshire, 2019; Crowther, 2018; Guy and Ciarimboli, 2003; O'Grady *et al.*, 2021).

The researcher moved around smaller groups to observe interactions that were all largely collegial. Within their respective groups, participants discussed and agreed key drivers for employing circular economy principles at the case project. These were presented and debated within the wider group that resulted in the adoption of nine key drivers.

The task for the groups in subsequent breakout sessions were to devise simple key performance indicators, key actions and allocate a lead for each task. The immediate feedback from participants after the workshop were very positive. For instance:

"My appreciation is that I think we're doing better on this project than I thought we were with regard to this subject [circular economy], actually we're in pretty reasonable shape. There are some things that we can do, that sounds smart, cost neutral, time neutral, look a little bit better [Participant 5]."

The overall sentiment following the workshop sessions is typified by the following comment:

"What we've done today is probably sort of ground breaking with the people we've got here and the topics we've covered. So we can influence not only"

the project and the next projects, but maybe the construction industry.”
[Participant 19]

The 10-page Workshop Report (Appendix C-4) was produced to guide the project delivery team in the realisation of the set goals. The production of a meaningful document at the end of an educational activity serves to embed the goals and objectives (Rob and Rob, 2018). It reiterates the vision, provides an overview of the purpose of the workshop, the methodology employed and captures the facilitator's recorded observations. In addition, the Workshop Report details the key drivers and actions that were identified and agreed by workshop participants.

The facilitated workshop was designed to understand how exchange partners in an expedient business-to-business relationship engage with substituting trust with the mutual opportunity of pursuing sustainable development. The case study research explored this phenomenon within the construction industry through the introduction of behaviour intervention techniques.

Feedback session at the end of the workshop suggests that the full day session successfully delivered against its aim. There was enthusiasm among participants along with a clear desire amongst the project delivery team to collaborate. This was demonstrated by the quality of ideas and follow up tasks that were set out on wall charts and captured in the post workshop report.

4.4.2 Post-Contract Stage: Design Development and Construction

The Circular Economy Champion Role captured in the Workshop Report (Appendix C-4) was identified by workshop participants and deemed as pivotal to the realisation of the vision to adopt circular economy principles in the case project. Crucially, the Workshop Report indicates that this role should be transferred at the attainment of key stages of the construction process. The project architect was nominated as Circular Economy Champion for the initial stages of the project delivery.

To drive forward the incorporation of circular economy thinking on the case project, the project delivery team agreed to include as a standard agenda item at

Monthly Site progress meetings. This was deemed the appropriate forum to monitor and report on progress as all key stakeholders are represented at the monthly site progress meetings and receive the minutes.

Nine key drivers, along with recommended actions that included allocating a sponsor for each driver, were identified by the workshop participants and captured in the Workshop Report (Appendix 4):

- Eliminate fuel poverty
- Reduce costs whilst improving value
- Future proof the Project
- Control and understand materials
- Healthy Environment, Safe Environment
- Improve quality of life for residents and staff
- Innovate through value engineering
- Learn from previous, inform future projects
- Educate and advocate

Although the Workshop Report had been circulated to organisations prior to the finalisation of the contract documents, the team had been unable to identify and allocate a dedicated budget towards building in circular thinking. As a result, the document was not included within the contract documentation. This decision is aligned to the behaviour change intervention – education and awareness – that was adopted by the researcher for the case study (Byerly *et al.*, 2018; Grilli and Curtis, 2021).

One of the key drivers identified at the workshop was to ‘Eliminate Fuel Poverty’ and the clear action was to *“Ensure building and services design is appropriate, flexible, upgradable with interchangeability to incorporate future (technologies)”* (Appendix C-4). This action point prompted the main building contractor, project architect, building services engineer and installer to identify the potential to switch the heating system from gas boilers to electric heating at the case project. The environmental and social benefits were clearly set out in a business case (Appendix C-5) geared towards adopting circular economy principles.

However, a wider assessment of the business case indicated that implementation of the changes required to switch the heating system from gas boilers to electric heating will not be cost-neutral. Meaningful discussions were also hampered by the perception that the change should result in reduced capital outlay that could help defray potential additional costs. The subsequent value engineering exercise undertaken by relevant members of the project delivery team was inconclusive on the financial implications and did not fully address the concerns.

The minutes of the monthly site progress meeting number 2 (April 2019) in respect to 'Circular Economy' noted "*Decision required quickly as design development requires choice to progress*". However, a decision remained outstanding as noted in the minutes of the monthly site progress meeting number 5 (July 2019).

The monthly project risk register also indicated that the drawn-out process had begun to directly impinge on the detailed design development programme that could negatively impact project delivery. Consequently, the change proposal was aborted in the light of the financial constraint set out within the Circular Economy Briefing Document. In effect, the building owner/impact investor, property developer and building operator felt unable to endorse and support the change proposal that required increased capital outlay.

Despite the prior general awareness of the financial constraint, the inability to instruct the change, seemed to stifle the motivation and enthusiasm within the project delivery team to espouse circular economy principles at the case project. This is clearly evident in the minutes of site progress meetings that were held following the decision not to progress the change proposal. Notably, discussions about progress on 'Building in Circular Economy Thinking' was moved by the Employers Agent from 'Contractor Progress Report' (Standard Agenda item 2) to 'Client Report' (Standard Agenda item 3).

Up to this point, relying on relational norms, the project delivery team had worked collaboratively and cooperatively towards one of the key drivers towards a circular economy that was identified at the workshop. However, the decision to abort the

gas to electric change seemed to have triggered the reversion to reliance on the contract to direct action.

It was also obvious that the project delivery team had not assigned sponsors to the other eight key drivers that had been identified at the workshop. It would appear that no attempt was made to progress this action despite the record of monthly site progress meeting number 5 (July 2019) in respect to 'Circular Economy' noting *"TB asked that the team to continue to regard circular economy principles for remaining design and subcontract works"*. Why this wasn't acted upon?

The lack of enthusiasm amongst the project delivery team did not appear to have been helped by the impending departure of the researcher from the social impact company. Is this observation correct? What effect did the COVID pandemic have on the vision?

These observations and questions are issues to be explored during the feedback/close out interview.

4.4.3 Post-Completion Stage: Feedback/Close-out interviews

To 'close the loop', the intention was to seek close-out interviews with the same individuals from the organisations who had participated in the Facilitated Workshop. In the end, six interviews were secured and were audio recorded (approximately 330 minutes in total) and transcribed in their entirety with the interviewees' permission. Four interviewees had participated in the Facilitated Workshop and the remaining two had been involved in the case project from inception but were unable to attend the workshop. However, they had received the Workshop Report (Appendix 4) prepared by the facilitator following the workshop and had been directly involved in the implementation of some of the agreed action points.

The interviews were undertaken approximately nine months following project completion and handover, and about 40 months after the facilitated workshop. A key factor that impacted on the timing of the close-out interview was the

significant delays to the completion of the construction phase due to the COVID-19 pandemic. This had also resulted in unforeseen project cost overruns.

Key personnel changes at the organisations that constituted the project delivery team narrowed the field of potential interviewees. At this stage, the researcher was no longer an employee of the social impact investment company. This introduced the need for additional protocols to be put in place to protect confidentiality.

Nevertheless, as part of its continued support, full access to the entire project file was provided by the social impact investment company, including a direct letter of its support to each prospective interviewee. This was instrumental in concluding this element of the study and provided helpful insights.

Feedback from the interviewees are captured under two headings – actualizations (what worked well?) and quandaries (what did not work well?).

4.4.3.1 Actualizations

Unanimously and without prompts – four interviewees who had also participated in the facilitated workshop - considered it to have been memorable and educative. This was a fascinating insight considering the time lapse and the fact that two of the interviewees had no prior knowledge of the circular economy concept, and one interviewee only had a partial understanding of circular economy concept before attending the workshop.

” ... the opportunities for discussion were fantastic. And opening people's eyes to this new thing, circular economy, which nobody had heard of, at the time, in those circles, nobody heard of it. And to be honest, even at that time ... back end of 2018, sustainability was still a word that people were using, with a money sign against it, that was something you could value engineer, or cost cut out of a scheme. If it became too expensive.”
[Interviewee 3]

The unusual involvement of a potential member of the supply chain was noted and valued by one interviewee.

“So to actually sit down as a new approach, as a collective I thought was really good. I really enjoyed that. And, yeah, I think it was mostly there as almost like a bit of a team. I mean, at that point that I hadn't even really won the contract to that at that time. So it was just a double trust as well.”
[Interviewee 6]

The educational value of the workshop was eloquently captured by a participant that had no prior knowledge of circular economy principles.

“... from my perspective, it was interesting. It was quite new as well, if I'm honest. At that point in time, I hadn't really considered circular economy or you know, lifespans of buildings, what actually happens to them afterwards and the implications of what's going to happen to those buildings and materials afterwards. So from that perspective, it was a bit of an eye opener for us” [Interviewee 4]

The decision to bring so many stakeholders together in a room at the pre-commencement stage of a building project was also considered incredibly rare and valuable.

“I thought the day was, was really successful in terms of communicating what the aspirations were for the project, I think it was incredibly rare. And it still is to be able to get that many stakeholders in a room at the same time. And the value of that was, or could have been incredible”
[Interviewee 3]

The feedback from an interviewee confirms that the workshop encouraged his organisation to delve deeper into the circular economy concept with a particular focus on what it means for their specific subsector of the wider industry.

“Yeah, what came out of it for us mainly was, what could we do to change the way we usually do things construct these sorts of buildings to future proof for want of a better word, and then projected lifespan and materials used within the project, and how we could go about that. Again, we'll go back to trying to use sustainable materials, low embodied carbon stuff that you could see could be reused in the future”. [Interviewee 4]

This was an interesting development that indicates a wider benefit to the construction industry. The interviewee reported that the workshop prompted the organisation to seek out academic literature on their core product and unearthed studies they had been unaware of that demonstrates the immense value of their primary raw material and its contribution to reducing carbon emissions, sequestered carbon capacity, and improving circularity. In effect, exposure to the concept of circular economy at the workshop enabled the organisation to seek out information they would otherwise not have considered. Armed with this knowledge, the organisation then turned its attention to embracing other new ideas that were introduced at the workshop

“So the first thing we looked at was, well, what can we do with constructing our systems or our panels, so it was it can be easily disassembled.”

[Interviewee 4]

The detailed exercise the organisation embarked upon resulted in a complete panel construction redesign. The brief was to make their standard panel demountable. The research led to changes to design of studwork that enabled the organisation save about 50% of the quantity of timber used on the case project compared with their standard approach. The changes also helped to eliminate some cold bridging that reduced heat loss. This was a remarkable feat that resulted in environment and social benefits - efficient resource utilisation, improved energy efficiency, reduced energy costs (contributing towards eliminating fuel poverty) – alongside an improvement to the organisations profitability.

The waste minimisation achieved on the case project was independently corroborated by another interviewee.

So in terms of the positives, I think that the main positive that I'm aware of between, [the earlier project] and the [case project] was the improved design for performance aspects of the timber frame, which lead on to the successful coordination with all the other trades, which helped to minimise waste through design on those. Now, I know that was improved drastically.” [Interviewee 3]

This significant development and successful outcome of the facilitated workshop was completely unreported in formal communication channels throughout the project. There was no mention of these positive changes in the records of site meetings. One interviewee alluded to the potential that this may have occurred but was and remains completely unaware.

“... it may well have subconsciously enhanced some of the design decisions that were taken, or some of the product decisions that were taken. But the design of the building didn't ostensibly change because of this workshop, you know, the way in which that building was going to be constructed, and the materials that it was going to be constructed from, I can't think changed very much....” [Interviewee 2]

It reinforces the notion that innovation is partly driven by access to information that creates awareness of novel solutions, and the strength and robustness of relationships built with manufacturers that supply the building industry (Blayse and Manley, 2004; Van Oorschot *et al.*, 2020)

The role of the project architect as circular economy champion on the case project was singled out as hugely beneficial.

“I think it was having a good architect who was engaged in the project, having had a workshop where everyone understood what the building was going to be, there was more engagement and more understanding of the process that was getting through rather than people receiving things cold. But it was led by the designer.” [Interviewee 2]

This underlines the crucial role designers occupy in the adoption of circular economy principles in the built environment (Grilli and Curtis, 2021).

4.4.3.2 Quandaries

Three of the interviewees referenced cost constraints as the single most limiting factor in the desire to adopt circular economy principles. Incidentally, this sentiment was shared by the organisation that had made the most significant

progress on incorporating circularity into its processes. Albeit, in the context of wanting to go further.

“... cost constraints is the biggest. If we could I would have looked at different insulation types.” [Interviewee 4]

In one instance, it was felt that financial constraint limited full engagement and stifled innovation.

“And you know, certainly in some of the breakout sessions that I had [at the workshop] I remember, they were coming at it from ... somewhat, you know, this is a tight project financially. And, you know, ... this is sort of a secondary issue.” [Interviewee 2]

Thinking of solutions, it was intimated that a more efficient design, for example a shallower roof line, would have resulted in reduced resources and generate cost savings that could be redirected towards more sustainable insulation products.

The timing of the workshop was also considered a missed opportunity by 3 interviewees.

“... [the workshop] could have been earlier in the process, because some of the design principles and constraints are already fixed in people's minds hand were already fixed in the budget. [Interviewee 2]

The communication of the outcome of the consideration of the building contractor led proposal to switch the heating system was considered a missed opportunity by two interviewees. It was suggested that the outcome of the drawn out process dampened motivation to explore other initiatives.

“So that it's that, process that happened then broke down trust, I think, for doing any big moves later on in the project in respect of circular economy. Because I think after that point, the main contractor thought, Well, these guys aren't really that interested. If they're still happy to use gas, then maybe this is this just lip service for, you know, for something, so we're not at that point, the main contractor, right guys, heads down. We're just gonna get this thing built. [Interviewee 3]

Another key member of the project delivery team, suggested that the primary disconnect was between the actual cost to fund the case project, the outturn construction costs compared with projected rental income.

“I think the process of the actual, the calculations and the thought process and the factors that went into an informed position was definitely worthwhile. The fact that, I think the choice was, the end result was incorrect. Regardless of all those inputs, and all those projections showed the best way to do it would be to go electric, the only thing that botched it ultimately was the pound value next to it - initial capital expenditure - and the benefits going down the line.” [Interviewee 5]

Effectively although the proposals demonstrated strong environmental and social benefits, the financial constraints meant the transformative opportunity was lost. The researcher occupied a dual role at the time of the deliberations and was probably well placed to sway the decision and influence the outcome. With the benefit of hindsight, the decision to maintain a neutral observer position meant vital client leadership voice and contribution to the discourse was missing.

Although the COVID-19 pandemic was flagged as an impediment to progressing some of the agreed workshop actions on building in circular economy thinking, the records of project site meetings indicate that the momentum was lost at least eight months prior to the national lockdown. That being said, it may have impacted the level of discussions that would have been beneficial in the choice of furniture and furnishings.

“when we talk about things like furniture, for example, huge amount of money spent on furniture, huge amount of money, 1000s and 1000s. And actually we could still have provided a high quality finish [and more circular?], I would have said it almost like half or a third of the cost of all of that, really. [Interviewee 1]

The COVID-19 pandemic was also cited as an obstacle to full engagement with the building operator during the commissioning phase following completion.

“... did we forget about it [circular economy]? Don't think we forgot about it. But our focus the attention was taken up, I guess was probably with getting the people into the scheme filling the scheme ... getting the staff, ... all of those sort of things that you need to do to get the service up and running and the time that you've got. And bearing in mind, we were doing all of this ... in the middle of lockdowns and COVID, and all of those sorts of things. So the immediacy of attention was very much on filling the scheme, and delivering the service and moving people in. So I don't necessarily know that it was a thought there to say, right, okay, we have to be mindful of this all the way through that process. I think it's just, you know, our focus our attention was on a specific thing. [Interviewee 1]

4.4.4 Key Learnings

Contrasting two comments made at different phases of this study help to formulate the key learnings. At the end of the facilitated workshop, the sentiment in the room was captured by one of the participants:

“My appreciation is that I think we're doing better on this project than I thought we were with regard to this subject [circular economy], actually we're in pretty reasonable shape. There are some things that we can do, that sounds smart, cost neutral, time neutral, look a little bit better [Participant 5].

An active workshop participant who was also interviewed at the close-out stage proffered a statement that probably captures the essence of this study:

“Perhaps I should have read the [workshop] notes before we had this call. Yeah, it [the workshop] was [a] really interesting day. And I'm just not sure, [pause] I'm not sure what we achieved out of it. In terms of ... [pause] it was a great education piece to understand in very basic terms, what Circular Economy principles might be on some of them, and to take away some of those that you know, that it's beyond just getting a good EPC rating. It's not just about environmental ratings, it's about you know, behaviour and users, and understanding it. But how far that then

embedded itself into this project, I think is objectionably questionable.”

[Interviewee 2]

The statement would appear to be rooted in the scepticism that is sometimes associated with environmental claims made by construction companies. Motives are repeatedly questioned.

The notion of trust has long been regarded as a cornerstone for successful collaborations. Traditionally, it is seen as the glue that holds enduring relational exchanges together. Despite an overwhelmingly positive response to the behaviour change interventions seeking to substitute trust with the urgency of addressing pressing global challenges, such as climate change and resource scarcity, the findings of this case study indicate that this conventional wisdom holds true in interimistic relational exchanges.

Drawing on the conceptualisation of 'interimistic relational exchange' outlined in Lambe,et al, (2000) and its proposition that business opportunity and/or threat could provide a substitute for trust in an exchange relationship, this study has delved into the intricate dynamics of behaviour change interventions aimed at encouraging the adoption of circular economy thinking within the context of a real-world construction project.

The case study offers valuable insights into situational factors that influenced the effectiveness of the interventions, the role of facilitated workshops, the significance of client leadership, and the impact of involving key decision-makers. Aligning these key learnings with the theoretical concept of interimistic relational exchange, enhances understanding of how collaborative efforts can drive behaviour change within complex organizational contexts.

The findings of this case study suggests that short-lived yet intensive collaborative exchanges align with behaviour change interventions by creating an environment conducive to addressing business opportunities or threats but not replace trust. The key learnings are captured below:

1. Effectiveness is Influenced by Situational Factors

The concept of 'interimistic relational exchange' emphasizes the importance of addressing transient yet vital business opportunities or threats. In parallel, the case study demonstrates that the effectiveness of behaviour change interventions hinges on the specificity of the situation. Different construction projects may present unique challenges and contextual factors that influence the success of sustainable practice adoption. This alignment suggests that behaviour change initiatives must be tailored to the project's distinct characteristics, taking into account the project's scale, location, stakeholders, and environmental considerations. For example, in the scenario where a key sub-contractor exercised complete control over own processes and retained the economic benefits, behaviour change interventions that emphasize resource efficiency were highly effective. Conversely, in the situation where cost concerns dominated, interventions highlighting the economic benefits of circular economy for third parties did not yield the desired results. This highlights the need for a nuanced and situation-specific approach to behaviour change within construction projects.

Situational factors have a considerable influence on the effectiveness of substituting trust with mutual opportunity using behaviour change interventions. The case study suggests that such interventions could support building collaboration and cooperation, but unlikely to replace trust in expedient business-to-business relationships.

2. Facilitated Workshops Help Build Consensus.

In the context of 'interimistic relational exchange', collaborative efforts are characterized by close and fast-developing relationships. Similarly, the case study highlights that well-structured and planned facilitated workshops, that define and enable project teams to agree upon a shared challenge, could be a valuable tool to encourage pro-environmental behaviours in the built environment.

The facilitated workshop emerged as a potent tool for building consensus among project stakeholders, involved in the behaviour change interventions, regarding the adoption of circular economy principles. The case study indicates that the workshop served as a forum for open dialogue, knowledge exchange, and the alignment of diverse perspectives and interests.

During the facilitated workshop, participants from various phases of the project, including client, developer, architect, engineers, main contractor, sub-contractors, and building operator, came together to explore the feasibility and advantages of circular economy practices. Through guided discussions and collaborative problem-solving, the workshop fostered a collaborative environment where diverse perspectives were acknowledged and integrated, leading to a shared understanding of the importance of sustainable practices, a sense of ownership and commitment among stakeholders.

This consensus-building process was instrumental in garnering collective support for sustainable initiatives. The synergy between the relationship and trust building concept of relational exchange theory and the case study findings underscores the necessity of rapid consensus-building to drive effective behaviour change within time-sensitive construction projects.

3. Client Leadership is Important.

The notion of 'interimistic relational exchange' emphasizes pooling skills and resources to address time-sensitive business opportunities or threats. Strong client leadership is pivotal in driving the uptake of circular economy thinking within construction projects (Charef and Lu, 2021; Mendoza *et al.*, 2019). When clients actively champion sustainable practices and set clear expectations, project teams are more inclined to prioritize and integrate these practices into their processes.

Client leadership goes beyond mere rhetoric; it involves a demonstrated commitment to sustainability through project specifications, incentives, and monitoring mechanisms. When clients align their goals with

sustainable outcomes, they send a strong signal to the entire project ecosystem, influencing decision-making at various levels. Consequently, contractors and subcontractors are more likely to invest in sustainable technologies and practices, knowing that their efforts align with the client's vision.

Correspondingly, the case study reveals the crucial role of client leadership beyond behaviour change interventions. It is necessary to build and maintain credibility that extends beyond signalling to active participation. Clients who demonstrate a commitment to sustainable practices and exhibit leadership qualities motivate project teams and stakeholders to embrace the envisioned changes. This was missing at a crucial point during the project that resulted in communication breakdown that questioned client commitment and weakened trust.

The alignment between client leadership and the concept of motivation that underpins relational exchange theory underscores how a strong, collaborative client presence can influence the adoption of sustainable practices within construction projects.

4. Involvement of Key Decision-Makers

Targeting the key decision-maker in an organisation increases the potential to trigger behavioural change that could become the norm.

The underpinning concept of focus within 'interimistic relational exchange' suggests that collaborative efforts thrive when key decision-makers are actively engaged. In parallel, the case study highlights the importance of involving key decision-makers in the behaviour change interventions. These individuals with the authority to allocate resources, approve project plans, make critical choices, implement changes and allocate resources wield substantial influence over the project's sustainability trajectory.

The active participation of key decision-makers are pivotal for successful adoption of sustainable practices. This connection reiterates that the direct engagement of decision-makers aligns with the principles of interimistic

relational exchange, augments the potential for achieving behaviour change goals, and expedite the decision-making process and contribute to effective sustainable practices adoption.

The case study underscores the point that when key decision-makers prioritize sustainability, they allocate the necessary resources, allocate time for training, and set performance expectations that incentivize sustainable behaviours. Conversely, if these decision-makers remain indifferent to sustainability or prioritize cost-cutting above all else, it becomes challenging to implement meaningful behaviour change interventions

Embedding behavioural change requires values alignment with business critical issues. The timber frame manufacturer benefited immensely as a result.

4.5 Discussion

This paper set out to address three questions in a single embedded case study:

- How do exchange partners in an expedient business-to-business relationship engage with substituting trust with mutual opportunity?
- To what extent do behaviour change interventions encourage the adoption of circular economy thinking in the built environment?
- How can insights from the research be harnessed by impact investors to catalyse the uptake of circular economy principles in affordable housing?

These are discussed under three headings - mutual opportunity as a substitute for trust; adoption of circular economy principles; and insights for impact investors.

4.5.1 Mutual opportunity as a substitute for trust

The effectiveness of behaviour change interventions is impacted by the environment in which they are applied (Grilli and Curtis, 2021; Lehner *et al.*, 2016). Confirmation bias tends to turn the spotlight on human behaviours when desired outcomes are not achieved while discounting the situational factors

(Foster, 2017). Two situational factors that evidently shaped behaviours in the case study were financial constraints and contractual arrangements.

Financial constraints were recognised at the outset of the study and clearly identified within the workshop brief (Appendix C-1). Although this did not appear to deter the project delivery team from engaging with the exercise, it was obviously the 'elephant in the room' that probably stifled innovation and full engagement.

The case study was designed to focus the attention of the project delivery team on the prospect of a strong pipeline and long term relationships rather than a larger budget on the case project. However, the findings remain in line with previous studies that identified financial constraints as one of the key barriers to the uptake of circular economy in the built environment (Adams, Osmani, Thorpe and Hobbs, 2017; Hart *et al.*, 2019; de Jesus and Mendonça, 2018; Kirchherr *et al.*, 2018)

The inability to implement the proposals to change heating systems at the case project indicates that the adoption of circular economy principles was stymied by the financial constraints. The innovative practices espoused by circular economy business models require sustainable financing structures and an appropriate investment vehicle is required to boost take up and fast-track the transition to a circular economy.

The deployment of private capital through impact investing provides a platform to produce the desired social and environmental outcomes alongside earnings. The Ellen Macarthur Foundation report (2017), "Achieving Growth Within" suggests that circular economy transition has been impeded by scant investment from the private sector and advances the argument that this represents a key barrier to organisations seeking to unlock the benefits of circular business models.

It is possible that potential investors are ignorant of the opportunities offered by adopting circular economy business models, innovations, etc. (Acsinte and Verbeek, 2015). A barrier that could be overcome by increased awareness. However, a more plausible explanation is that investment has been stymied as a

result of traditional investment structures built on traditional economic models (Hockerts *et al.*, 2022). Consequently, adoption of business models built on circular economy models are hindered by financing risk approach that disproportionately impacts innovation (Schröder and Raes, 2021; Zara *et al.*, 2021).

The affordable residential real estate sector could offer impact investors the scope for scalable investment and measurable impact (Spiess-Knafl and Scheck, 2017). High quality affordable housing is an important catalyst for positive social change. The adoption of circular economy principles contributes to positive environmental impact (van Tulder, 2018).

The contractual arrangements in place at the case project is a commonly used form of construction contract - the Joint Contract Tribunal (JCT) Design and Build contract 2016. Its key characteristics include combining design and construction responsibilities in a single contract, clearly defining project timelines and costs, allocating risks between parties, and providing a collaborative framework for project management. The JCT Design and Build contract is designed to streamline the construction process by reducing potential disputes and promoting cooperation between the employer and contractor (Chappell, 2013; Lupton, 2019a).

The JCT Design and Build contract offers a compelling blend of benefits and drawbacks for construction professionals to consider. It gained traction in the construction industry for its ability to streamline project execution, enhance collaboration, and reduce certain risks. However, it also poses limitations on design creativity, introduces complexities in change management, and necessitates vigilant risk management (Lupton, 2019b; Smith *et al.*, 2023).

The JCT Design and Build contract has an inherent characteristic of budget inflexibility that can wield both positive and negative impacts, creating a nuanced landscape that construction professionals must navigate. While budget inflexibility under a JCT Design and Build contract offers financial predictability and disciplined project management, it also poses challenges when accommodating changes (Chappell, 2013; Lupton, 2019b; Smith *et al.*, 2023).

Although the key lies in striking a balance and acknowledging that some degree of flexibility is necessary for project success, the fixed price design and build contract at the case project transferred delivery risk to the property developer, main building contractor and sub-contractors. An organogram illustrating the contractual relationships between the organisations is shown in Figure 4-3.

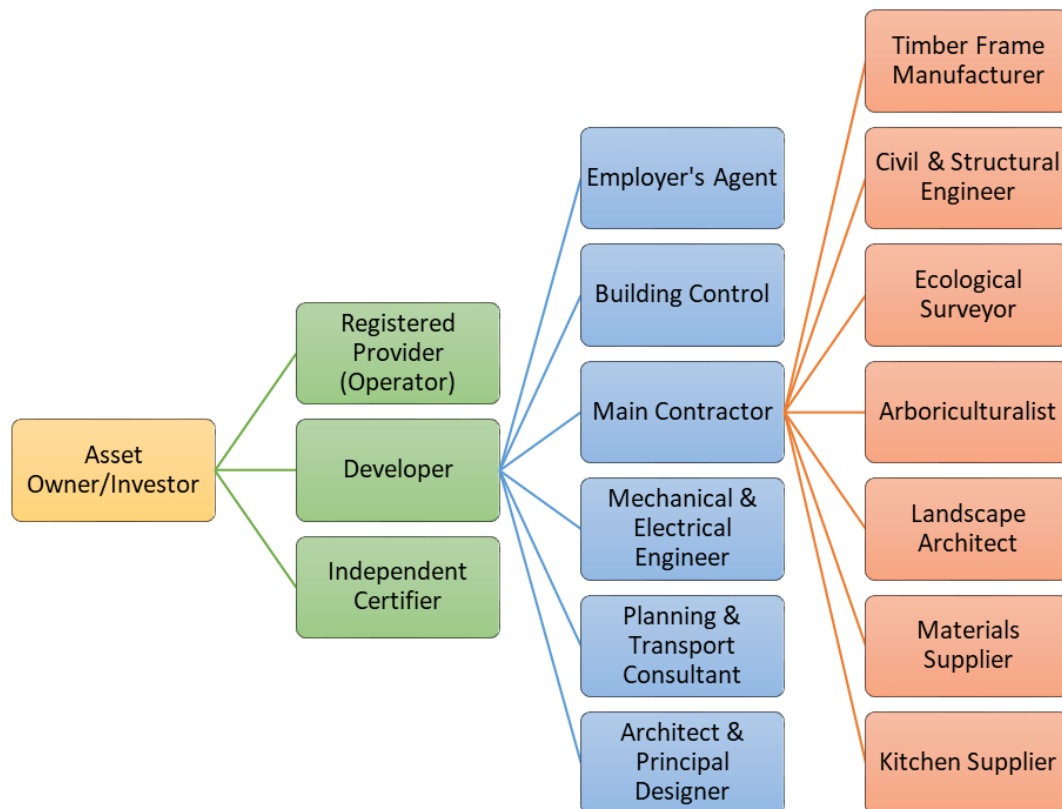


Figure 4-3: Contractual relationships within project delivery team

This did not provide the enabling environment for the introduction of innovative practices. Consideration should be given to adopt more relational contracting arrangements such as partnering contracts that respond better to the treatment of financial risk.

The educational value of a well-structured and planned workshop to focus exchange partners in an expedient business-to-business relationship in the construction industry on sustainable development initiatives could be immense. The behaviour change intervention of creating awareness planted the seed in the

minds of the workshop participants in a non-threatening manner to secure support:

“And the value of that [workshop] was, or could have been incredible. I say could have been, because I think ... that we were too late on this one to actually influence too much change. But with a meeting like that, with a workshop like that, ... early on in the project to really tease out the opportunities, and then a follow up. You know, we had policymakers in the room, we had circular economy. professionals ..., we obviously had the fund, we had developer, we had, you know, [the building operator] and architect, we had furniture makers, you know, this doesn't happen on a project, but it should do, and it needs to in order for people to be able to make the connections.” [Interviewee 3]

This sentiment is mirrored in the literature, where the fragmented nature of the construction sector is repeatedly seen as a barrier to innovation and increased productivity (Blayse and Manley, 2004; Chileshe *et al.*, 2012; Munaro *et al.*, 2020). This is perpetuated by contractual arrangements that are borne out of the desire to deal with potential conflicts that arise in transactions rather than enduring partnerships that are built from well-nurtured relationships (Benítez-Ávila *et al.*, 2018).

Human behaviour appears to be at the core of the challenge of adopting circular economy principles (Mersal Mahmoud, 2018). Building effective and efficient teams can be achieved through concerted effort. The assembly of a project delivery team at project initiation stage (RIBA¹² Stage 0) followed by a facilitated workshop instigated by the client/building owner should provide the opportunity to tackle the challenge. The workshop could form part of a briefing process where the client sets out project aims, goals, objectives, and expectations. This provides an opportunity to integrate delivery teams (Challender and Whitaker, 2019).

On reflection the facilitated workshop at the case project should have included a session to identify potential barriers to the desired behavioural changes. The

¹² Royal Institute of British Architects

process could have enabled workshop participants understand the cognitive biases or others that might impede agreed actions.

4.5.2 Adoption of circular economy principles

The selection of workshop participants was left to the discretion of key decision makers at the organisations represented at the facilitated workshop. The fact that the organisations key decision makers put themselves forward along with a senior direct report based on their anticipated roles in the delivery of the case project was a positive signal.

Successful behaviour change interventions, such as education and awareness, outreach and relationship building, social influence, nudges and behavioural insights, and incentives (Grilli and Curtis, 2021), directed at leaders and key decision makers within organisations increases the likelihood that the desired outcomes will permeate through the organisation (Foster, 2017; HM Government, 2016). The multiplying effect of nudging influential individuals within an organisation can result in widespread behavioural change (Foster, 2017).

Notably, key subcontractors that were exposed to the behaviour change intervention at the workshop were more supportive of the idea of building in circular economy thinking.

“for example, we had the window manufacturers on the islands, are very, very limited. And the subcontractor [window manufacturer] that was used was not engaged at all with this. And so it didn't matter what we were, whether we wanted to do this or that, they just ploughed on and did their own thing.... Whereas with the timber frame contractor, they were really proactive, engaged on board with it, and they were at the workshop, whereas the window manufacturer wasn't at the workshop.”

The feedback indicates there was a distinction between the attitude of workshop participants and that of other key subcontractors who were not in the room. The workshop provided the context and a key lesson is to facilitate early engagement with all manufacturers and suppliers and ensure they are invited to workshops

held at initiation stage. It should increase the likelihood that they would be at least sympathetic to the cause.

The remarkable results reported by a key sub-contractor at the case project is testament to what could be achieved through nudge interventions. The positive results arose from the strategic alignment of the organisational goals and project goals. This triggered the necessary research that resulted in better environmental performance and much improved product. Impact investors in their role as client/building owner need to steer the selection of participants at the project initiation stage.

4.5.3 Insights for Impact Investors

The findings highlight the central role of strong and focussed client leadership in driving the change required to adopt circular economy principles at project level. The clear signal at pre-commencement stage enabled the project delivery team to respond to the invitation to consider its application to the case project – despite the identified financial constraints.

Despite the trepidation at the start, the willingness of the property developer and project architect to actively engage was positive. It also triggered the early interest exhibited by other members of the project delivery team. This ensured a good turnout at the client instigated facilitated workshop.

“... it was probably the first and possibly the only time the entire team and all stakeholders in that project were in the same room. Yeah, and I appreciate that it's not necessarily the circular economy concept. But that was the first and possibly only time everybody was in the same room. I think it got people invigorated about the project. I think it got people excited about the project.” [Interviewee 2]

The client has a significant role in setting out the enabling conditions that facilitate the development of innovative practices (Briscoe *et al.*, 2004; Challender and Whitaker, 2019). However, the support from the project delivery team is essential if the vision is to be realised (Adams, Osmani, Thorpe and Hobbs, 2017).

Alongside improved briefing, the study results suggests the requirement for participation by the client to achieve the objective of building in circular economy thinking. The risk of interfering with the study outcome meant that the researcher opted to maintain an 'observer' role at a key decision point that required client intervention. Taking a neutral standpoint effectively 'silenced' the client voice that may have contributed to observed demotivation of the project delivery team.

“And I think with, with you moving away from the project as well, I think that if people were finding that pressure say that only they were, but if there was a, they felt that that influence or pressure to perform on in that aspect of circular economy reduced.” [Interviewee 3]

The client has an influential role in project delivery team motivation. A vital missed opportunity was the lack of feedback following consideration of the building contractor led proposals to change heating system.

“... the biggest impediment or the project was when we did the study to show why we should move to electric away from gas, which was a big pressure on the project at the time, because we wanted to crack on and get the design done, but we also knew that gas wasn't the right way to go. And so two, three, people actually put in quite a bit of their time and effort do that. And I think it just didn't. for whatever reason, they didn't come to a good conclusion” [Interviewee 3]

On reflection, poor communication meant that the valuable work undertaken some team members was not recognised. Effective and timely communication of feedback could have provided a more positive outcome for the exercise (Foster, 2017). The financial constraint was a known factor at the outset. Therefore, it should have been easier to accept and provide the impetus to tackle the next specified action. However, the clear lesson is that communication as a motivational factor is absolutely critical.

Although circular economy remained on the standard site meeting agenda for an 8-month period, no additional actions were recorded by the project delivery team.

This may have been partly because of the absence of primary proponents – including the client – at these meetings.

“although... [the project team] continue to put circular economy on the agenda, the answer was quite noncommittal to when it was discussed.... And I think the reason is you weren't in the room,” [Interviewee 3]

This feedback reinforces the fact that innovative practices require careful steering. It was beneficial that circular economy remained on the monthly site meeting agenda. However, the evidence is that the nudge did not translate into action.

Leadership is a vital tool to help address the cultural barriers to the delivery of circular economy (Hart *et al.*, 2019). Strong client leadership in promoting the application of circular economy principles in the built environment will entail introducing practices such as dedicated feedback loops. As part of an active participation strategy, impact investors, in a client/building owner role, could introduce regular workshop that gives project delivery teams the opportunity to ‘work on the project’ rather than ‘work in the project’.

Impact investors that operate in the UK residential real estate sector are frequently also building owners. As the client and building owner, they occupy a unique position and possess the greatest opportunity to promote pro-social and pro-environmental behaviours. This can be achieved through the establishment of a clear vision, implementing innovative practices, disseminating information, focussing on whole-life costs, and supporting collaboration across the supply chain (Adams, Osmani, Thorpe and Hobbs, 2017).

The case study indicates that impact investors as client/building owner can influence the application of circular economy principles in the built environment by sensitising the project delivery team through behaviour change interventions in a workshop setting at project initiation stage. The early supply chain involvement should ensure that the circular economy concept is embedded in the building project (Többen and Opdenakker, 2022).

The scale of the challenge – undersupply of affordable housing in the UK – and the required capital deployment, mean that project delivery teams can be set up with a long term outlook. This should (all things being equal) enable the early assembly of project delivery teams and justify the required investment in research and development by all members. The aim is to achieve scalable measureable social and impact alongside financial returns.

4.5.4 Limitations and Areas of further research

The findings of this study are based on a mini-ethnographic case study where the researcher occupied multiple roles. While it has provided the opportunity for a through exploration of the case, the juggling of roles may have influenced the observed outcomes. Although, to some extent, this was compensated for by the close out interviews conducted with interviewees who had been involved from project. A similar study should be undertaken where researcher-practitioner roles are distinct to eliminate potential for conflict.

The discussion delves into the relationship between trust and collaboration within the concept of interimistic relational exchange. It explores how the concept's emphasis on addressing business opportunities or threats could serve as a substitute for the time-consuming process of building trust. The findings from the case study prompt a nuanced exploration of how trust-building can be expedited through a shared focus on immediate challenges, potentially leading to longer-lasting relationships.

Relatively simple 'low cost' nudge intervention techniques were applied in this study (Hilton *et al.*, 2018). These were a combination of education and awareness (background information, handouts, etc.) and facilitated workshop with activities designed to build relationships, and promote pro-environmental attitudes and behaviours (Grilli and Curtis, 2021). This enabled an exploration of the interplay between sustainable practices and interimistic relational exchange

The study highlights how a heightened focus on sustainability can act as a catalyst, intensifying collaboration and resource-sharing among stakeholders. The findings suggest this approach was effective. This alignment can amplify the

influence of interimistic relational exchange, underscoring the potential for addressing global challenges through short-term yet impactful collaborations. Future studies should consider other nudge intervention techniques.

The findings indicate that financial constraint stifled innovation. Future studies should explore the effectiveness of nudge interventions where a dedicated/ring-fenced budget is identified that could be accessed if the business case for change inspired by adoption of circular economy principles is proven and supported.

The discussion raises ethical considerations associated with business practices within interimistic relational exchange. As organisations engage in close, fast-developing collaborations, it becomes crucial to address concerns related to the role of power dynamics, equitable resource distribution, transparency, and long-term sustainability. Scrutinizing these ethical aspects could promote responsible practices between exchange partners.

The COVID-19 pandemic meant that the planned close out workshop did not take place. This meant the extent to which the nudge interventions have influenced operations phase is unknown. Future research should review the embeddedness of circular economy thinking in building operation.

4.6 Conclusions

Against the backdrop that the development of trust between exchange partners in an expedient business-to-business relationship is evolutionary and only starts to evolve deep into the relationship journey (see Figure 4-1) Lambe et al (2000) posited that substitutes are required for trust to create trust like behaviours.

This paper set out to explore how the construction project team assembled to deliver an Extra Care Housing development for older people engaged with substituting trust for the opportunity to build in circular economy thinking. Two additional questions were posed – to what extent will the application of the planned intervention encourage the adoption of circular economy, and what insights can impact investors harness from the research?

So what happened and what were the lessons?

1. Relationships - Trust and Consensus Building

The bedrock of any exchange, even in interimistic scenarios, is the quality of the relationship. The facilitated structured workshop designed to educate and create awareness, and set expectations, emerged as a critical factor in building consensus among project stakeholders. It was well received and considered the high point for workshop participants (see 4.4.1 and 4.5.1) and reaffirmed by interviewees (see 4.4.3.1). Trust and social norms played a significant role in the success of the workshop, underlining the relevance of the building relationships – a core tenet of relational exchange theory. Trust, even in short-lived exchanges, remains pivotal for cooperation and consensus-building.

2. Focus - The Imperative of Building and Maintaining Relationships

An important focus within interimistic relational exchange lies in the strategic importance of addressing short-lived business opportunities or threats. In the context of sustainable practices adoption, situational factors play a pivotal role. Effectiveness in encouraging uptake of sustainable practices hinges on the ability to identify and respond to unique project-related circumstances. This aligns with the focus concept, emphasizing the importance of tailoring exchange relationships to specific situations.

The attempt to substitute mutual opportunity in the form of sustainable development initiatives for trust was scuppered by the inability to set aside funds to realise the vision. This was compounded by the veiled mistrust that developed following the decision not to proceed with the design change from gas to electric (see 4.4.2). A reminder that mistrust decreases commitment (Lambe *et al.*, 2000). This happened early in the project and it was clear that the collaborative spirit engendered at the workshop quickly faded and relationship became more transactional.

3. Motivation - Sustaining Valuable Relationships

Motivation in interimistic relational exchange goes beyond immediate gains. The involvement of key decision-makers increases the potential for sustaining valuable relationships over time. This finding resonates with the motivation concept in Relational Exchange Theory, emphasizing the long-

term benefits that arise from these exchange relationships. The key subcontractor that fully embraced the circular economy concept and changed internal operations, in response to the behavioural intervention, harnessed the resulting financial benefits of optimising resource utilisation within their business (see Section 4.5.2.) Notably, the resultant design changes that were implemented were within the control of the subcontractor and did not require decisions by committee.

Overall, there is growing recognition that adoption of circular economy principles could contribute solutions to environmental and societal challenges. Studies have shown that cultural barriers and financial constraints hamper the adoption of circular economy in the built environment.

This paper has investigated the extent to which pro-environmental and pro-social behaviours could be encouraged by applying behavioural insights. The study finds that the cultural resistance to change in the construction sector could be tackled through education and awareness with learning reinforced in workshop setting. It also suggests that organisations that embed circular economy principles in their operations are likely to benefit in the long-term.

However, financial constraints and lack of engagement by supply chain members who had not been exposed to the behaviour change interventions, hindered wider adoption of circular economy principles on this case project.

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Appendix C

Appendix C-1 Workshop Briefing Document

Briefing Document

Building in Circular Economy Thinking

Extra Care Housing Project

January 2019



Project Vision

A housing development that espouses circular economy principles in its design, construction, operation and maintenance. The objective is to eliminate waste and pollution through purposeful design, efficient construction techniques and systematic asset management processes that will keep the built asset at peak value during its lifecycle and is supported by digital technology.

Introduction

The Project development has been identified by The Fund and The Developer as an opportunity to incorporate circular economy (CE) principles in delivery of affordable housing.

This pilot project will identify how CE principles can be applied to ongoing and new projects.

"A circular economy is an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life."

WRAP

"Identifying pilot buildings to collaborate on with stakeholders has the biggest potential to change the way the sector works."

Thomas Schwillig, Berlin
Senate Department for the
Environment, Transport and
Environmental Protection

(extract from ARUP report - The circular economy in the built environment)

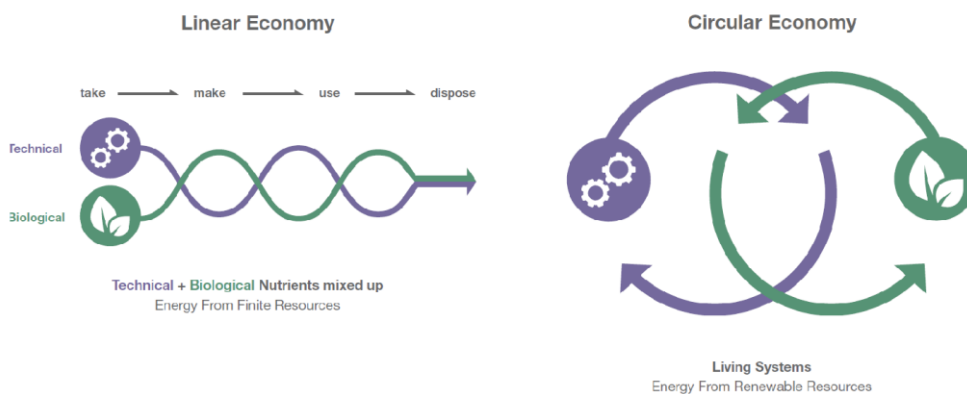


Diagram: Linear vs circular economy (adapted from Ellen MacArthur Foundation 2015)
(extract from ARUP report - The circular economy in the built environment)

Study Objectives

The primary purpose of this study is to identify viable opportunities, within pre-determined whole-life costs, to implement circular economy principles into the The Project development during the detailed design stage.

The ability to influence fundamental design change is most effective at the start of a project at the strategic brief and conceptual stage. It is therefore reasonable to assume that there will be barriers to adoption of a full circular system.

However, as a project progresses, a more accurate assessment can be made on the value impact of a design change, and therefore there is an opportunity on The Project to exploit this advantage.

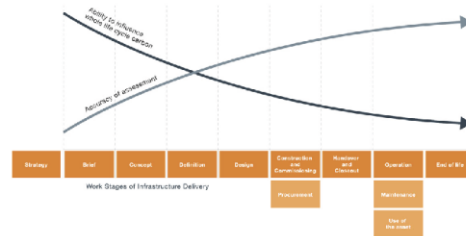


Diagram: change potential over project lifecycle
(extract from UKGBC report - Embodied carbon: developing a client brief)

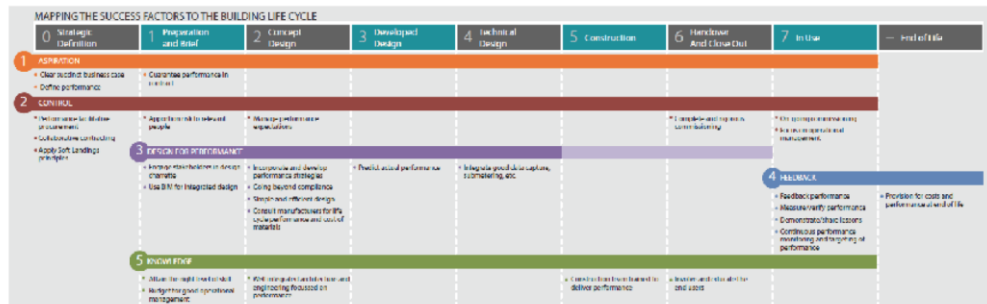


Diagram: Mapping success factors to the building lifecycle
(extract from UKGBC report - Delivering building performance)

Secondary objectives should be considered that enable the knowledge gained during this study to be recirculated and replicated for use in new projects:

- Establish a reusable criteria for value assessment.
- Begin to develop an evidence base demonstrating the value of a circular built environment.
- Develop design principles for future use.
- Identify opportunities for developing design briefs for future projects that establish expectations for circular procurement and lifecycle assessment.
- Measure and record the project outcomes for future projects to benchmark against.
- Identify the financial opportunity inherent in built environment assets that are longer lasting, more flexible and provide a healthier environment for users.
- Identify possibilities for a more collaborative project delivery.
- Dissemination of knowledge to increase awareness.
- Review the discovered opportunities and barriers to circular procurement with local policy makers.

Develop Method

Shared Value

Collaboration

Knowledge share

Project Background

The Project Background

The development

The Project provides 75 one and two bedroom apartments and 2 staff/visitor overnight suites arranged over 4 storeys around three sides of a central courtyard.

60 apartments are designated for affordable rent, whilst 15 will be for sale under a shared ownership scheme.

As well as apartments, the ground floor has a mix of communal facilities for resident and visitor use, and there are ancillary uses including stores, plant and staff facilities located on each level.

The Brief

The design and procurement brief that the current proposals are based on does not stipulate requirements for circular thinking, nor does it aim to achieve particular environmental accreditation (eg BREEAM). Therefore it can be regarded that the current design decisions have not considered the principles of eliminating waste and lifecycle assessments at this stage over and above standard practice.

Programme

The project is currently at RIBA Stage 3 (developed design), with elements of RIBA Stage 4 (technical design) completed.

A planning application has been submitted and a tender package is currently being priced, with construction expected to start March 2019.

Procurement and Management

Procurement is managed by The Developer and will be under a design and build contract with The Main Contractor responsible for completing the technical design and construction, with FF+E fit-out by a specialist contractor.

Forward funding is provided by The Fund who will retain an investment interest for the building lifecycle. Facilities management and care services will be by The Registered Provider.



Key Stakeholders

- The Policy makers
- The Impact Investor
- The Registered Provider & Operator
- The Developer
- The Architect
- The Main Contractor
- The Key subcontractors

A Circular Built Environment

"A circular economy is not just about designing out waste, it is fundamentally designing out the concept of waste. This means that designers have to think about the whole life of the building from the decision to build new or refurbish through to the eventual demolition or deconstruction of an obsolete building."

David Cheshire, Building Revolutions

Why Circular?

Applying circular economy principles to the construction sector and buildings offers potential rewards to all project stakeholders from building owners and occupants to the supply chain and the local community.

Buildings can be designed to have a positive, enduring legacy by making them more adaptable and by ensuring that valuable materials and components can be reclaimed and reused at end of life. potential key benefits are:

- Positive economic impact - eliminating waste; (waste management and disposal cost the industry the equivalent of 30% of pre-tax profits), creating local job opportunities and maximising the asset value over the development lifecycle.
- Positive environmental impact - reduction in dependence on raw materials and elimination of the concept of waste through a better understanding and use of materials.
- Positive social impact - creation of local job opportunities.
- Positive health impact - restorative and regenerative design offers inherent tangible health benefits to building users, placing people at the heart of the design process.

Design principles

Suggested 5 key design principles are:

- **Building in Layers** - elements of the building have different lifespans and these should be independent to allow different 'layers' to be cycled separately.
- **Design out waste**
- **Design for adaptability**
- **Design for disassembly**
- **Distinguish between biological and technical materials** to enable appropriate specification.

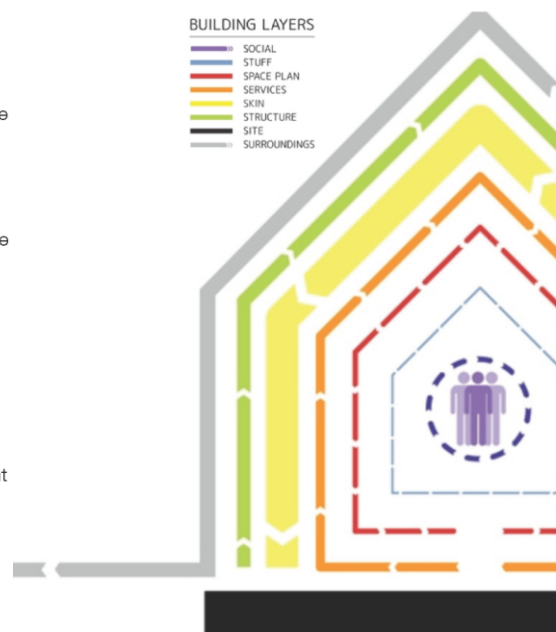


Diagram: Building in layers

(extract from Adaptable Futures website cc Loughborough University)

Project Methodology

The methodology for carrying out this study is based upon the guidance set out in published research on CE, and in particular the advice from the UK Green Building Council in their paper Practical how-to-guide: Building Circular Economy Thinking Into Your Project.

The guide identifies six steps¹ and these steps are adapted to suit the nature of this project and are described in the proposed methodology diagram overleaf.

Outline Programme

Activity	Start	Finish	Jan '19				Feb				March			
			7	14	21	28	4	11	18	25	4	11	18	25
01 Stakeholder Workshop: Strategy	1d	w/c 4/2/19												
Contract let and design team appointment		dates TBC												
02 Value Engineering: Assessment	4w	25/2/19												
03 Stakeholder Workshop: Review	1d	w/c 25/3/19												

Outputs

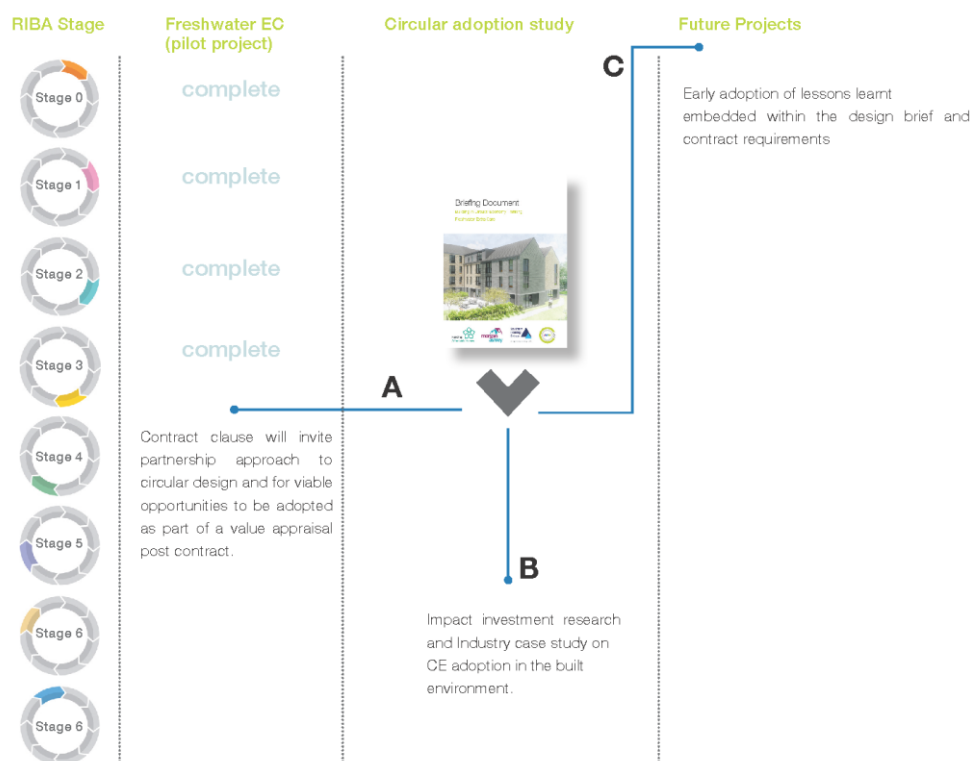
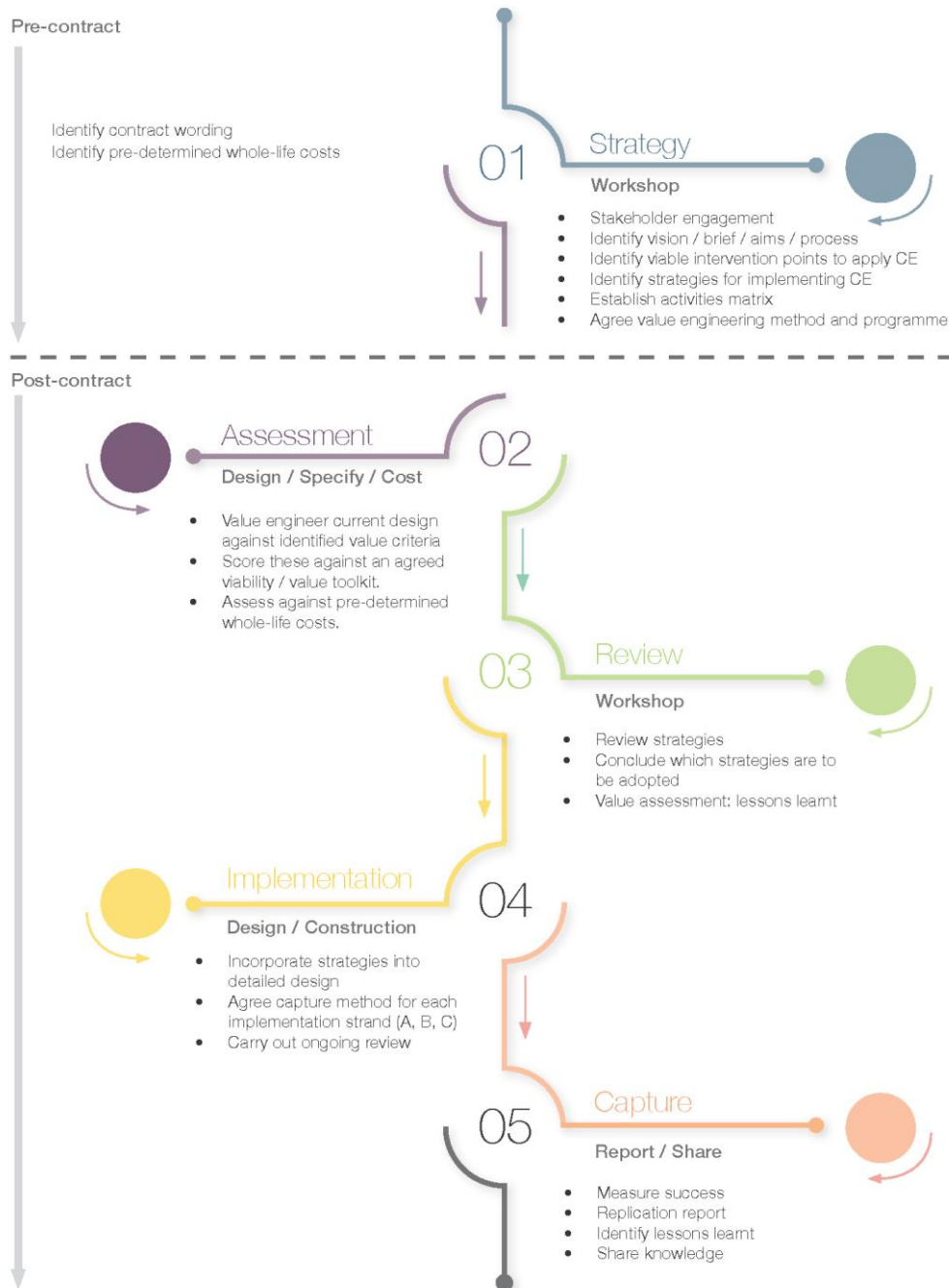


Table showing output strands A, B, C

¹ 1 Set a vision; 2 Identify key intervention points; 3 Decide on strategy; 4 Implement your strategy; 5 Carry out on-going review; 6 Lessons learned and measuring success.



Building in circular economy thinking: The Project Methodology

7

Further Reading

Book - FutuREstorative: Working Towards a New Sustainability. Martin Brown

<https://www.ribabookshops.com/item/futurestorative-working-towards-a-new-sustainability/85971/>

Book – Building Revolutions: Applying the circular economy to the built environment. David Cheshire

<https://www.ribabookshops.com/item/building-revolutions-applying-the-circular-economy-to-the-built-environment/86743/>

Case Study - Circularity in the built environment. Ellen MacArthur Foundation

<https://www.ellenmacarthurfoundation.org/assets/downloads/Built-Env-Co.Project.pdf>

Report - The Circular Economy in the Built Environment. ARUP

<https://www.arup.com/perspectives/publications/research/section/circular-economy-in-the-built-environment>

Report - First steps towards a circular built environment. ARUP

<https://www.arup.com/perspectives/publications/research/section/first-steps-towards-a-circular-built-environment>

Report - Practical how-to guide: Build Circular Economy Thinking Into Your Projects. UKGBC

<https://www.ukgbc.org/sites/default/files/How%20to%20build%20circular%20economy%20thinking%20into%20your%20projects.pdf>

Report – Embodied Carbon: Developing a Client Brief. UKGBC

<https://www.ukgbc.org/sites/default/files/UK-GBC%20EC%20Developing%20Client%20Brief.pdf>

Report - Delivering Building Performance. UKGBC

<https://www.ukgbc.org/wp-content/uploads/2017/09/UK-GBC-Task-Group-Report-Delivering-Building-Performance.pdf>

Website - Adaptable Futures

<http://adaptablefutures.com/>

Website – Embedding Circular Economy in the Built Environment. Anthesis Group

<https://blog.anthesisgroup.com/embedding-circular-economy-in-built-environment>

Appendix C-2 Workshop Agenda

Extra Care Project

Workshop Agenda

AM 'Exploration'

- 10.00 Introductions, Purpose, Structure for day
 - Scheme introduction
 - Research update, impact investing.
 - CE and the Foundation's connections with the built environment
- 10:40 Explore, Agree CE Vision for 'Extra Care Project'
- 11.30 CE Themes: Introduction Presentation: Understanding and Discussion, including:
 - To what degree can we emulate a natural closed loop system at Extra Care Project. For the building, construction, maintenance and 'end of life'?
 - Exploring co-benefits – regenerative economy benefits – emerging from CE approaches.
 - 'What is important?' - Determine and Prioritise CE Values for Freshwater
 - To what layers (site, shell, services, scenery, set), areas, construction and products of the building can we apply CE?
 - Identify and Prioritise CE aspects

Lunch

PM 'Action Planning'

- 13.30 Building on the mornings exploration: Establish CE Strategy and Plans (for example: Material Strategy; Net Positive Waste Strategy; Material Conservation Plan (design, construct, in use, end of 1st life); Material Bank Strategy)
- 16.00 CE Monitoring and Tracking – how, who, and when will we monitor CE action plans
- 16:30 Awareness, Training and Competences – what will we need to follow through with CE plans?
- 17.00 Close

Background Reading

- Design for DeConstruction
- Designing Out Construction Waste – Zero Waste Scotland
- Building Revolutions Extract (but recommend reading book)
- FutuREstorative Extract (but recommend reading book)

"The Circular Economy involves a fundamental rethinking of products, materials, systems and commerce. It is not simply next-gen recycling"
State of Green Business 2016 GreenBiz

Appendix C-3 Extended Abstract



CRANFIELD SCHOOL OF MANAGEMENT

Extended Abstract

Financing the transition to a circular economy

Tayo Bilewu

Doctoral Researcher

Cranfield School of Management
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Financing the transition to a circular economy

The circular economy offers the opportunity to tackle the challenges arising from the unabated dissipative use of the world's natural resources. However, the adoption of circular economy business models has been stymied by inadequate levels of private sector investment. The innovative practices espoused by circular economy business models require sustainable financing structures. Seeking to deliver a new reality through traditional financing techniques is akin to 'pouring new wine into an old wineskin'. An appropriate investment vehicle is required to boost take up and fast-track the transition to a circular economy.

Increasingly, the use of impact investing for the deployment of private capital through impact investing is viewed as providing a platform to produce the desired social and environmental outcomes. This is boosted by a growing number of ethically driven Millennials (Bucic, et al., 2012)ⁱ. However, the combination of a lack of understanding of the field and scarce academic research to establish legitimacy has impeded flow of capital.

An assessment of the impact investing field, state and constraints to maturity is provided in the World Economic Forum Report (2013)ⁱⁱ *"From the Margins to the Mainstream"*. The report highlights confusion in definition, ecosystem infancy, deal size, and appropriateness of tools for measurement. It recommends advancement of impact investing by *"... concerted effort and collaborative coordination...."*

Concurrently, global awareness of the pressures arising from the prevalent linear economic model that converts *"... natural resources into waste, via production"* (Murray, et al., 2015)ⁱⁱⁱ is increasing. This represents a huge challenge for World and business leaders. The need to utilise resources efficiently is gaining momentum alongside the competitive business advantage offered by disruptive technologies and investment strategies.(Lacy & Rutqvist, 2015)^{iv}.

The number of academic researchers interested in circular economy is growing. The increased number of publications in the field over the last 10 years (Geissdoerfer, et al., 2016)^v is a testament to its popularity. Studies undertaken by non-academic practitioners such as Lacy, et al. (2014)^{vi}, show that adopting the principles of circular economy provide an alternative balanced, inclusive and broad based economic growth model.

The Ellen Macarthur Foundation report (2017)^{vii}, “*Achieving Growth Within*” suggests that circular economy transition has been impeded by scant investment from the private sector. It advances the argument that this represents a key barrier to organisations seeking to unlock the benefits of circular business models.

It is possible that potential investors are ignorant of the opportunities offered by adopting circular economy business models, innovations, etc. (Acsinte & Verbeek, 2015)^{viii}. A barrier that could be overcome by increased awareness. However, a more plausible explanation is that investment has been stymied as a result of traditional investment structures built on linear economic models. Consequently, adoption of business models built on circular economy models are hindered by financing risk approach that disproportionately impacts innovation.

The paper accentuates the emerging themes arising from an ongoing systematic review of literature on the potential offered by the nascent field of impact investing in capital deployment.

References

-
- ⁱ Bucic, T., Harris, J. & Arli, D., 2012. Ethical Consumers among the millennials. *Journal of Business Ethics*, 110(1), pp. 113-131.
- ⁱⁱ World Economic Forum, 2013. *From the Margins to the Mainstream: Assessment of Impact Investment Sector and Opportunities to Engage Mainstream Investors*, Geneva: World Economic Forum.
- ⁱⁱⁱ Murray, A., Skene, K. & Haynes, K., 2015. The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context. *Journal of Business Ethics*, pp. 369-380.
- ^{iv} Lacy, P. & Rutqvist, J., 2015. *Waste to Wealth - The Circular Economy Advantage*. New York: Palgrave MacMillan.
- ^v Geissdoerfer, M., Savaget, P., Bocken, N. M. & Hultink, E. J., 2016. The Circular Economy - A new sustainability paradigm. *Journal of Cleaner Production*, pp. 757-768.
- ^{vi} Lacy, P., Keeble, J. & McNamara, R., 2014. *Circular Advantage: Innovative Business Models and Technologies to Create Value in a World without Limits to Growth*, s.l.: Accenture.
- ^{vii} Ellen Macarthur Foundation, 2017. *Achieving 'Growth Within'*, Isle of Wight: Ellen Macarthur Foundation.
- ^{viii} Acsinte, S. & Verbeek, A., 2015. *Assessment of access-to-finance conditions for projects supporting Circular Economy*, Luxembourg: InnovFin Advisory, European Investment Bank Advisory Services

Appendix C-4 Circular Economy Workshop Report

The Project

Circular Economy Workshop Report

'a wellspring for creativity and innovation'

Wellspring: noun, an abundant source
synonym, source

Key Words (Compiled from "What CE Means to Me" and brainstorm sessions)

Design Better, Value, Life Cycle, Future Use, Future Residents, Material Life, Social Impact, Quality of Life, Cradle to Cradle, Resources, Opportunities, Eco System, Effectiveness, Waste, Buildability, People, Standardisation, End of Life, Inhabitants not End Users, Better Technology, Collaboration, Regeneration,

Brief Vision

The Circular Economy Briefing prepared by the Architect formed the basis for this workshop:

A housing development that espouses circular economy principles in its design, construction, operation and maintenance. The objective is to eliminate waste and pollution through purposeful design, efficient construction techniques and systematic asset management processes that will keep the built asset at peak value during its lifecycle and is supported by digital technology.

Introduction

This is the report from The Project Circular Economy strategy workshop held on February 6th 2019.

The primary purpose of this strategy workshop, as defined within the Brief, was to identify *viable opportunities, within pre-determined whole-life costs, to implement circular economy principles into The Project during the detailed design stage.*

It supports the wider objectives for Circular Economy, namely:

- **A: THE PROJECT:** A partnership approach to circular design, for viable opportunities for this project
- **B: CIRCULAR ECONOMY STUDY:** Impact investment research and Industry case study on CE adoption in the built environment.
- **C: FUTURE PROJECTS:** Identify Early adoption of lessons learnt embedded within the design brief and contract requirements of future projects

Whilst serving as a summary of the outcomes from the strategy workshop, this report is also intended to be a tool for **continuing dialogue and reference** in the application of circular economy and related sustainability improvement approaches at The Project and on future projects.

This strategy workshop was initiated by The Researcher as part of a Doctoral research project exploring how impact investing can further circular economy buy in, application and results.

Led and facilitated by The Facilitator, the strategy workshop was devised as an introduction to the circular economy, providing insights from other circular economy approaches, enabling delegates to explore, discuss and plan for circular economy application at The Project. It followed established and proven Value Management techniques of establishing a (circular economy) Value Tress comprising of Key Purpose, Key Drivers and Key Actions.

Methodology

This strategy workshop was step 01 in the 5-step plan identified within The Project Circular Economy Brief

Step	Status
01 Strategy Workshop	This Workshop
02 Assessment – Value Engineer for CE	Next Step - Date/Period/Participants to be determined
03 Review Workshop	Date/Period to be determined
04 Implementation (Design / Construction)	Stages 4, 5, 6
04A Implementation In Use (added)	Stage 6
05 Capture, Report and Share	During and End of Contract Stage 6

The Facilitator *Observations from the Workshop:*

- Circular Economy is rapidly becoming a major driving imperative in addressing built environment and resource sustainability constraints. It will not however happen on its own and will require a high level of commitment and passion for improvement.
- Circular Economy opportunities exist throughout the life of the project. The extent of those opportunities during the in-use phase will be determined by decisions made during the Design/Construct Phase. (Note Step 04A added to Methodology)
- However, it should be noted that whilst the Circular Economy thinking explored in this workshop may be too late for many aspects of the design, given the status of The Project, a vast number of opportunities are still available. (Also note though that all opportunities and process routes identified should be taken forward as the starting point for future projects)
- This strategy workshop progressed Circular Economy thinking and awareness within the project stakeholders for application in other projects and for wider organisational agendas.

- The Circular Economy is in many ways in its infancy within construction, particularly when applied to a project wide life cycle as in this case. Increased awareness and experience of implementing CE will stand all stakeholders in good stead with evidence and recognition for future project bidding and applications.
- From a facilitator perspective it is encouraging, that unlike many CE workshops and initiatives, the focus was not overly on reducing waste, but included important social and building in-use aspects.
- Circular Economy is not a cost-adding exercise, but a vital investment towards the (financial, ecological and social) success of projects, and should be approached within this mindset. Consequently, time and resources spent on enabling and implementing circular economy, should be accounted for (as impact investment) -for example potential additional time on design evaluation or procurement.
- As shared during the strategy workshop, the vast amount of construction today is unsustainable (I used **1+1 = less than 2** to illustrate). We know from many authoritative science-based reports that we no longer have a luxury of only reducing impact, but need to take significant regenerative steps. It is through CE and related sustainability efforts that we can ensure that *1+1 becomes greater than 2*, whereby the process of designing, delivering and maintaining The Project adds real value. And in doing so the project is *socially just, ecologically sound, culturally rich and financially beneficial for all stakeholders*.

CE Principles

The Local CE Charity introduction to CE forms part of this report suite. It is worth highlighting the three simple principles for Circular Economy introduced by The Charity and reinforced by The Facilitator.

- Eliminate waste, pollution, negative social & environmental impact
- Keep products and materials in use
- Regenerate natural systems

Design for Disassembly Principles

The Facilitator's introduction to Design for Disassembly forms part of this report suite. It is worth highlighting the 10 principles that are key for a Circular Economy building, its materials and products.

- Document Materials, labels, joints and methods for disassembly.
- Select materials using the Precautionary Principle
- Design Connections that are accessible
- Eliminate Chemical Connections
- Use Mechanical Connections
- Separate MEP Systems
- Design to the Human
- Design for future interchangeability
- Design for safe disassembly and deconstruction

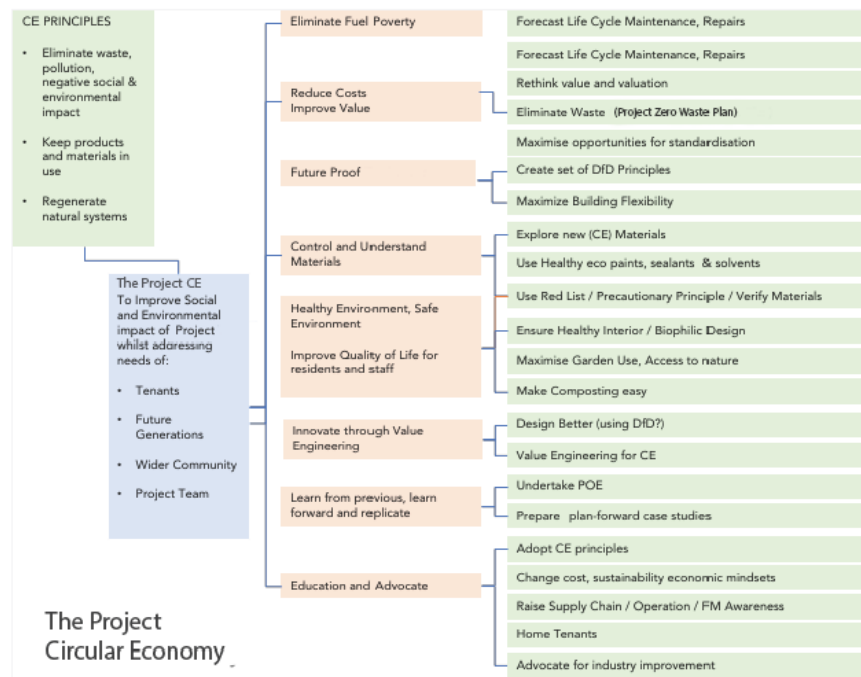
Note Workshop Outcome: Refine the core Design for Disassembly Principles as a Project DfD Guide for design.

Building Layers

Design for Disassembly should be applied to all layers of The Project (Site, Structure, Shell, Services, Scenery, Stuff)



The Project Circular Economy (Value) Tree



Key Purpose (why are we exploring CE?) (Compiled from purpose statements from workshop teams)

- To Improve Social and Environmental impact of The Project whilst addressing needs of:
- Tenants
 - Future Generations
 - Wider Community
 - The Project Team

Circular Economy Champion

Circular Economy Champion Role

A typical champion role would be as follows. However, given that The Project has progressed to Stage 3 this would require discussion and agreement with project stakeholders

- Drive: Reinforce and advocate Circular Economy Principles
- Hold Circular Economy Design Assessment sessions
- Hold Circular Economy Design Implementation sessions
- Coordinate Circular Economy Reports / and CE KPI's
- Instigate and share project CE case studies
- Share Circular Economy related papers and case studies
- Prepare briefings for future projects
- The Circular Economy Champion role should pass from a member of the design team (Stages 1, 2, 3, 4) to a member of the construction supply chain (stages 4, 5, 6) and on to a member of the fm/operations team (stages, 5, 6,) Circular Economy champion 2/3 way through project (then to operational Circular Economy champion after handover)

The Architect nominated as Circular Economy Champion.

- Note – an identified task was to re-define **Design for Disassembly Principles as a Project DfD Guide** for design.

Key Drivers (Collated from drivers identified by workshop teams)

- Eliminate Fuel Poverty
- Reduce Costs whilst Improving Value
- Future Proof The Project
- Control and Understand Materials
- Healthy Environment, Safe Environment
- Improvement Quality of Life for residents and staff
- Innovate through Value Engineering
- Learn from previous, inform future projects
- Educate and Advocate

Recommended actions:

- Allocate a 'sponsor' for each driver
- Use this as agenda item for CE Project Meetings
- Develop simple (indicative) KPI for each, for example:

Driver	Possible Simple KPI	Sponsor*
Eliminate Fuel Poverty	Zero	
Reduce Costs whilst Improving Value	Recycled content used Waste generated construction Waste generated in use	
Future Proof The Project	Future proof actions identified / incorporated Materials / Products replaced/reused	
Control and Understand Materials	Zero materials of concern Suppliers informed	
Healthy Environment, Safe Environment	Air Quality, Incidents Construction Air Quality, Incidents In Use	
Improve Quality of Life for residents and staff	Zero tenants in fuel poverty	
Innovate through CE Value Engineering	# of CE innovations identified, incorporated	
Learn from previous, inform future projects	POE's shared	
Educate and Advocate	People / Organisations reached Case Study / Report shared	

* tbd Post Workshop

Key Actions (Collated from actions identified by workshop teams and in plenary discussion)

- Recommended next step: allocate a 'sponsor' for each action

Driver	Action	Owner(s)*
Eliminate Fuel Poverty	Ensure building and services design is appropriate, flexible, upgradable with interchangeability to incorporate future (technologies)	
Reduce Costs whilst Improving Value	Forecast and Minimise Life Cycle Maintenance & Repairs	
	Rethink value and valuation (<i>JLL to outline</i>)	
	Eliminate Waste (<i>Develop a Project Zero Waste Plan</i>)	
	Maximise opportunity for standardization for all building layers but in particular, fittings and furniture	
Future Proof The Project	Create set of DfD Principles for The Project	
	Maximize Building Flexibility	
	Maximise use of BIM	
	Maximise opportunity for rainwater solutions and harvesting	
Control and Understand Materials	Explore new (CE) Materials (<i>Through specification and procurement, to encourage CE and Sustainability materials</i>)	
	Use Healthy eco paints, sealants & solvents	
	Explore different (natural?) insulation solutions	
	Adopt Red List / Precautionary Principle / Verify Materials (<i>eg 14001, BES6001, Declare</i>)	
Healthy Environment, Safe Environment	Ensure Healthy Interior / Biophilic Design (<i>Consider a biophilic design workshop for The Project interior design. Use 14 patterns, Create a biophilic guide for tenants</i>)	
Quality of Life for residents and staff	Maximise Garden Use, Access to nature (<i>Ensure design allows for access to gardens and nature</i>)	
	Make Composting and recycling easy (<i>Ensure designs and operation allow for easy composting and recycling</i>)	
Innovate through Value Engineering	Design Better (<i>Use The Project DfD as guide for remaining design. Ensure Stage 4 and 5 design within the supply chain aware of requirements</i>)	
	Value Engineering for CE (<i>through construction and operation phase, using The Project DfD as guide</i>)	
	Explore, and be open to new ways of doing things	
Learn from previous, inform future projects	Undertake POE on The Previous Project	
	Prepare The Project plan forward case studies	
Educate and Advocate	Support CE Champion	
	Adopt CE principles	
	Change cost, sustainability economic mindsets	
	Raise Supply Chain / Operation / FM Awareness	
	Raise Home Tenants Awareness	
	Advocate for industry improvement	

* tbd Post-Workshop

(Recommended) Next Steps

- Review actions, drivers and recommendations within this report arising from the strategy workshop.
- Determine programme for CE Methodology (6) steps.
- Re-define the **Design for Disassembly Principles** as a Project DfD Guide for design.
- Undertake next step from CE Methodology: *02 Assessment – Value Engineer for CE*
- Include construction supply chain representation within CE discussions.
- Define role of CE champion(s) throughout the life of the project.
- Pursue further awareness and training, particularly within the supply chain (eg CITB Funding).
- Produce and disseminate case study of approach taken at **The Project** to date.

References

During Workshop

(Material and presentations)

- The Researcher's Project Study Abstract
- The CE Foundation Presentation
- The Facilitator's Slides

Pre-Workshop

(Forwarded to workshop invited attendees)

- Building Revolutions Extract
- FutuREstorative Extract
- Design for Disassembly
- Design Out Construction Waste

From Workshop

(Mentioned or Referenced during Workshop)

- Zero Waste / Material Conservation Plan
- ILFI Red List
- 14 Patterns of Biophilic Design
- COST RESTORE (Rethinking Sustainability for a Regenerative Economy)
- Ellen Macarthur Foundation Resources

Case Studies

- Numerous

- The above resources have been uploaded [to a dropbox here](#) (temporary measure to be moved to a project shared directory)

Post Workshop Note

- Further to the debate on formaldehyde in furniture and fixtures, the following appeared in the Weekend's Guardian. <https://www.theguardian.com/money/2019/feb/09/mdf-furniture-toxic-fumes-formaldehyde>

Appendix C-5 Business Case – Circular Economy Value Engineering

Circular Economy Value Engineering: Gas vs Electric

Description: Proposed change of apartment servicing from decentralised domestic gas to decentralised domestic electric.

Strategic aims:

1. Reduce Opex whilst keeping Capex cost neutral.
2. Futureproof the building by using an energy source that is potentially 100% renewable in the future, and improving the building fabric (fabric first principles)
3. Simplify and de-risk the construction activities.
4. Respond to the design risk assessments and pre-construction information to improve resident and maintenance safety.

Reference:

30.04.19

	No impact expected from the design change
	Positive Impact expected from the design change
	Negative Impact expected from the design change

Extra Care Housing (ECH) CE Value Tree - Refer to Workshop 1 Report		
Assessment Criteria	Design Change Comments	Change Impact
Eliminate Fuel Poverty	Passive efficiency improved - less demand for heating.	Positive
	Increase in fuel per unit cost (short term negative impact, longer term positive impact).	Negative short term
Reduce costs / improve value	Capital expenditure is projected as neutral.	No impact
	Operating expenditure is projected as reduced (lower operation costs over building lifetime).	Positive
Futureproof ECH	Gas is likely to be banned for new developments from 2025.	Positive
Control and understand materials	n/a.	No impact
Healthy and Safe Environment	Noticeable health and safety risks removed by omission of gas - both in construction and occupation.	Positive
Improve quality of life for residents and staff	Potential positive impacts include: user controls will be more accessible, the kitchen design is slightly improved, annual service bill for gas is not required, w/m might be located in the hall which will be an acoustic benefit for the open plan kitchen living arrangement, less service inspections should mean less disruption to residents.	Positive
	Removed reliance on window trickle vents for ventilation. Trickle vents can be easily overlooked/misunderstood by residents. The MVHR unit should have benefits which out way the negatives. 1) the dwellings can be well ventilated without cold draughts, whereas all other methods allow untreated cold air to infiltrate into the space. Visually there will be 2-3 additional ceiling terminals providing the supply air. Acoustically the units run very quietly under normal circumstances. Simple maintenance. There are 2 filters which are easily taken out to clean on the front of the unit.	Positive

		Stored water in each dwelling will allow some buffer, as opposed to combi boilers which are instantaneous, therefore provides some redundancy.	Positive
		If excess hot water is used in a single use, hot water supply could be affected for a short period.	Negative
	Learn from previous projects, learn forward and replicate	Retirement Community Development (RCD) project preferred strategy was electric. Gas was introduced due to project constraints.	Positive
		Gas solution on RCD has proved difficult in some cases and there are some potential ongoing servicing issues (flue risers) and visual issues (gas risers). Although the proposed design aims to omit these issues through dedicated risers, the external risers have been omitted through a capital cost saving exercise pre-contract.	Positive
A Reuse (including refurbish and repurpose)			
	Assessment Criteria	Design Change Comments	Change Impact
A1	Reuse the existing asset	n/a	No impact
A2	Recover materials and products on site or from another site	No Change: Unlikely that parts can be salvaged due to safety and warranty	No impact
A3	Share materials or products for onward reuse	No change: Unused projects can be diverted from waste by reusing these on further projects. This would be the case for either approach.	No impact
B Design for Optimisation			
	Assessment Criteria	Design Change Comments	Change Impact
B1	Design for longevity	Long term operational cost and whole life carbon savings. Gas is likely to be phased out for new build developments. Electric therefore provides a more resilient future-proofed solution.	Positive
B2	Fabric First' Principles	Due to current comparison between electric and gas efficiency, in order for the electric system to ensure the same EPC B rating, the building fabric efficient must be improved (e.g. U values and psi values will be better and there will be less unwanted heat loss).	Positive
B3	Simplifying the maintenance strategy to reduce cost, risk, and waste in operation	Electric solution simplifies the maintenance demands; there are 75 less flues and 75 less gas risers.	Positive
		No gas within the dwellings or in buried service trenches around the development.	Positive
		No internal flues and flue risers required. Reduced operations, maintenance, gas leak risk.	Positive
		Removes risk presented by external gas risers passing through timber frame.	Positive
		75 less roof penetrations, and therefore less water ingress risk and reduced maintenance risk.	Positive
		External gas risers removed – reduced fire and maintenance risk.	Positive
		Less water within the dwellings and therefore less risk of water damage due to radiator and or pipe work failure. The concealed ceiling or floor void pipe work serving all radiators is omitted and therefore the risk is reduced from the whole flat and is only present in the bathroom, hall and kitchen.	Positive
		Omission of numerous service risers reduces fire and maintenance risk.	Positive

		No requirement for the annual boiler service to each apartment, or flue inspection which has an annual cost of circa £10k for the project.	Positive
		MVHR unit is required (higher maintenance requirement/cost than current mechanical extract only).	Negative
		As each electric heater is independent a single failure will only affect individual rooms not whole dwellings as with gas boilers.	Positive
B4	Design for flexibility	Kitchen layout flexibility improved – corner flue riser is omitted providing additional corner storage.	Positive
B5	Design for adaptability	As the source of the electric feed can be changed over time this offers potential for a fully renewable energy source in the future.	Positive
B6	Design for assembly, disassembly and recoverability	Both systems are similar with regards to being able to isolate and disassemble. The gas solution is more onerous due to the risers and external trenches required.	Positive
C	Standardisation or modularisation		
	Assessment Criteria	Design Change Comments	Change Impact
C1		Both systems allow for standardised components and multiple repetition thus providing potential for reduced construction waste and easier reuse in next life.	No impact
D	Servitisation and leasing		
	Assessment Criteria	Design Change Comments	Change Impact
D1		There is no proposed change on the servitisation and leasing arrangement although both systems lend themselves to this when manufacturers are able to offer this competitively.	No impact
E	Design and construct responsibly		
	Assessment Criteria	Design Change Comments	Change Impact
E1	Use low impact new materials	n/a	No impact
E2	Use recycled content or secondary material	n/a	No impact
E3	Design out waste	n/a	
E4	Reduce construction impacts	Construction impacts (health/safety/materials/access) are reduced by; omission of gas service trenches, omission of gas meter housings, omission of external gas pipes, omission of internal flue risers, reduced access and penetrations through roof.	Positive
		Better quality control from sub contractors is required by more stringent passive measures (less thermal bridging, better air tightness).	Positive

CHAPTER FIVE

5 CONCLUSION

5.1 Introduction

The primary purpose of this thesis is to address issues related to global societal challenges by examining the potential role of impact investing and the circular economy through the social exchange theory lens. The motivation for the thesis was the desire to identify solutions to funding challenges that has stymied initiatives, such as the circular economy, that seek to tackle the over utilisation of natural resource in the construction industry, and to understand the interaction between key actors within the impact investing ecosystem. The thesis has introduced and attempted to address questions related to the overlap between the concepts of impact investing and circular economy; the norms that underpin the exchange modalities in the impact investing ecosystem; and finally how exchange partners in a real-world case study respond to behavioural change interventions.

This final chapter synthesises the main findings of the systematic literature review and two empirical papers that comprise this doctoral thesis. It proposes recommendations that offers valuable insights to key actors in the impact investing ecosystem and suggests further avenues for theoretical and empirical research.

5.2 Study Framework and Methodology

The key significance of this study lies in its contribution to an increased understanding of the implementation of impact investing as a capital deployment strategy to help tackle the systemic challenges captured in the UNSDGs. This has been achieved by investigating the motivation, attitudes, and behaviours of key actors in the impact investing ecosystem.

The insights gleaned from the research and heightened awareness of these drivers facilitated an exploration of the potential of impact investing in propelling the transition towards a circular economy. The study has demonstrated the pressing need to replace the traditional financing systems with alternative innovative approaches to finance sustainability initiatives.

The circular economy presents a compelling vision for addressing the climate emergency, efficient use and conservation of natural resources, and promotion of environmental sustainability and resilience, yet the realization of its potential hinges on the introduction of novel financial mechanisms that are aligned with its principles. The investigation into the nascent field of impact investing as a capital deployment strategy revealed its promising capacity to contribute solutions that will bridge this divide (Agrawal and Hockerts, 2021).

Drawing on an examination of practical experiences and extracting insights from them, the research delved into the intricacies of the deployment of capital through impact investing from a SET perspective. This has contributed to addressing the lack of theoretical framework and empirical studies in a field that is building institutional legitimacy (Carè and Wendt, 2018; Daggers and Nicholls, 2016; Lehner *et al.*, 2019).

Dissecting the components of impact investing, characterized by its pursuit of positive environmental and social impact along with financial returns, through semi-structured interviews revealed emergent norms that drive the relational exchange modalities between key actors in the impact investing ecosystem. The study unveiled how key actors are fostering value co-creation, promoting sustainable practices, and shaping positive behaviours through the financial innovation offered by impact investing. This culminated in the development of an Impact Investing Practice Model (IIPM) that could form a basis for the codification of impact investing practice (See Chapter 3.6.1).

The ethnographic case study provided the platform to examine the real-world application of stimulating the adoption of circular economy principles on a construction project. The relatively 'low cost' behaviour change intervention techniques applied in the study facilitated the exploration of the interplay between sustainable practices and interimistic relational exchange (Bruns *et al.*, 2018; Soman and Yeung, 2020). It contributed to a broader discourse on addressing cultural resistance to change in the construction industry, and emphasized how

intensified collaboration and resource-sharing amongst stakeholders could catalyze sustainability.

Notably, the case study findings indicate that trust-building can be enhanced through structured facilitated workshops. It identified instances where the combination of education, awareness delivered within a structured facilitated workshop setting influenced organizational decision-making. This resulted in a more conscientious approach to resource utilization (See Chapter 4.4.4).

The mini-ethnographic case study illustrates that the intervention technique is not just theoretical; it could drive innovation, foster sustainable practices, and make tangible strides towards promoting 'building in circular economy thinking' in the construction sector. This might lead to increased uptake and influence decision-making towards more responsible resource utilization within the construction sector.

5.2.1 Study Aims

The research study was aimed at exploring connections between impact investing and the circular economy; investigating the relational dynamics between actors in the impact investing ecosystem; and evaluating contextualised behavioural change interventions targeting stakeholders involved in the delivery of an affordable housing development in the United Kingdom.

The study offered a varied approach to understanding the three key components of the investigation that has been, captured and presented in a systematic literature review and two empirical papers. So, to what extent has the study aim been achieved?

5.2.1.1 Impact Investing and Circular Economy

The systematic literature review set the stage by providing background information on impact investing and the circular economy, two crucial concepts in the research. It delved into the theoretical underpinnings of both concepts and provided insights into their interrelatedness. The analysis highlighted how they

complement each other in the quest to tackle the global societal challenges captured in the UNSDGs (See Chapter 2.5.1).

5.2.1.2 Relational Dynamics

One of the core components of this study was the analysis of relational dynamics among key actors in the impact investing ecosystem. Employing the theoretical lens of SET, the analysis uncovered how key actors interact and collaborate, within the ecosystem to deliver positive environmental and social impact alongside financial returns. The essential role of the emerging norms governing exchange within the ecosystem was highlighted as they significantly influence decision-making processes. The study also identified potential conflict areas and revealed power structures (Hehenberger *et al.*, 2019) that dictate the direction of initiatives (See Chapter 3.5.3).

5.2.1.3 Behaviour Interventions

The research that formed the basis for the third paper involved the implementation of behaviour change interventions to encourage uptake of the circular economy on a real-world construction project. The intervention, introduced as a substitute to trust in a temporal business-to-business exchange, took the form of a facilitated structured workshop to educate and create awareness of building in circular economy thinking. Implementing behaviour change interventions is considered a proactive step towards promoting sustainable development (Dantas *et al.*, 2021; Hossain *et al.*, 2020; Norouzi *et al.*, 2021). Evaluating the effectiveness of the intervention was crucial for assessing the impact on behaviour change. The findings provide insights into strategies that were most effective and the underlying conditions (See Chapter 4.4.4).

The breadth of the study meant that an interdisciplinary approach was adopted, with literature drawn from fields such as sociology, environmental science, economics, and psychology, to provide a robust understanding of the issues under consideration. Each discipline offered unique insights into the various

aspects of the study, tackling the four objectives, influencing the chosen methodologies, and enriching the research findings and outcomes.

5.2.2 Study Objectives

Within the wider context of contributing solutions to pressing global social and environmental problems, this research study has focussed on the role that impact investing could play in financing the achievement of the set of 17 United Nations Sustainable Development Goals (UNSDGs) adopted by 193 United Nations member states in September 2015.

This thesis pursued overlapping research objectives that directed the systematic literature review and subsequent empirical studies in a synthesis of findings that provide insights for practitioners, policymakers, and academia. A summary of the research study objectives alongside research questions and methods is presented in Table 5-1

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Table 5-1: Summary of Objectives, Research Questions and Methods

Objectives		Research Questions	Method
1	Determine the state of the art in terms of academic literature to unearth conceptual similarities and differences between the theoretical models that underpin impact investing and circular economy.	<ul style="list-style-type: none"> • What are the key conceptual similarities and differences between the theoretical models that underpin impact investing and circular economy? • What evidence-based research is available to demonstrate that companies that adopt circular business models will, on average, deliver better long-term financial performance? • What is the current state of the impact investing market? • What initiatives are in place to facilitate a constructive and purposeful engagement between investors, entrepreneurs, and policy makers to stimulate investment circular economy business models? • What contribution could impact investing make towards the take up of circular economy business models? 	Systematic Literature Review
2	Examine evolving exchange modalities between key initiating actors in the impact investing ecosystem using the social exchange theory lens.	<ul style="list-style-type: none"> • What norms govern the relational exchange behaviours between impact investors, intermediaries and investee companies? • How do these norms influence formal contracts, interactions between parties, and address the potential for exchange partners to act opportunistically (i.e., take advantage for self-interest)? 	Semi-structured interviews
3	Explore how exchange partners engage with substitutes for trust in temporal B2B relationships to promote trust-like behaviours.	<ul style="list-style-type: none"> • How do exchange partners in an expedient business-to-business relationship engage with substituting mutual opportunity for trust? • To what extent does the application of behaviour change intervention techniques encourage the adoption of circular economy thinking in the built environment? • How can insights from the research be harnessed by impact investors to catalyse the uptake of circular economy principles in affordable housing? 	Ethnographic Action Research Facilitated Workshop Case Study Semi-structured interviews
4	Synthesize research findings and propose recommendations thereby offering valuable insights to key actors in the impact investing ecosystem.	<ul style="list-style-type: none"> • How has an interdisciplinary approach enhanced understanding of the theoretical foundations and interconnectedness of impact investing and the circular economy? • What do prevalent relational norms in impact investing reveal about codification and institutional legitimacy building? • What actionable insights can be derived from synthesizing empirical research findings to improve behavioural change interventions for circular economy adoption in the construction sector? 	Reflection

5.2.3 Crafting Research Questions

The research questions were shaped by the theoretical framework adopted for each paper to guide the research process. The interplay between the research questions and theoretical frameworks provided a solid theoretical foundation that strengthened the research process and was pivotal in setting the direction, focus, scope, and purpose for the thesis (Alvesson and Sandberg, 2013a, 2013b).

Drawing on existing theories, such as social exchange theory, relational contract theory, and relational exchange theory, and prior academic and practitioner studies, the theoretical frameworks provided the conceptual underpinning and offered a lens to analyse the research questions. The interdisciplinary approach adopted to the study provided the structure for understanding the phenomena that were investigated and helped to prevent unnecessary review of a large amount of literature (Alvesson and Sandberg, 2013c).

For each paper, the research questions were the initial building blocks upon which the study was constructed. They ensured purposeful and relevant investigations and ultimately, valuable academic, practical, and policy contribution. A summary of the research questions aligned to each key objective is presented in Table 5-1 above.

5.2.4 Significance of the Research Methods

The choice of research methods (Table 5-1) for each paper stemmed directly from the research questions posed. Choosing appropriate research methods that aligned with the research questions was of paramount importance at each stage in the study.

The research questions were exploratory, seeking to acquire an in-depth knowledge of the nascent fields of impact investing and circular economy. The nature of the research questions and the corresponding methods selected to conduct investigations were carefully considered to ensure a meaningful

contribution to the study. It ensured that the study was focused, relevant, and capable of yielding valid and reliable results (Thomas *et al.*, 2019).

This necessitated the use of a systematic literature review and a combination of qualitative research methods - semi-structured interviews, ethnographic action research, facilitated workshop, and case studies – that are commonly employed to explore complex phenomena (Clark *et al.*, 2021; Dawadi *et al.*, 2021). The use of these qualitative methods facilitated the probing and unearthing of new insights that brought in-depth understanding

5.2.5 Reflections on the Research Methods

Despite the attention given to ensuring alignment of the research questions and research methods, some challenges and limitations were encountered during the investigation (Aspers and Corte, 2019; Dawadi *et al.*, 2021). A concise review of the research methods utilised and discussed within each paper is presented below.

5.2.5.1 Systematic Literature Review

The systematic literature review conducted in Paper one offered a structured and comprehensive examination of existing literature on impact investing and the circular economy centered on the research questions. The systematic literature review delivered an evidence-based summary of existing research, and guided research directions that informed subsequent empirical papers in this thesis.

The key benefits of the systematic literature review process include transparency, replicability, and objectivity (Siddaway *et al.*, 2019). In addition to making a substantial contribution to the academic discourse by advancing knowledge in impact investing and circular economy, this proved invaluable in keeping abreast of relevant literature and emerging trends throughout the doctoral journey.

5.2.5.2 Semi-structured interviews

The decision to employ semi-structured interviews was driven by the research objective and research questions, which explored the lived experiences,

perspectives, and evolving practices of key actors within the impact investing ecosystem. Semi-structured interviews offered the required flexibility to engage participants in open and exploratory discussions, facilitating a deep dive into their insights and gathering rich qualitative data (Jones and Bartunek, 2021).

The adaptability of the semi-structured interviews was a key strength. A set of core questions were formulated to provide a foundation for the interviews along with some prompts for potential follow-up questions. It was also essential to retain an openness to exploring unexpected avenues that arose in discussions. This flexibility enabled nuanced participants' responses to be captured, and it revealed unforeseen themes (Holmes, 2020).

The semi-structured interviews also encouraged building of rapport and trust between the researcher and participants (Brannick and Coghlan, 2007). The conversational nature of these interviews encouraged the sharing of frank and genuine perspectives, providing a more holistic view of participants' experiences within the impact investing ecosystem.

A key challenge encountered in employing semi-structured interviews was the ability to engage in lively conversations and remain focused on research objectives. This was particularly testing because some interviews were conducted as the COVID-19 pandemic unfolded in the United Kingdom and at its height during lockdowns in 2020/21.

Reflexivity was actively employed to mitigate the possibility of inadvertent influence on the direction of interviews that could have introduced researcher bias (Holmes, 2020). Continuous reflection on researcher-practitioner's biases and preconceptions was a key feature throughout the research process. In addition, the analysis of rich qualitative data from the interviews was time-consuming and required a rigorous approach to coding and thematic analysis.

Despite its inherent challenges, the choice of semi-structured interviews as a research method provided access to the depth of understanding required for the study. The collected data provided a rich understanding of the evolving exchange

modalities within the impact investing ecosystem. The insights gleaned shed light on the intricate interactions, perceptions, and emerging practices within the impact investing ecosystem and contributed significantly to the development of the IIPM.

5.2.5.3 Ethnographic Action Research

Undertaking an ethnographic action research within a real-world case study offered the ability to delve deeply into the investigated phenomena (Tacchi, 2015). It enabled the researcher-practitioner to be completely immersed in the 'natural' environment of the study. This allowed for a better understanding of the subject matter and uncovered hidden nuances and complexities that would have otherwise gone unnoticed.

A key distinguishing feature of the ethnographic action research is the researcher's active engagement with a particular context (Tacchi *et al.*, 2003). The task in the real-world case study was not merely to observe and record but also to implement behavioural change interventions in collaboration with participants. The dynamism of ethnographic action research within the case study was its potential to generate actionable insights - practical outcomes and solutions that could increase real-world applicability.

However, conducting an extended fieldwork and engaging with participants over a period of approximately 40 months on the case study was time-consuming. Crucially, this was also impacted by the COVID-19 pandemic and key personnel changes at participating organizations.

Ethical considerations also came into play due to the blurring of lines between researcher and participant, introducing queries about objectivity and increasing the potential for researcher influence and bias on study outcomes. On reflection, awareness of these ethical concerns resulted in an overcompensation in the steps taken to mitigate. This overcompensation that manifested as a lack of client leadership resulting in poor communication and negatively impacted trust (See Chapter 4.4.4).

The immersive and action-oriented approach to the real-world case study uncovered rich contextual data and offered practical solutions (Chambers, 2012). The investigation yielded valuable contributions to bridge the gap between theory and practice.

5.3 Summary of Key Research Findings

The significant findings captured in the systematic literature review and two empirical papers provide the bridge between the detailed analysis conducted and the broader implications and recommendations. This summary offers a concise roadmap to the knowledge and insights that have been derived from this doctoral journey.

5.3.1 Potential for integration and transformative impact

The systematic review (following Tranfield et al., 2003) of literature undertaken in September 2018 identified 87 articles for analysis, in the field of impact investing and circular economy, from scholarly peer-reviewed journals. The systematic review standardised, through academic rigour, a broad range of studies that had been conducted within both fields. This indicated that the most relevant literature had been published in the Journal of Business Ethics (predominantly impact investing field) and the Journal of Cleaner Production (predominantly circular economy).

An analysis of the articles in the impact investing identified definitional and terminological confusion alongside the increasing consensus around the Global Impact Investing Network (GIIN) definition of impact investing:

“Impact investments are investments made into companies, organizations, and funds with the intention to generate social and environmental impact alongside a financial return.”¹³

¹³ Source: <https://thegiin.org/impact-investing/need-to-know/#s1>

The theoretical model that underpins impact investing practice, as described by GIIN, is encapsulated in its core characteristics:

- intention to deliver positive social or environmental impact;
- expectation of financial returns or breakeven on capital investment;
- generating a range of financial returns on investment across a variety of asset classes; and
- commitment to measure and report on social and/or environmental outcomes.

Therefore, impact investing is an investment approach where the intention to deliver social or environmental impact alongside financial return matters and active measurement of outcome is undertaken.

Despite the broad evidence of a growing interest in the impact investing market (Höchstädter and Scheck, 2015) the literature review identified dominance of practitioner research and an apparent dearth of academic research with mounting calls for rigorous exploration of the field (Clarkin and Cangioni, 2016; Daggers and Nicholls, 2016; Drexler *et al.*, 2013; Jackson, 2013). Deeper understanding is still required to build legitimacy (Lehner *et al.*, 2019) to increase capital flow and elevate impact investment value (Agrawal and Hockerts, 2021).

On the other hand, a comparatively larger body of academic interest in the circular economy concept was evident and making significant contribution in attracting businesses (Geissdoerfer *et al.*, 2017; Lacy and Rutqvist, 2015; Lewandowski, 2016). Kirchherr, *et al.* (2017) had systematically analysed 114 definitions to conceptualize the circular economy and coded these on 17 dimensions. While environmental and sustainability concerns arising from resource utilisation are the predominant issues, there is a social dimension to be addressed (Geissdoerfer *et al.*, 2017; Kirchherr *et al.*, 2018; Murray *et al.*, 2017). The potential attraction from a business perspective is the need to ensure resilience that generates sustainable profit.

However, access to private sector investment was identified in The Ellen MacArthur Foundation report (Ellen MacArthur Foundation and Systemiq, 2017), “*Achieving Growth Within*”, as a barrier to unlocking circular economy investment opportunities worth €320 billion in the automobile industry, food system and built environment through to 2025 within the European Union. It was argued that the financial barrier is hampering an effective transition towards a circular economy and presenting a risk to realising its benefits.

Navigating the extensive body of academic and non-academic literature identified the discrete theoretical underpinnings that shape the strategies and provide the foundation for the approaches to impact investing and the circular economy, both of which offer solutions to global social, environmental and economic challenges reflected in the UNSDGs. Impact investing draws from social finance theory, ethical and responsible investing, and anchors its approach in capital deployment to achieve positive social and environmental goals alongside financial returns (Agrawal and Hockerts, 2021; Rosenman, 2019). In tandem, circular economy is firmly rooted in industrial ecology, systems thinking, biomimicry, and closed loop production, with its emphasis on natural resource efficiency to optimize the life cycle of products and minimize waste resulting in a net positive environmental impact (Borrello *et al.*, 2020).

While the systematic review did not uncover any prior direct connections between the concepts of impact investing and the circular economy in academic or practitioner literature, an analysis of these theoretical underpinnings in practice reveals core areas where impact investing and circular economy are complementary. The analysis shows that both concepts overlap with a shared interest/goal in seeking to tackle social and environmental challenges captured within the UNSDGs (Bouri *et al.*, 2018; Morriesen, 2018; Schroeder *et al.*, 2018).

This revelation offers the prospects for both concepts to be integrated to address some of the global societal challenges captured in the UNSDGs. Active pursuance of UNSDGs provides a platform to investigate the appropriateness

and effectiveness of impact investing for the deployment of private sector funds to accelerate the transition to a circular economy.

Alongside advocating convergence of the theoretical underpinnings of impact investing and the circular economy to deliver positive impact, the systematic literature review contributes to the academic discourse in both emerging fields. The shared vision of addressing social and environmental challenges while simultaneously generating returns, presents the opportunity to align with the guiding principles of the UNSDGs.

The systematic review identified a need to examine the relational exchange modalities between key actors in the impact investing ecosystem. The conceptual model of social exchange theory (Cropanzano *et al.*, 2017) is deemed to capture the paradigm that governs the motivation, behaviour and expectations of impact investors.

5.3.2 Building blocks for a resilient ecosystem

The study presented in paper two explored the evolving relational exchange modalities within the impact investing ecosystem through the lens of SET. A qualitative study based on semi-structured interviews was employed to identify the norms that govern the relational exchange modalities between impact investors, intermediaries and investee companies. In addition, the study sought to understand how the identified norms influence formal contracts, interactions between parties, and address the potential for exchange partners to act opportunistically.

Captivating insights were discovered through the rigorous semi-structured interviews with a diverse group of key initiating actors in the ecosystem. These conversations highlight the active nature of their interactions and identified congruence between the foundational premises and operational variables of SET espoused by Lambe, et.al, (2001), and the emerging norms that govern relational exchange modalities within the impact investing ecosystem.

A systematic exploration of the underlying dynamics of impact investing was prompted by its ascendancy as a capital deployment strategy characterized by its dual pursuit of financial returns and positive environmental and/or social impacts (Agrawal and Hockerts, 2021; Phillips and Johnson, 2021). This exploration deepened comprehension of how economic interactions can transcend financial transactions, to deliver positive environmental and/or social outcomes alongside earnings.

Responses to the study questions indicates broad consensus amongst the participants that suggest that the impact investing practice is maturing. The key actors in the impact investing ecosystem that participated in the study are adopting practices to increase discipline, and bring clarity, transparency and accountability to a relatively nascent field. The key learnings are:

- Mission alignment appears to be an essential ingredient in the exchange relationships between investors, intermediaries and investees that were interviewed. Considerable resource is committed to the “Due Diligence” activities by these exchange partners to establish congruence during which equal weighting to social and economic outcomes.
- The exchange partners in the study have a clear expectation of ‘Active Engagement’ to co-create value. This is reinforced by evidence of high quality communication employed by these exchange partners to strengthen mutual trust.
- There is apparent emphasis by the exchange partners in the study on collaboration - actions taken to help others attain common and private goals rather than cooperation - actions taken to implement agreed goals. The apparent distinction made by these exchange partners is quite intriguing.
- Contracts used by the study participants to govern relationships appear to provide for flexibility to address the challenges of achieving multiple objectives of positive environmental and/or social impact alongside

earnings. This appear to be particularly important where impact measures are not clearly defined and/or are under development.

The resonance between the dual pursuit of environmental or social impact in conjunction with financial returns is presented by juxtaposing the four foundational premises of SET - centred on economic and social outcomes, benchmarking against alternatives, cultivating trust through positive outcomes, and the emergence of relational exchange norms - with the norms shaping impact investing (Lambe *et al.*, 2001).

The first premise, which posits that 'exchange interactions result in economic and social outcomes,' resonates with the emerging impact investing norms of transparency, alignment of values, and measurement and reporting. These norms emphasize the broad nature of outcomes, where positive social and/or environmental impacts alongside financial returns are important. This is based on the idea that impact investing is shaped by exchanges that yield economic and positive environmental or social results (See Chapter 3.6).

The emerging norms of long-term orientation, flexibility, and evolving practises are aligned to the second premise, as 'social and economic outcomes are compared to alternatives'. These norms combine to reaffirm the process of evaluating results against available options. The drive to consider enduring impacts is reflected in long-term orientation, while flexibility and evolving practises accentuate the adaptive nature of impact investing – adjusting implementation strategies to align with changing circumstances (See Chapter 3.6).

The third premise, where 'positive outcomes over time increase trust and commitment,' is mirrored in the emerging impact investing norms of collaboration, impact assessment, and equity and inclusion. The cooperative endeavours and stakeholder engagement associated with collaboration builds trust over time, akin to the assertion of SET. Positive outcomes are reinforced through rigorous impact assessment, nurturing commitment among stakeholders, and commitment to fair and just exchanges that contribute to trust is underlined by equity and inclusion (See Chapter 3.6).

The fourth premise advances the view that 'positive outcomes over time produce relational exchange norms'. This resonates with the emerging impact investing norms of stakeholder engagement and the establishment of relational exchange norms. These norms emerge because of positive outcomes from the involvement of stakeholders in decision-making, the establishment of norms that replicate the evolution of relationships, and the development of shared understandings over time (See Chapter 3.6).

The essence of impact investing is reflected across SET's operational variables of dependence, trust, cooperation, commitment, relational norms, and satisfaction described by Lambe, et, al (2001). Dependence is expressed in the collaborative spirit and stakeholder engagement. Trust thrives through transparency, collaboration, and engagement. Collaborative efforts and stakeholder interactions stimulate cooperation. Commitment is cultivated through long-term orientation, flexibility, evolving practises, and impact assessment. Relational norms materialize through transparency, alignment of values, impact assessment, equity and inclusion, and the establishment of norms. Finally, the careful measurement and reporting, alongside ongoing assessment, of impact is simulated in satisfaction (See Chapter 3.6.2).

An emergent theme from the interviews is that initiating key actors within the impact investing ecosystem are increasingly adopting practises aimed at enhancing discipline, openness, and accountability. Alongside, there is the growing recognition among actors of the importance of self-regulation. Several participants alluded to their efforts to establish standards that improve transparency and instil a sense of responsibility among stakeholders.

Furthermore, the interviews illuminated the pivotal role of information-exchange within the ecosystem. Actors are increasingly inclined to share data and insights because of the recognition that collective knowledge contributes to better decision-making and risk management. These practices, serve as the building blocks of a more robust and resilient ecosystem.

These findings emphasize the importance of these evolving practises in building institutional legitimacy and fostering a sustainable investment ecosystem. Amidst the terminological and definitional ambiguities and implementation complexities of this nascent field, the adoption of practices that prioritize discipline, transparency, and accountability signifies a maturation process that bodes well for the future of a dynamic and evolving impact investing ecosystem.

This evidence gathered from interviewees informed the development of the Impact Investing Practice Model. The implementation of the model and development of a framework could help address concerns surrounding the risk of greenwashing, impact washing, and debate on competing intuitional logics.

5.3.3 Harnessing the power of trust substitutes

Conventional wisdom recognises trust has a pivotal role as the anchor for successful collaborations in business-to-business relationships (Blois, 1999; Gil-Saura *et al.*, 2009; Khalid and Ali, 2017; Scheer, 2022). The evolutionary nature of trust development through repeated positive and rewarding interactions over a period of time to create mutual dependence and satisfaction (Cropanzano *et al.*, 2017; Cropanzano and Mitchell, 2005; Lambe *et al.*, 2001; Mitchell *et al.*, 2012), means that short-term (expedient) business-to-business relationships tend to rely on transaction driven contractual documents to guide and control behaviours, with provisions for strict monitoring and sanctions for breaches (Mouzas *et al.*, 2007).

The proposition that substitutes are required for trust in short lived relationships (Lambe *et al.*, 2000) that tend to be time constrained (Akrouit and Diallo, 2017), triggered the real-world case study research in the construction industry designed to explore how exchange partners in a single embedded case study engage with substitutes for trust in expedient business-to-business relationships to promote trust-like behaviours.

Considering the prevalence of short-term exchange relationships in the construction industry, it offers an ideal context for investigating idea of

implementing circular economy practices, as a trust substitute, in an affordable housing project initiated by an asset owner with a focus on impact investing. The ethnographic action research applied within the real-world case study, offered fresh perspectives on the dynamics of trust substitutes introduced through behaviour change interventions.

The extent to which the application of behaviour change intervention techniques (Byerly *et al.*, 2018; Li *et al.*, 2019) employed has encouraged the adoption of circular economy thinking was investigated in the case project. The key findings (See Chapter 4.4.4) are outlined below:

- **Effectiveness is Context-Dependent:**
A notable finding was the recognition that the effectiveness of trust substitutes is not a universally applicable concept. Rather, it is wholly dependent on the specific situations within business-to-business relationships. Some circumstances may favour the adoption of trust substitutes, whereas others may hinder their effectiveness. In this instance, the inflexibility of the fixed project budget and cost constraints created a conundrum where accommodating desired changes introduced the risk of budget overruns. The rigidity of the budget resulted in resistance to change which undermined the partnership dynamics and hindered effective communication and cooperation. This finding highlights the need for contextual awareness when implementing trust-building strategies and needs to be tailored to the unique circumstances of each business-to-business exchange.
- **Consensus Building:**
The role of the facilitated workshop offered another pivotal insight in the study. The structured collaborative session was instrumental in building consensus among exchange partners. The workshop provided a platform for open conversations, problem-solving, and co-creation of solutions. This created an environment conducive to trust-like behaviours. Exchange partners who engaged in the workshop found common ground, shared objectives, and a sense of joint ownership, ultimately reinforcing trust

substitutes. This finding highlights the practical importance of creating opportunities for meaningful interaction – encouraging dialogue and boosting cooperation – within business-to-business relationships.

- Client Leadership's Influence:

Client leadership emerged as a significant factor in the trust equation. The study revealed that when a client takes a passive leadership role in cultivating trust substitutes, it negatively influences the entire exchange relationship. It can be deduced that clients' continuous proactive involvement in driving trust-building strategies can set a positive tone for the partnership. Active client leadership would signal a commitment to mutual success, and resonate with exchange partners, leading to enhanced trust levels. This finding emphasizes the strategic role impact investors could play in promoting trust-like behaviours within business-to-business exchange relationships.

- Involvement of Key Decision-Makers:

The substantial impact of involving key decision-makers in adopting the circular economy concept was a critical finding in this study. The active engagement of individuals with decision-making authority in shaping and implementing trust substitutes, provides multiple benefits. This ensured swift decisions were made to expedite the process and reinforced organisational commitment. The endorsement and participation of key decision makers conveys a strong signal throughout the organisation that strengthens the culture of trust and the commitment to trust-building initiatives. This finding accentuates the strategic importance of aligning organisational leadership with trust-building initiatives.

This empirical study offers a nuanced understanding of trust substitutes within temporal business-to-business relationships. It underscores the context-dependent nature of their effectiveness and the importance of facilitated workshops, client leadership, and key decision-maker involvement in cultivating trust-like behaviours.

These findings provide businesses and practitioners with actionable strategies to successfully navigate the complexities of temporal business-to-business relationships in the construction industry. It is increasingly vital to harness the power of trust substitutes to tackle environmental challenges and achieve a sustainable built environment.

5.4 Knowledge Contribution

The key findings extracted from the systematic literature review represent significant contributions to knowledge in two pivotal areas. These contributions, each holding the potential to reshape the landscape of sustainable development, hinge on the need to (a) transform the financial system to support the circular economy; and (b) understand the motivations, attitudes, and behaviours of key actors in the impact-investing ecosystem to address gaps in theoretical frameworks and empirical research.

‘Grand Challenges’ broadly describe large-scale and complex dilemmas, such as pressing global social and environmental problems, that need to be tackled through innovative ideas and unorthodox approaches (Eisenhardt *et al.*, 2016; Jarzabkowski *et al.*, 2019). The set of 17 United Nations Sustainable Development Goals (UNSDGs) adopted by 193 United Nations member states in September 2015 (Figure 1) are possibly the most universally recognised ‘Grand Challenges’ that extensively articulate global issues that could be addressed through coordinated and collaborative action (George, *et. al*, 2016).

5.4.1 Financing the circular economy

The circular economy represents an economic model that gives prominence to ‘reduction, reuse, and recycling’ and offers an alternative to the traditional linear approach of ‘take-make-use-dispose’ (Geissdoerfer *et al.*, 2017; Murray *et al.*, 2017). It establishes a sustainable and regenerative system, in which products, materials, and resources circulate continually in closed loops (de Jesus *et al.*, 2018; Korhonen *et al.*, 2018).

The circular economy is underpinned by several key theories and concepts such as industrial ecology, cradle-to-cradle, resource efficiency, and biomimicry (Ellen MacArthur Foundation, 2012). It is aligned with the UNSDGs through advancing social and environmental benefits (Carroux *et al.*, 2022; Phillips and Johnson, 2021; Weber, 2019).

However, the findings of paper one reveal a misalignment. The existing financial systems, largely constructed around traditional economic paradigms, are not congruent with the multifaceted goals of the circular economy. This revelation serves as a profound contribution to knowledge, signalling the need for the restructuring of financial mechanisms to maximise the benefits of a circular economy (See Chapter 2.6).

The successful adoption of the circular economy necessitates not only adaptation but also the transformation of the financial mechanisms. Paper one of this doctoral thesis posits that innovative financial instruments and policy reforms are deemed imperative to bridge the gap between current financial practices and the objectives of the circular economy.

By bringing this misalignment to the fore, the paper informs policymakers, financial institutions, and scholars about the imperative to reconfigure finance to harmonise with the ambitious aims of the circular economy. This contribution provides a roadmap that offers clear guidance to financial stakeholders in realising strategies to bolster the pursuit of sustainable development goals.

This thesis explored the link between impact investing and the circular economy, and the literature review shows that both concepts overlap with a shared focus in seeking to tackle social and environmental challenges. The deployment of private capital through impact investing was shown to be an attractive vehicle to produce the desired social and environmental outcomes on a global scale alongside generating financial returns. The growth trajectory of impact investing continues to show significant room for expansion to suit varied investor motivation, attitudes and behaviours.

The retention of investor interest could be achieved by increasing the supply of investable opportunities that are in line with investors' attitude to financial returns and value attributed to uncertainty. There is scope to accommodate both impact-first and finance-first investors within the context of social exchange and economic exchange. However, the combination of a lack of understanding of the field and scarce academic research to establish legitimacy has inhibited the flow of capital.

The studies indicate that circular economy transition has been impeded by scant investment from the private sector. This represents a key barrier to organisations seeking to unlock the benefits of circular business models. Financing the transition towards a circular economy requires changes to the financial system. The business-to-business exchange to realise the potential benefits of a circular economy and deliver measurable social and/or environmental outcomes alongside financial returns needs to be captured in a paradigm that governs the behaviour and expectations of impact investors.

5.4.2 Impact Investing Ecosystem: Motivation, Attitudes and Behaviours

Impact investing is emerging as a distinctive capital deployment strategy. It goes beyond adjusting financial strategies and represents a departure from the long-established norms of conventional financial ideologies. At its core, impact investing combines financial choices with ethical considerations, social awareness, and environmental responsibility (Hockerts *et al.*, 2022).

This signifies a shift that is reshaping the investment landscape, presenting a viable alternative to the time-honoured pursuit of profit maximisation. It transcends the narrow pursuit of financial gains and intertwines financial adeptness with intentional considerations for society and the environment (Daggers, 2020).

Impact investing underscores that wealth accumulation should be an instrument for institutional and individual investors to catalyse positive change where profit

and purpose coalesce seamlessly. It is motivated by an agenda that offers a response to interconnected global issues including climate change, poverty, social inequalities, and sustainable development (Harjoto and Laksmana, 2018). It also acknowledges that capital deployment can serve a dual purpose - generating financial return while simultaneously advancing societal well-being and environmental stewardship (Daggers, 2022; Phillips and Johnson, 2021).

The findings of the systematic literature review indicate that unlocking the full potential of impact investing hinges on a comprehensive understanding of the stimuli driving individuals and organisations within the ecosystem (Carroux *et al.*, 2022). It highlighted the paramount importance of probing the motivations, attitudes, and behaviours of key actors. This contribution serves as a bridge between the realms of theory and practise (Carè and Wendt, 2018; Daggers and Nicholls, 2016; Wendt, 2021).

The review's findings also underscored the necessity for empirical investigations and dedicated research efforts in this direction. These studies will have the potential to illuminate the intricate relational dynamics within the ecosystem, offering invaluable insights into what propels key actors, the barriers they confront, and how their attitudes and behaviours steer the trajectory of these initiatives.

This knowledge will enrich the theoretical foundations of impact investing and empower practitioners, researchers, and policymakers. A deeper understanding of the motivations, attitudes, and behaviours will inform strategies that resonate with the key actors in impact investing ecosystem - enhancing the potential of impact investing to deliver substantial contributions to social and environmental advancement.

In essence, the key findings arising from the systematic literature review identified contributions to knowledge that resonate with profound implications for sustainable development. They emphasised the urgency of restructuring financial systems to align with the transformative goals of the circular economy. Simultaneously, they underscore the paramount significance of unravelling the

motivations, attitudes, and behaviours of key actors in the impact investing ecosystem to bridge existing gaps in theoretical frameworks and empirical research.

The systematic literature review paper posits that social exchange theory provides a meaningful theoretical construct from which to examine the relational exchange modalities between the impact investor and investee companies in business-to-business settings. It goes on to suggest that SET's conceptual models capture the paradigm that governs the motivation, behaviour and expectations of impact investors. It concludes by setting out possible areas of future research, one of which informed the follow on paper.

These contributions could potentially shape the impact investing practice by providing clear directives that guide practitioners, including investors, intermediaries, and investees, policymakers, and market builders to actions that align with the global pursuit of sustainable development goals. These findings also serve as catalysts for progress, driving toward a more equitable, prosperous, and sustainable future in alignment with the UNSDGs, encapsulating the essence of sustainability.

5.4.3 Emerging Relational Exchange Modalities in Impact Investing

The second objective of this thesis builds on the findings of paper one (See Chapter 2). The paper sought to develop a deeper understanding of impact investing practice by examining the relational exchange modalities from a SET perspective.

The study established congruence between the foundational premises and operational variables of SET in business-to-business relational exchange, outlined in the academic paper by Lambe, Whittmann, and Spekman (2001), and the emerging norms governing relational exchange within the impact investing ecosystem. It illustrates how exchange interactions, trust, commitment, and the establishment of relational norms are central elements in building legitimacy and increasing capital allocation within the ecosystem.

This integration of theory and empirical insights presents a multifaceted contribution to knowledge:

- Theoretical Integration:

The four foundational premises of SET in business-to-business relational exchange offer a robust theoretical foundation for understanding the dynamics at play within the impact investing ecosystem. This contribution bridges the gap between social exchange theory and practical applications in the finance and investing domain. This connection enhances the relevance of social exchange theory in a real-world context (See Chapter 3.6.1).

- Operationalization:

The study provides a structured framework for measuring and assessing key components of exchange interactions within the impact investing ecosystem through the incorporation of six operational variables (dependence, trust, cooperation, commitment, relational norms, and satisfaction) This operationalization facilitates quantification of these variables and offers a roadmap for future empirical investigations in similar contexts (See Chapter 3.6.2).

- Empirical Insights:

The study presents empirical evidence of how the theoretical underpinnings of SET in business-to-business exchange manifest in real-world context. It illustrates how actors within the impact investing ecosystem strategically adopt practises to enhance transparency, discipline, and accountability. These actions result in tangible positive outcomes, including increased trust, commitment, and capital allocation. This empirical dimension enriches understanding of SET's application in business-to-business relational exchange (See Chapter 3.6.3).

- Practical Implications:

The findings of the study hold practical significance for actors within the impact investing ecosystem, such as investors, intermediaries, investees, and policymakers. It highlights the importance of codification to

standardise practise and the establishment of relational norms in building trust and attracting capital. This knowledge can guide decision-making and strategy development in the ecosystem (See Chapter 3.6.3).

- **Interdisciplinary Enrichment:**

The interdisciplinary approach employed in the study, combining insights from sociology, psychology, business, marketing, economics, and finance, demonstrates how theories from diverse fields can be applied to complex economic and social systems. It encourages a broader perspective and innovative thinking through cross-pollination of ideas and methodologies (See Chapter 3.6.4).

The discussion of the study within the context of SET in business-to-business exchanges constitutes a valuable contribution to knowledge. It strengthens theoretical understanding, offers practical insights, and sets a course for further investigations. This research enriches comprehension of the collective influence of exchange interactions, trust, and commitment, on the legitimacy and capital allocation dynamics within the impact investing ecosystem, making it a significant addition to both academia and practice.

Its main contribution is the establishment of an impact investing model derived from evidence from interviewees (See Chapter 3.6). The model captures the key processes and its adoption and implementation could help standardise impact investing practice. This could also help address calls for greater transparency, evaluation, measurement, and concerns about 'green washing' and 'impact washing'.

5.4.4 Trust Dynamics in temporal B2B Exchange

Impact investing and circular economy have been independently used to promote and support implementation of the United Nations Sustainable Development Goals (UNSDGs) (Bouri *et al.*, 2018; Morriesen, 2018; Schroeder *et al.*, 2018). Active pursuance of UNSDGs provides a platform to investigate the appropriateness and effectiveness of impact investing for the deployment of private sector funds to accelerate the transition to a circular economy.

The empirical study outlined in paper three delves into the intricacies of trust dynamics within temporal business-to-business relationships and offers invaluable contributions to both theoretical understanding and practical application. One of its key findings accentuates effective strategies for overcoming cultural resistance to change in the construction sector through education and awareness. This approach emphasises fostering learning and trust building within facilitated workshop settings.

The real-world case study presents theoretical and practical contributions (See Chapter 4.4.4) to knowledge:

- **Illuminating Cultural Resistance to Change:**
The ethnographic action research case study provides a deeper understanding of the complex issue of cultural resistance to change within business-to-business relationships. This research advances theoretical understanding by acknowledging that trust substitutes are not universally effective and that cultural factors play a pivotal role. It sheds light on how intricate dynamics are influenced by cultural factors, thereby enriching the body of knowledge on trust dynamics in diverse business contexts.
- **Integration of Learning and Trust Building:**
A new theoretical perspective emerges from this research – the integration of learning and trust building. This study contributes to the knowledge by demonstrating that combining educational efforts focussed on trust substitutes with trust-building activities creates a potent combination that mitigates resistance and enhances receptivity to change. This synergy creates a potent force that not only mitigates resistance but also enhances the organization's readiness to embrace change. This perspective, born from empirical evidence, offers a novel lens through which to view trust dynamics.
- **A Strategic Approach to Education and Awareness:**
Practitioners and scholars can benefit from this research by gaining insights into strategically addressing both situational factors and cultural resistance. It contributes to knowledge by offering organisations practical

guidance on strategically implementing education and awareness programs tailored specifically to trust substitutes and their cultural dimensions. These initiatives are designed to cater to the unique contexts of business-to-business relationships, recognising that effectiveness is dependent on the unique setting.

- **The Workshop as a Catalyst:**

The practical implications of this research are perhaps most evident in the significant role assigned to the facilitated structured workshop. The facilitated workshop served as a dynamic platform for educating key stakeholders, fostering cross-cultural understanding, and reinforcing trust substitutes. The workshop was not a passive information-sharing session; rather, it was designed to encourage open dialogue, collaborative problem-solving, and shared ownership of trust-building initiatives. The research contributes to knowledge by suggesting that organisations could utilize these workshops as platforms for cross-cultural education and trust substitute reinforcement. The workshops need to be structured to promote open dialogue and shared ownership of issues and aligned with practical implementation.

- **Leadership Alignment:**

Finally, the study emphasizes the importance of leadership alignment with educational and trust-building efforts. Active participation in workshops by key decision-makers and their endorsement of the value of trust substitutes, sends a resounding message throughout the organisation. This contribution to knowledge practice encourages a top-down approach to change management, increasing the likelihood of successful change adoption. It highlights that active participation of key decision-makers in facilitated workshops and their endorsement of trust substitutes can effectively convey the message of change adoption throughout the organization.

In the recognition that early stage investments are likely to be between exchange partners with limited prior interactions paper three examines how parties in

temporal business-to-business relationship engage with substitutes for trust to evoke trust-like behaviours. The paper shows that cultural barriers and financial constraints could hamper the adoption of circular economy in the construction industry. However, cultural resistance to change can be tackled through education and awareness with learning reinforced in workshop setting. It also shows that organisations that embed circular economy principles in their operations are likely to benefit in the long-term.

However, financial constraints and lack of engagement by supply chain members who had not been exposed to the behaviour change interventions, prevented full adoption of circular economy principle.

This ethnographic research transcends the boundaries of theory and practice. It advances theoretical understanding of trust substitutes within business-to-business relationships and offers practical guidance for addressing cultural resistance to change. Emphasising the integration of education and awareness with trust building, particularly within facilitated workshop settings, organizations can understand situational factors, navigate identified cultural barriers and nurture trust-like behaviours.

These contributions have far-reaching implications for businesses aiming to succeed in an evolving global landscape, where adaptability and trust remain integral to success. The synthesis of theory and practice offered by this study is a testament to its significance in the academic and business communities alike.

5.5 Key Research Outcomes

The key outcomes of this three-paper doctoral thesis encompass a comprehensive research approach that involved a systematic literature review, a qualitative study conducted through semi-structured interviews, and an ethnographic action research investigation within a real-world case study. This multifaceted methodology allowed for a robust exploration of the research topic, offering valuable insights and contributions to the field.

The clearly deducible results stemming from the research are captured in the following statements:

1. Private capital, deployed through impact investing bridges the funding gap to deliver the UNSDGs and expedites the shift to a circular economy.
2. Codifying impact investing practice builds field legitimacy, driving capital toward 'doing good', stimulating innovation, economic growth, and societal advancement.
3. Cultural resistance to change in the construction industry is addressed by client-led education to build trust in facilitated workshops.

The practical implications, theoretical contributions, and broader significance of the findings derived from the study, that shed light on the varied dimensions of the research for academics and practitioners, are described in the subsequent sections.

5.5.1 Bridging the funding gap

The concept of circular economy resonates with the UNSDGs, promoting environmental, economic and social benefits. The recognition that impact investing is an ethical capital deployment vehicle offers the potential to close the funding shortfalls to deliver the UNSDGs and accelerate the transition to a circular economy as highlighted below:

- The potential of the circular economy to create environmental, economic and social benefits through minimising carbon emissions, reducing waste, preserving natural systems, enhancing natural resource efficiency and job creation is reflected in the universally recognised global challenges encapsulated in the UNSDGs. This alignment makes transitioning to a circular economy a global imperative.
- Impact investing is progressively accepted as a vehicle to ethically deploy capital that will generate environmental and social benefits alongside financial returns. The deployment of private capital through

impact investing offers a platform to close the funding gap required to achieve the UNSDGs and accelerate the transition to a circular economy.

- This study advances the idea that impact investing practice embodies the necessary changes to the traditional financial system - predominately structured around linear economy principles – to deliver an effective transition to the circular economy. The transition to a circular economy through impact investing could play a pivotal role in the delivery of the UNSDGs.

5.5.2 Paving the way for ‘doing good’

An exploration of the emergent norms offers the prospect to build legitimacy and emphasises the need to codify impact investing practices. The proposed Impact Investing Practice Model (IIPM) is aimed at fostering collaboration and capital mobilisation for the UNSDGs as outlined below:

- The nascent field of impact investing is going through a legitimacy building phase that is further complicated by the ensuing competing institutional logics debate about categorisation of investments as either ‘finance first’ ‘impact first’ alongside concerns about ‘green washing’, and ‘impact washing’ amongst others. This study examines evolving relational exchange modalities between actors in the impact investing ecosystem through the SET perspective, responding to the call to address the lack of a theoretical framework and empirical studies by drawing on the examination of learning from practice.
- The study focussed on investigating the motivations, attitudes, and behaviours of key actors in the ecosystem and revealed that they are adopting practises to increase discipline and bring clarity and transparency. The study advocates that the codification of impact investing practice will contribute to building field legitimacy. This will boost the allocation of capital towards ‘doing good’, which will in turn drive innovation, economic growth and societal progress.

- This study proposes an Impact Investing Practice Model (IIPM) that draws on evolving relational norms. Implementation of the IIPM responds to calls for improvement in impact investing standards to ameliorate field integrity concerns and offers a tool for independent impact validation and verification by independent auditors looking to provide assurance. The IIPM could also support regulatory disclosure requirements.
- Ultimately, the IIPM emphasises collaboration and transparency that builds credibility and trust. It provides a structure for investors, intermediaries, investees, market builders (including academia), beneficiaries, and regulators to work together in harnessing the potential of impact investing to drive the deployment of capital towards achieving the UNSDGs.

5.5.3 Building trust and breaking barriers

The significant impact of the built environment on climate change can be mitigated by adopting circular economy. This offers a remedy to separate economic growth from environmental damage across the construction sector. However, the culture of skepticism and reluctance to adapt continues to present barriers to adaptation. The real-world case study endorses behaviour change initiatives conducted in workshops, guided by clients, to overcome these barriers and encourage collaborative adoption of circular economy principles as set out below:

- The built environment is a key contributor to the negative climate impact. It exerts substantial pressure on natural resources and generates approximately 40% of the total global energy-related CO₂ emissions and 40% of waste. The construction industry has a pivotal role in facilitating the adoption of circular economy strategies, which are increasingly considered a possible solution to decouple economic growth from environmental degradation in the built environment.

- However, the predominance of expedient business-to-business relationships in the construction industry coupled with a high level of distrust and cultural resistance to change has hampered the uptake of circular economy principles. Within the context of a real-world case study, an exploration of how exchange partners engage with substitutes for trust in temporal business-to-business relationships to promote trust-like behaviours.
- The ethnographic action research underpinned by the SET approach outlines how building in circular economy thinking on the development of an affordable housing project in the United Kingdom was actively promoted through behavioural change interventions delivered in facilitated workshops. This study advances the idea that cultural resistance to change in the construction industry could be positively tackled through client-led education and awareness, with learning reinforced in workshop settings to build trust.
- Behaviour change interventions to encourage the implementation of circular economy models in the construction industry through facilitated workshops offer the potential to tackle cultural resistance to change. Facilitated workshops will encourage dialogue, innovation, and collaborative problem-solving. Client leadership is crucial alongside a dedicated budget contingency to support the implementation of innovative solutions where required.

5.5.4 Synopsis

The synthesis of findings from the research, provides practical insights for decision-makers and practitioners. It also contributes to the theoretical landscape in the field of impact investing and the circular economy. A robust theoretical foundation for the research was established through the literature review, it highlighted the existing research gaps and knowledge in the field of impact investing and the circular economy.

The in-depth semi-structured interviews conducted as part of the qualitative study provided a nuanced understanding of the experiences and perspectives of the participants and offered a human dimension to the research. Lastly, the ethnographic action research embedded within a real-world case study provided the avenue to bridge theory and practice, revealing practical implications and actionable recommendations.

The methodologies employed have deepened understanding of the research problem and enriched the scholarly discourse in the impact investing ecosystem. The key outcomes of this thesis extend to the advancement of knowledge and address real-world issues. They serve as a foundation for further exploration and application, with the potential to meaningfully influence policies, practices, and future research studies. The power of interdisciplinary research is evidenced in the doctoral journey that resulted in this three-paper thesis. It accentuates the value of a multifaceted approach in generating holistic insights into a complex phenomenon.

5.6 Ideas for Future Research

A multifaceted approach spanning across three distinct, but interconnected papers was adopted in the doctoral journey to explore the potential of impact investing to catalyse transitioning to a circular economy. This section delves into the future research that emerge from the systematic literature review, qualitative exploration through semi-structured interviews, and ethnographic action research conducted on a real-world case study. Each of these studies has contributed valuable insights to overcome the financial barriers that have stymied the uptake of circular economy and reveal avenues for further academic studies.

The systematic literature review provided a comprehensive understanding of the existing knowledge landscape surrounding impact investing and the circular economy. However, it also identified gaps in the literature that warranted deeper investigations. Some of these were tackled in this research.

The literature review finds that financing the transition towards a circular economy requires changes to the financial system. The business-to-business exchange to realise the potential benefits of a circular economy and deliver measurable social and/or environmental outcomes alongside financial returns needs to be captured in a paradigm that governs the behaviour and expectations of impact investors.

Alongside, it also advocates that future research could develop theoretical models and frameworks that underpin impact investing practice by considering the following questions to examine the relational exchange modalities between the impact investor and investee companies:

- What norms govern the relational exchange modalities between impact investors and their investee companies?
- How are these norms affected by formal contracts, interactions with third parties, and potential opportunism?
- Can an understanding of these norms increase the potential use of impact investing to accelerate the transition to a circular economy?

From a SET perspective, the qualitative study, driven by semi-structured interviews, provided an understanding of the emergent norms that govern the relational exchange between key actors in the impact investing ecosystem. The interviews illuminated the intricacies and complexities of impact investing practice.

Looking forwards, the qualitative exploration undertaken needs to be expanded to validate and refine the findings. Further studies will also be required to understand preservation of role integrity in the legal structure of inter-related parties and its impact on reporting transparency.

Additionally, alternative qualitative methodologies may be employed to explore the relationships in the impact investing ecosystem through other relational theories such as integrated social contract theory, stakeholder theory, and rational choice theory. This could provide fresh insights into the experiences of actors in the impact investing ecosystem. Future studies could also examine if

the relational behaviours described by the participants in this doctoral study are reflected in the legal constructs of exchange structures.

The IIPM provides a step towards the codification of impact investing practice that could stimulate increased allocation of capital required to tackle global systemic challenges captured in the UNSDGs. Practical real-world experiences and the external validation will need to be sought from experts and practitioners that will provide insights into nuances that may have been missed in this research study. This will ensure that the IIPM remains adaptable and accurately reflects the intricacies of an evolving impact investing practice. Alongside, the incorporation of clear performance metrics and risk analysis into the IIPM will enable investors to make more informed decisions.

Scholars can also explore specific aspects of the impact investing ecosystem, such as the impact of different codification practises or how relational norms evolve in diverse cultural contexts. These avenues for exploration contribute to ongoing scholarly discourse and expand the knowledge base.

The ethnographic action research conducted within the context of real-world case study offered the opportunity to observe and actively engage with the dynamics of introducing substitutes for trust in temporal business-to-business relationships. The findings shed light on the practical implications and potential behaviour change intervention techniques that can be applied in similar contexts.

Future research studies should aim to replicate and extend this ethnographic approach to different settings. These studies could examine how the principles and strategies identified in this doctoral study translate and adapt to diverse scenarios. In particular, a similar study should be undertaken where researcher-practitioner roles are distinct to eliminate potential for conflict. Future studies should also consider other nudge intervention techniques.

A key finding of the case study was the financial constraint arising from the lack of a dedicated/ring-fenced budget that could be accessed if the business case for change inspired by adoption of circular economy principles is proven and

supported. An exploration of the effectiveness of nudge interventions where a dedicated/ring-fenced budget is identified should be undertaken.

In tandem, scrutinizing the ethical aspects of behaviour change interventions could promote responsible practices between exchange partners. Finally, future research should review the embeddedness of circular economy thinking in building operation.

The culmination of these three research papers opens doors into the 'areas of future research.' Contributing to the ongoing discourse in impact investing and the circular economy, and addressing these avenues, will push the boundaries of knowledge, and pave the way for meaningful advancements.

5.7 Limitations

The extensive body of research captured in the three distinct papers that comprise this doctoral thesis draws on a systematic literature review, a qualitative study grounded in semi-structured interviews, and an ethnographic action research in a real-world case study. Addressing the interplay of opportunities and constraints that have emerged during the doctoral journey contribute to upholding high standards of academic integrity and facilitates clearer understanding of the potential implications of the investigation.

5.7.1 Navigating uncharted waters

Systematic literature reviews offer a much-valued methodical approach to synthesize existing research. Nevertheless, it is important to acknowledge there are inherent constraints in its use that could have an impact on the comprehensiveness and objectivity of the analysis undertaken (Agarwal *et al.*, 2016; Hiebl, 2023; Piccarozzi *et al.*, 2018; Williams Jr *et al.*, 2021).

Three limitations of the systematic literature review carried out to explore the connections between impact investing and the circular economy – scope limitation, publication bias, and researcher bias – are discussed below:

- Scope Limitation:

Although the search strategy was carefully designed to cover a range of academic databases and sources, the volume and dynamic nature of academic studies in the relatively nascent landscape may have resulted in the inadvertent exclusion of relevant literature (Hiebl, 2023; Thomé *et al.*, 2016). This could have been compounded by selection bias introduced by the specific inclusion and exclusion criteria that was set, alongside indexing variations, use of key words, and coverage of database. In addition, resource availability and time constraints may have influenced thoroughness that may limit search scope. Consequently, the systematic literature review that underpin this research may be considered a comprehensive but not an exhaustive aggregation of available literature.

- Publication Bias:

The potential for bias arising from the tendency for academic journals to publish studies that have positive or statistically significant results at the expense of those with negative or inconclusive results that are less visible in academic circles (Kepes *et al.*, 2012, 2022). This review, sought to limit the final sample to articles appearing in journals listed in the Cranfield University Guide but was subsequently augmented by 'grey literature'.

Publication bias may have skewed the systematic literature review by the over representation of certain types of research possibly resulting in distortion of evidence. An awareness of this constraint and potential impact on the research findings is vital.

- Researcher Bias:

The unintentional introduction of biases by the researcher during the review process may have impacted its objectivity (Adams *et al.*, 2017; Hiebl, 2023). Interpretations and judgments, that have been influenced by the researcher's perspectives, expertise and possibly unconscious biases, should be recognized as a potential limitation in the selection, data extraction, or synthesis of this study (Durach *et al.*, 2017).

Recognizing the constraints highlighted above, enhances the rigor and credibility of the systematic literature review, and contributes to the advancement of knowledge in the impact investing and circular economy landscape. Overall, the study emphasizes the importance of acknowledging and addressing these limitations to improve research quality and objectivity.

5.7.2 Unravelling Exchange Modalities

While a qualitative research study that relies on insights gathered from semi-structured interviews is a valuable tool for in-depth exploration of a phenomenon, it is necessary to recognize its constraints (Hammarberg *et al.*, 2016). Four primary limitations: sampling methodology, data collection processes, potential researcher bias, and contextual specificity are relevant to this study.

- **Sampling methodology:**

The purposive sampling methodology employed in the selection of study participants may not have adequately represented the broad diversity of the actors within the growing impact investing ecosystem. While considerable effort was made to ensure the sample was representative, conducting the interviews during the COVID-19 pandemic also introduced an element of convenience sampling.

The use of a combination of convenience and purposive sampling introduced a potential bias that may limit the generalizability of the research findings (Sharma, 2017; Suri, 2011). However, this did not appear to affect the depth of insights gathered as data saturation was achieved with what could be considered a relatively small sample size. This was possibly due to the relatively nascent nature of the impact investing landscape. However, the study may not have accounted fully for potential ethical and cultural variations that can influence impact investment decisions.

1. Data Collection Process:

A notable limitation of the data collection process in qualitative research, especially with semi-structured interviews, is the varied quality of insights resulting from the effectiveness of the interview questions the researcher's probing skills to unearth deeper information, and participants' willingness to openly share their experiences (Eriksson and Kovalainen, 2015; Gray *et al.*, 2020). The potential impact of these limitations was mitigated by careful planning and advance testing of questions, alongside offering all participants full anonymity.

Nevertheless, the data analysis, interpretation and coding process revealed instances where valuable information had been missed due to the lack of depth or clarity of the follow-on interview questions. Additionally, it was sometimes difficult to ascertain the extent to which experiences shared by the participants reflected a personal or organizational standpoint. It is also possible that response bias or social desirability bias may have been introduced if participants' provided answers they believe are expected rather than their true sentiments. These shortcomings may have affected the rigor of the study.

2. Potential researcher bias:

It is recognized that the occurrence of researcher bias is an inherent issue in qualitative research (Eriksson and Kovalainen, 2015; Hammarberg *et al.*, 2016; Robinson, 2014; Sharma, 2017). This comes to the fore during interview data analysis and interpretation when the researcher's perception is influenced by personal beliefs, experiences, and preconceptions. This potential limitation was addressed and mitigated by integrating reflexivity throughout the research process.

Reflexivity involved continuous self-awareness and acknowledgment of personal biases during the study (Grodal *et al.*, 2021; Holmes, 2020; Robinson and Kerr, 2015). An examination of personal beliefs and

background was undertaken prior to selecting semi-structured interviews as the preferred research method and employing the adopted sampling strategies. Careful journal notes were maintained during the data collection phase and the recorded interviews were personally transcribed to increase engagement and familiarity with data. Alongside deep immersion with the data, a time lag was introduced prior to data analysis and coding to counteract researcher bias. This strategy enhanced the credibility and objectivity of the research findings.

3. Contextual Specificity:

Contextual specificity can be a potential limitation in qualitative research (Bamberger, 2008; Doz, 2011). The insights gained from the semi-structured interviews to unearth the emerging relational exchange modalities in the impact investing ecosystem and obtain feedback from participants in the mini-ethnographic case study are closely tied to the unique nature of the context being studied. As a result, the findings may not be broadly applicable or transferable to other regions or sector, as the impact investing landscape can vary across different jurisdictions and sectors. This may restrict the generalizability of the conclusions of the study.

5.7.3 Behaviour Change Interventions

The ethnographic action research case study conducted in the real-world construction project offered valuable insights but came with certain constraints (Côté-Boileau *et al.*, 2020; du Preez, 2008; Roberts *et al.*, 2010). Although the study sought to provide a comprehensive understanding of the social dynamics between exchange partners in a temporal business-to-business exchange relationship, an appreciation of the deep-rooted limitations is essential.

A critical examination of the key limitations encountered during the study sheds light on the challenges faced that may have influenced the research outcomes and findings (Lecompte, 1982). Alongside, these provide the context for broader

application of its findings and their implications for the overall validity and generalizability (Hancock *et al.*, 2018; Sykes *et al.*, 2018).

Addressing limitations in the ethnographic study is an integral aspect of the research process that facilitates critical reflection on the scope of the study. This self-reflection and acknowledgment that no research is without limitations helps maintain transparency and academic integrity. The key limitations encountered are the impact of the dual researcher-practitioner role, ethical dilemmas, researcher subjectivity, and resource constraints.

- **Dual researcher-practitioner role:**
Occupying a researcher-practitioner role offers both advantages and limitations (du Preez, 2008). This has a potential impact the authenticity of data collected. The presence of the researcher-practitioner active role in the study can pose limitations by influencing the behaviour and dynamics of study participants. There is the tendency that actions, attitudes, or communication patterns are modified to suit preconceived ideas in response leading to a potential observer effect. This could compromise the authenticity of the data collected and the researcher-practitioner's ability to observe unmediated behaviours. It is necessary to maintain a delicate balance.
- **Ethical Dilemmas:**
Ethical dilemmas can arise in situations where the researcher needs to balance data collection needs with ethical considerations about privacy, safety, and informed consent (Liong, 2015; Parker-Jenkins, 2018). The core tenet of respect for the well-being and rights of participants in the context of construction sites increases the challenges in this regard, and it is important that researchers carefully navigate these complexities.
- **Researcher Subjectivity:**
The inherent subjectivity of ethnographic action research coupled with the background, experiences and personal biases of the researcher has a significant influence on interpretation of data (Bourke, 2014; Holmes,

2020). The researcher's awareness of these biases helped to improve accuracy and comprehensiveness of insights gleaned.

- **Resource Constraints:**

The time and resource constraints of conducting an ethnographic action research was compounded in this doctoral study due to the COVID-19 pandemic. These complexities limited the extent of data collection and analysis. Consequently, these constraints necessitated trade-offs between depth and breadth of research undertaken.

Through acknowledging these constraints and adopting strategies to mitigate them, researchers are better positioned to evaluate these limitations, navigate the challenges more effectively and contribute to a deeper understanding. This will improve the quality and validity of ethnographic action research undertaken in construction projects.

5.8 Reflections

Some prior understanding of a phenomenon is a prerequisite for the development of knowledge (Alvesson and Sandberg, 2022). Alongside data and theory, the researcher's task is centred on positively drawing on prior understanding in the research process to generate new understanding (Alvesson and Sandberg, 2022).

This is particularly relevant to this thesis being an practitioner researcher who is actively involved in the nascent field of impact investing (Fleming, 2018). In such circumstances, the researcher's active role in the field and prior understanding could be extremely valuable in formulating practical research questions but susceptible to 'researcher bias' that could influence research design (Chavez, 2008). Insider research forces introspection such as examining the researcher objectivity and subjectivity relationships (Greene, 2014).

From a practitioner perspective, it was quite surprising that the systematic literature review did not unearth academic or indeed practitioner literature that identified a direct link between impact investing and the circular economy. The

researcher's inherent preference towards a pragmatic approach to social research prompted the generation of new insights that identified the shared aim of two concepts encapsulated in the UNSDGs.

The findings of paper one (See Chapter 2.5.1) that forms part of this thesis confirms impact investing could catalyse the transition to a circular economy through the tackling of the UNSDGs. However, the findings of paper two (See Chapter 3.5.1) show that in practice there is evidence to suggest substantial refinement of goals and objective between investors, intermediaries and investees occurs during the pre-investment stage. Consequently, opportunistic relationship is tailored to become 'mission aligned'.

This practice shares the attributes of 'angel investing' practice and is more likely where the investee has a well-defined impact strategy that is attractive to an investor/intermediary. This could have a significant influence on the legal structure of the exchange and appears to be the key driver for investors taking on multiple roles in the ecosystem.

The study design and analysis of paper two actively draw on social exchange theory and relational contract theory. Careful reflection has provided fresh and sharper perspective on the data. It aids transferability of findings and study contribution to practice and wider academic understanding.

In paper three, relatively simple 'low cost' behaviour change intervention techniques were applied in this study (Hilton *et al.*, 2018). These were a combination of education and awareness (background information, handouts, etc.) and facilitated workshop with activities designed to build relationships, and promote pro-environmental attitudes and behaviours (Grilli and Curtis, 2021).

Critically, the findings of paper three indicate that financial constraint stifled innovation. The COVID-19 pandemic also meant that the planned close out workshop did not take place. As a result, the extent to which the behaviour change interventions have influenced operations phase is unknown.

5.9 Final Thoughts

Notwithstanding that impact investing has the inherent characteristics of an appropriate investment vehicle to boost take up and fast-track the transition to a circular economy there are challenges. One of such is the ongoing refinement required to the evolving regulatory frameworks such as the EU Taxonomy Regulations, EU Sustainable Finance Disclosure Regulation (SFDR), EU Corporate Sustainability Reporting Directive (CSRD), and UK Financial Conduct Authority Sustainability Disclosure Requirements (SDR), to fully support impact investing and circular economy initiatives.

The continuous engagement with a wide range of stakeholders is paramount to align incentives and drive collective action. In addition, the long-term impact of impact investing as a capital deployment strategy remains a subject of ongoing study. Its effectiveness in accelerating the transition to circularity over time will require continuous evaluation.

The codification of impact investing practice can help establish widely accepted standards that will enable key actors fulfil their legal sustainability reporting obligations – reducing non-compliance risk and potential legal consequences. Codification will also boost investor confidence and facilitate more informed decision making that will significantly increase capital inflow and attract responsible investments.

The limitations of this study stems from the nascent nature of impact investing as a capital deployment strategy. This presents challenges in terms of data availability and long-term impact assessment. However, the research findings contribute to the foundational understanding of an evolving ecosystem and offers an impetus for further investigations. Academic research occupies a pivotal role in shaping sustainable finance and environmental stewardship that will advance the transition to a circular economy.

Overall, this doctoral thesis focuses attention on the crucial part that academic study plays in guiding the trajectory of sustainable development finance. The

insights offered could contribute to the development of frameworks that shape impact investing practice and encourage the transition to a circular economy.

The quest for knowledge, exemplified in this study, offers the prospect to stimulate change, influence policy, and spur innovation. Going forwards, further research and collaboration between academics and practitioners will refine and amplify the potential of impact investing as a capital deployment strategy to accelerate the global transition to a circular economy.

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