

**Barriers and Enablers to a Circular  
Economy in Small Island Destinations:  
The Case of the Orkney Islands,  
Scotland**

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## **Abstract**

The tourism sector is often the main socio-economic activity for islands whilst representing a source of negative impacts. The circular economy (CE), in this sense, is increasingly considered a promising approach to tourism sustainability in such settings. The CE – regarded as the realisation of a closed loop of material flows in the economic system – is not free of enablers and disablers that should be understood to inform planning. Existing studies provide an overview of these disablers and enablers that industries face towards the adoption of CE practices, but they are largely based on one-size-fits-all approaches. This study builds upon the key assumption that islands require tailored approaches given their islandness, which is the result of the often physical/digital isolation, regional fragmentation, boundedness and smallness of their territories. Consequently, contributions are limited when it comes to small island destinations where methodologies should be context-based with an understanding of the relationship that exists between islandness and the CE.

Accordingly, this study investigated the tourism sector transition of small island destinations to a CE and the hampering/facilitating role of islandness. The investigation employed a qualitative multi-method research design with an interpretive philosophical underpinning, supported by semi-structured interviews and documentary analysis. The Orkney Islands, in Scotland, were selected as a case study. This study represents the first empirical effort seeking to delineate a territorial understanding of the CE in small island destinations using the spatial-geographical concept of islandness. Key findings revealed that the islandness of the Orkney Islands drives, hampers and enablers the tourism transition to a CE in economic, technical, social and institutional ways. Findings also show that due to the islandness of the Orkney Islands, the COVID-19 measures have accentuated the need and, in some cases, facilitated the transition to a CE. Islandness-related drivers, barriers and enablers are enshrined in the major contribution of this study, which is an indicative framework that could be considered in other small islands for the promotion of a CE in the tourism sector.

# Table of Contents

<b>CHAPTER 1 – INTRODUCTION</b>	<b>1</b>
1.1. Introduction	1
1.2. Problem Statement	1
1.3. Case Study Selection	4
1.3.1. The Orkney Islands	5
1.4. Thesis Aim, Objectives and Research Questions	7
1.5. Methodology	8
1.6. The Researcher	9
1.7. Structure of the Thesis	10
<b>CHAPTER 2 - LITERATURE REVIEW</b>	<b>12</b>
2.1. Introduction	12
2.2. Part 1 - Circular Economy	12
2.2.1. Defining the Circular Economy	12
2.2.2. Evolution of the Circular Economy	14
2.2.3. From a Linear to a Circular Economy	15
2.2.4. Circular Economy Business Models	18
2.2.5. Criticisms of the Circular Economy	25
2.2.6. The Circular Economic and Sustainable Development	26
2.2.7. Drivers to a Circular Economy	27
2.2.8. Barriers and Enablers to a Circular Economy	31
2.3. Part 2 – Circular Economy in Tourism	38
2.2.1. Conceptualising a Circular Economy in Tourism	41
2.2.2. Circular Business Models in Tourism	44
2.2.3. Barriers and Enablers to Circular Business Models in Tourism	46
2.3. Part 3 – Small Island Destinations	53
2.3.1. Small Islands	53
2.3.2. Islandness	54
2.3.3. Conceptualising Islandness Producing Factors	57
2.3.4. Island Typologies	60
2.3.5. Small Island Destinations Characteristics	63
2.4. Part 4 - Circular Economy in Small Island Destinations	66
2.4.2. Islandness and the Barriers and Enablers to a CE in Small Islands Destinations	69
2.4.3. Circular Economy Initiatives in Small Islands	76

<b>2.5.</b>	<b>Part 5 - Circular Economy in the Orkney Islands</b>	<b>78</b>
2.5.1.	The Orkney Islands	78
2.5.2.	A Circular Economy for Scotland	79
2.5.3.	A Circular Economy for the Orkney Islands	80
<b>2.6.</b>	<b>Part 6 – Knowledge Gap and Conceptual Framework</b>	<b>81</b>
2.6.1.	The Study Conceptual Framework	84
<b>2.7.</b>	<b>Conclusion</b>	<b>89</b>
 <b>CHAPTER 3 - METHODOLOGY</b>		 <b>90</b>
<b>3.1.</b>	<b>Introduction</b>	<b>90</b>
3.1.1.	Research Questions	91
<b>3.2.</b>	<b>Delineating the Research Paradigm</b>	<b>91</b>
3.2.1.	Ontological Assumption	92
3.2.2.	Epistemological Assumption	95
3.2.3.	Axiological Assumption	96
3.2.4.	Methodological Assumption	97
3.2.5.	Research Paradigm: Interpretive	98
3.2.6.	Hermeneutic	100
<b>3.3.</b>	<b>Methodological Framework</b>	<b>101</b>
3.3.1.	Research Process: Inductive Reasoning	101
3.3.1.1.	Inductive Process through the Hermeneutic Cycle	102
3.3.2.	Research Design: Case Study Strategy	104
3.3.2.1.	Embedded Case Study	105
3.3.3.	Analytical Framework	107
3.3.3.1.	Stakeholder Mapping	109
3.3.3.2.	Sampling	110
3.3.3.3.	Self-Completing Questionnaire	110
3.3.3.4.	Semi-Structured Interviews	111
3.3.3.4.1.	Pilot Interviews	116
3.3.3.5.	Documentary Analysis	117
3.3.3.6.	Data Analysis	118
3.3.3.6.1.	Thematic Analysis Framework	120
<b>3.4.</b>	<b>Research Quality and Validation</b>	<b>125</b>
<b>3.5.</b>	<b>Research Ethics</b>	<b>130</b>
<b>3.6.</b>	<b>Research Limitations</b>	<b>131</b>
<b>3.7.</b>	<b>Conclusion</b>	<b>132</b>
 <b>CHAPTER 4 – THE ORKNEY ISLANDS CONTEXT</b>		 <b>134</b>
<b>4.1.</b>	<b>Introduction</b>	<b>134</b>
<b>4.2.</b>	<b>Locating the Orkney Islands</b>	<b>134</b>

<b>4.3.</b>	<b>The Regional Tourism Sector</b>	<b>136</b>
4.3.1.	Existing Pressures on the Orkney Islands	138
<b>4.4.</b>	<b>Circular Economy Practices</b>	<b>141</b>
<b>4.5.</b>	<b>The Islandness of the Orkney Islands</b>	<b>144</b>
4.5.1.	Broad Consequences of Islandness	144
<b>4.6.</b>	<b>Orkney Islands and COVID-19</b>	<b>146</b>
<b>4.7.</b>	<b>Conclusion</b>	<b>150</b>
<b>CHAPTER 5 – FINDINGS</b>		<b>151</b>
<b>5.1.</b>	<b>Introduction</b>	<b>151</b>
<b>5.2.</b>	<b>Drivers to a Circular Tourism Economy</b>	<b>151</b>
5.2.1.	Social Drivers to a Circular Tourism Economy	151
5.2.1.1.	A Circular Economy for Island Self-Sufficiency	152
5.2.1.2.	A Circular Economy to Create Jobs and Stop Depopulation	152
5.2.2.	Economic Drivers to a Circular Tourism Economy	153
5.2.2.1.	A Circular Economy to Promote Local Financial Circularity	154
5.2.2.2.	A Circular Economy to Decrease Business Waste Operational Costs	155
5.2.2.3.	A Circular Economy to Decrease Business Import Operational Costs	156
5.2.2.4.	A Circular Economy to Create Additional Income for Tourism Businesses	157
5.2.3.	Environmental Drivers to Circular Tourism Economy	157
5.2.4.	Documentary Support to Drivers to a Circular Tourism Economy	158
5.2.5.	Summary of Drivers to a Circular Tourism Economy	160
<b>5.3.</b>	<b>Barriers to a Circular Tourism Economy</b>	<b>160</b>
5.3.1.	Insufficient Inter-Islands Links	161
5.3.2.	Insufficient Island-Mainland Links	163
5.3.3.	High Distance to Markets	164
5.3.4.	Collaborative Redistribution Challenges	165
5.3.5.	Limited/Unreliable Digital Connectivity	165
5.3.6.	Challenging Access to Innovation Centres and Schemes	166
5.3.7.	Highly Competitive Environment	167
5.3.8.	Limited Access to Circular Skills from Within / Outside the Islands	168
5.3.9.	Waste Collection Challenges	169
5.3.10.	Limited Local Goods Productions	170
5.3.11.	Limited Access to Small Scale Technologies	171
5.3.12.	Seasonal High Tourism Demand	172
5.3.13.	Seasonal Fluctuation of Waste Streams	173
5.3.14.	Limited Land for Circular Infrastructures	173
5.3.15.	Conventional Linear Business Practices	174
5.3.16.	Solo Working Practices	175
5.3.17.	High Disposal and Redistribution Costs	176
5.3.18.	Challenging Access to Finance	178
5.3.19.	Limited Economies of Scale of Material Reprocessing	180
5.3.20.	Limited Economies of Scale for Circular Services	181
5.3.21.	Limited Economies of Scale for Market Accessibility	181
5.3.22.	Institutional Centralisation	182
5.3.23.	Governance Centralisation	184

5.3.24.	Documentary Support to Barriers to a Circular Tourism Economy _____	186
5.3.25.	Summary of Barriers to a Circular Tourism Economy _____	189
<b>5.4.</b>	<b>Enablers to a Circular Tourism Economy _____</b>	<b>190</b>
5.4.1.	Traditional Circularity _____	190
5.4.2.	Circular Entrepreneurship _____	192
5.4.3.	Strong Community Cohesion _____	193
5.4.4.	Strong Pride and Identity _____	194
5.4.5.	COVID-19 and Improved Awareness of Locality _____	195
5.4.6.	COVID-19 and Improved Awareness of Waste Prevention _____	196
5.4.7.	COVID-19 and Increased Informal Circularity _____	197
5.4.8.	Tight Urban Clusters _____	198
5.4.9.	Strong Tourism Industry Cohesion _____	199
5.4.10.	Small Waste Streams _____	200
5.4.11.	Manageable Material Flows _____	201
5.4.12.	COVID-19 and Improved Access to Collaboration _____	201
5.4.13.	COVID-19 and Improved Access to Innovation _____	202
5.4.14.	Documentary Support to Enablers to a Circular Tourism Economy _____	205
5.4.15.	Summary of Enablers to a Circular Tourism Economy _____	207
<b>5.5.</b>	<b>Barriers and Enablers: Main Relationships _____</b>	<b>207</b>
<b>5.6.</b>	<b>Conclusion _____</b>	<b>211</b>
<b>CHAPTER 6 – DISCUSSIONS _____</b>	<b>212</b>	
<b>6.1.</b>	<b>Introduction _____</b>	<b>212</b>
<b>6.2.</b>	<b>Social Drivers _____</b>	<b>212</b>
6.2.1.	Promote Island Self-Sufficiency _____	212
6.2.2.	Create Jobs and Stop Depopulation _____	214
<b>6.3.</b>	<b>Economic Drivers _____</b>	<b>216</b>
6.3.1.	Promote Local Financial Circularity _____	216
6.3.2.	Decrease Business Waste Operational Costs _____	217
6.3.3.	Decrease Imports Operational Costs _____	218
6.3.4.	Create Additional Income for Tourism Businesses _____	219
<b>6.4.</b>	<b>Environmental Drivers _____</b>	<b>219</b>
6.4.1.	Prevent Waste _____	220
<b>6.5.</b>	<b>Technical barriers _____</b>	<b>222</b>
6.5.1.	Insufficient Inter-island and Low Island-Mainland Links _____	222
6.5.2.	High Distances from Market _____	224
6.5.3.	Collaborative Redistribution Challenges _____	225
6.5.4.	Limited / Unreliable Digital Connectivity _____	226
6.5.5.	Challenging Access to Innovation Centres and Schemes _____	227
6.5.6.	Limited Access to Circular Skills from Outside the Island and From Within the Island _____	228
6.5.7.	Limited Land for Circular Infrastructures _____	229
6.5.8.	Waste Collection Challenges _____	229
6.5.9.	Highly Competitive Environment _____	230
6.5.10.	Limited Access to Small Scale Technologies _____	231
6.5.11.	Limited Local Goods Production _____	232

6.5.12.	Seasonal High Tourism Demand	232
6.5.13.	Seasonal Fluctuation of Waste Streams	233
<b>6.6.</b>	<b>Social Barriers</b>	<b>234</b>
6.6.1.	Conventional Linear Business Practices	234
6.6.2.	Solo Working Practices	234
<b>6.7.</b>	<b>Economic Barriers</b>	<b>235</b>
6.7.1.	High Disposal and Redistribution Costs	235
6.7.2.	Challenging Access to Finances	236
6.7.3.	Limited Economies of Scale for Market Accessibility	237
6.7.4.	Limited Economies of Scale for Circular Services	237
6.7.5.	Limited Economies of Scale for Re-Processing Materials	238
<b>6.8.</b>	<b>Institutional and Governance Barriers</b>	<b>239</b>
6.8.1.	Institutional Centralisation	239
6.8.2.	Governance Centralisation	241
<b>6.9.</b>	<b>Social Enablers</b>	<b>242</b>
6.9.1.	Traditional Circularity	243
6.9.2.	Circular Entrepreneurship	245
6.9.3.	Strong Community Cohesion	245
6.9.4.	Strong Pride and Identity	246
6.9.5.	COVID-19 and Improved Awareness of Locality	247
6.9.6.	COVID-19 and Improved Awareness on Waste Prevention	248
6.9.7.	COVID-19 and Increased Informal Circularity	249
<b>6.10.</b>	<b>Technical Enablers</b>	<b>249</b>
6.10.1.	Tight Urban Clusters	250
6.10.2.	Strong Tourism Industry Cohesion	250
6.10.3.	Small Waste Streams	252
6.10.4.	Manageable Material Flows	252
6.10.5.	COVID-19 and Improved Access to Collaboration and Innovation	253
<b>6.11.</b>	<b>A Circular Tourism Economy for the Linked and Non-Linked Islands</b>	<b>255</b>
<b>6.12.</b>	<b>A Circular Tourism Economy at the Island and Regional Level</b>	<b>258</b>
<b>6.13.</b>	<b>The Circular Tourism Island Dilemma</b>	<b>259</b>
<b>6.14.</b>	<b>Revised Conceptual Framework</b>	<b>261</b>
<b>6.15.</b>	<b>Conclusion</b>	<b>266</b>
<b>CHAPTER 7 – CONCLUSIONS AND RECOMMENDATIONS</b>		<b>268</b>
<b>7.1.</b>	<b>Introduction</b>	<b>268</b>
<b>7.2.</b>	<b>Research Gap and Questions</b>	<b>268</b>
<b>7.3.</b>	<b>Summary of Applied Methodology</b>	<b>270</b>
<b>7.4.</b>	<b>Summary of Findings</b>	<b>270</b>

7.4.1.	Research Questions 1 and 3: Drivers and Islandness	270
7.4.2.	Research Questions 2 and 3: Barriers, Enablers and Islandness	271
<b>7.5.</b>	<b>Theoretical Contribution</b>	<b>272</b>
<b>7.6.</b>	<b>Research Limitations and Future Research Directions</b>	<b>276</b>
<b>8.</b>	<b>REFERENCES</b>	<b>277</b>
<b>9.</b>	<b>APPENDICES</b>	<b>302</b>
9.1.	Appendix 1 – Schools of Thoughts of the Circular Economy	302
9.2.	Appendix 2 – Principles of the Circular Economy	303
9.3.	Appendix 3 – Value Hill and Circular Business Models	304
9.4.	Appendix 4 - Territorial Factors Influencing the Circular Economy	306
9.5.	Appendix 5 – Conceptual Framework Focus Sections	307
9.6.	Appendix 6 – Self-Completing Questionnaire	309
9.7.	Appendix 7 – Interview Protocols	313
9.8.	Appendix 8 - Documentary Analysis Resources	319
9.9.	Appendix 9 – Sample of Feedback on Findings	322
9.10.	Appendix 10 – Information and Consent Form	325
9.11.	Appendix 11 – Respondents Quotes: Drivers to a Circular Tourism Economy	327
9.12.	Appendix 12 – Documentary Analysis: Drivers to a Circular Tourism Economy	328
9.13.	Appendix 13 – Respondents Quotes: Barriers to a Circular Tourism Economy	331
9.14.	Appendix 14 – Documentary Analysis: Barriers to a Circular Tourism Economy	334
9.15.	Appendix 16 – Relationships Between Barriers and Enablers	349



## List of Tables

<b>Table 2.1.</b> The Difference Between a Linear and a Circular Economy _____	16
<b>Table 2.2.</b> Principles of Circular Business Models _____	19
<b>Table 2.3.</b> Drivers to a Circular Economy _____	28
<b>Table 2.4.</b> Island Typologies _____	61
<b>Table 3.1.</b> Data Collection Phases _____	108
<b>Table 3.2.</b> Breakdown of the Research Participants by Sector _____	113
<b>Table 3.3.</b> Relevance of the Participants Involvement in the Research _____	114
<b>Table 3.4.</b> Establishing Credibility in the Study _____	126
<b>Table 5.1.</b> Social Drivers to a Circular Tourism Economy _____	151
<b>Table 5.2.</b> Economic Drivers to a Circular Tourism Economy _____	154
<b>Table 5.3.</b> Documentary Resources: Drivers to a Circular Tourism Economy _____	159
<b>Table 5.4.</b> Technical Barriers to a Circular Tourism Economy _____	161
<b>Table 5.5.</b> Social Barriers to a Circular Tourism Economy _____	174
<b>Table 5.6.</b> Economic Barriers to a Circular Tourism Economy _____	176
<b>Table 5.7.</b> Institutional/Governance Barriers to a Circular Tourism Economy _____	182
<b>Table 5.8.</b> Documentary Resources: Barriers to a Circular Tourism Economy _____	187
<b>Table 5.9.</b> Social Enablers to a Circular Tourism Economy _____	190
<b>Table 5.10.</b> Technical Enablers to a Circular Tourism Economy _____	197
<b>Table 5.11.</b> Documentary Resources: Enablers to a Circular Tourism Economy _____	206
<b>Table 5.12.</b> Main Relationships Between Barriers and Enablers _____	209
<b>Table 6.1.</b> Conceptual Framework’s Colour Code _____	221
<b>Table 6.2.</b> Conceptual Framework’s Colour Codes _____	264
<b>Table 9.1.</b> Schools of Thoughts of the Circular Economy _____	302
<b>Table 9.2.</b> The Six Principles of the Circular Economy _____	303
<b>Table 9.3.</b> Examples of Circular Business Models in the Value Hill _____	304
<b>Table 9.4.</b> Territorial Factors Influencing the Circular Economy _____	306
<b>Table 9.5.</b> List of Documentary Resources Used in the Study _____	319
<b>Table 9.6.</b> Quotes on the Circular Economy for Local Financial Circularity _____	327
<b>Table 9.7.</b> Documentary Support: A Circular Tourism Economy for Creating Jobs and Mitigate Depopulation _____	328
<b>Table 9.8.</b> Documentary Support: A Circular Tourism Economy for Preventing Waste _____	329
<b>Table 9.9.</b> Quotes on Insufficient Inter-Island Links as a Barrier to a Circular Tourism Economy _____	331
<b>Table 9.10.</b> Quotes on Limited Access to Circular Skills as a Barrier to a Circular Tourism Economy _____	332
<b>Table 9.11.</b> Documentary Support: Insufficient Inter-Island Links as a Barrier to Circular Tourism Economy _____	334
<b>Table 9.12.</b> Documentary Support: Limited/Unreliable Digital connectivity as a Barrier to a Circular Tourism Economy _____	337
<b>Table 9.13.</b> Documentary Support: Limited Access to Circular Skills as a Barrier to a Circular Tourism Economy _____	340
<b>Table 9.14.</b> Documentary Support: Institutional centralisation as a Barrier to a Circular Tourism Economy _____	342
<b>Table 9.15.</b> Documentary Support: High Disposal and Redistribution Costs as a Barrier to a Circular Tourism Economy _____	343
<b>Table 9.16.</b> Quotes on Traditional Circularity as an Enabler to a Circular Tourism Economy _____	344

<b>Table 9.17.</b> Quotes on Community Cohesion as an Enabler to a Circular Tourism Economy	346
<b>Table 9.18.</b> Quotes on COVID-19 and Access to Collaboration as an Enabler to a Circular Tourism Economy	348
<b>Table 9.19.</b> Quotes: Relationships Between Barriers and Enablers	349

# List of Figures

<b>Figure 1.1.</b> View from Stromness in Mainland Orkney	6
<b>Figure 1.2.</b> View of Stromness in Mainland Orkney	6
<b>Figure 1.3.</b> Structure of the Thesis	10
<b>Figure 2.1.</b> Categories of Circular Models and the Value Hill	22
<b>Figure 2.2.</b> Butterfly Diagram of the Circular Economy	23
<b>Figure 2.3.</b> Conceptual Framework: Overview	85
<b>Figure 3.1.</b> Structure of the Methodology Chapter	90
<b>Figure 3.2.</b> Ontological Positions in Research	93
<b>Figure 3.3.</b> Four Research Paradigm Model	98
<b>Figure 3.4.</b> Overview of the Inductive Research Process	101
<b>Figure 3.5.</b> Embedded Case Study Applied in the Orkney Islands	106
<b>Figure 3.6.</b> Thematic Analysis Stages	120
<b>Figure 3.7.</b> Thematic Analysis: Themes Construction Process	123
<b>Figure 3.8.</b> Quality Principles and Criteria in Qualitative Research	125
<b>Figure 3.9.</b> Reflexivity in Data Analysis	129
<b>Figure 4.1.</b> Map of the Orkney Islands	135
<b>Figure 4.2.</b> Linked and Non-Linked Orkney Islands	136
<b>Figure 6.1.</b> Conceptual Framework: Drivers Section	221
<b>Figure 6.2.</b> Conceptual Framework: Barriers Section	242
<b>Figure 6.3.</b> Conceptual Framework: Enablers Section	255
<b>Figure 6.4.</b> Overview of Revised Conceptual Framework	262
<b>Figure 6.5.</b> Focus of Revised Conceptual Framework	265
<b>Figure 9.1.</b> Focus: Conceptual Framework of Drivers	307
<b>Figure 9.2.</b> Focus: Conceptual Framework of Barriers and Enablers	308

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# **Chapter 1 – Introduction**

## **1.1. Introduction**

This study investigates the drivers, enablers and barriers to a circular economy (CE) faced by the tourism sector in small island destinations (SIDs). The investigation is conducted following a case study approach with the Orkney Islands (OI), in Scotland, as the selected island destination. The focus of the study emerged from a significant gap identified in the current literature on the future tourism development of SIDs. There is a tendency in the CE literature to focus on large urban areas, leaving unexplored island territories – and these, due to their often-unique features, call for tailored planning approaches.

In this chapter, the PhD study is introduced. This is done by first outlining the problem and the gap that this study seeks to address. The problem statement is followed by a brief description of the contribution that the study is intended to make, both at the practical and theoretical levels. Furthermore, the researcher presents the study's aim, objectives and research questions, and concludes by summarising the methodology and the structure of the thesis.

## **1.2. Problem Statement**

The growing concern about the future of our planet calls for a fundamental transformation in the way we produce and consume products and services (Steffen et al., 2007; Galaz et al., 2008; Homrich et al., 2018). Despite policy efforts and agreements, such as The Paris Agreement (United Nations, 2015), scientific monitoring indicates that our economic system is still largely unsustainable (Howes et al., 2017), and the tourism sector inevitably contributes to these global concerns. In fact, tourism activities, while generating economic benefits for destinations (Hall, 2007; Harrison & Shipani, 2008), are often the source of dramatic environmental and social negative impacts on the host communities and ecosystems (Hall & Lew, 2009). This polarity has positioned the tourism sector in the spotlight of criticisms about the

extent to which its positive impacts counterbalance the negative and led to the rise of alternative forms of tourism, such as ecotourism (e.g., Fennel, 2003), community-based tourism (e.g., Blackstock, 2005) and slow tourism (Oh et al., 2016), which promote small-scale over mass tourism as well as more responsible behaviours – from the destination’s service providers and tourists – in the management and use of natural, economic and socio-cultural resources.

These alternative forms of tourism have certainly demonstrated the ability of the sector to minimise its negative impacts while still contributing to local economies. Yet, more can and needs to be done to further innovate the tourism sector for its long-lasting viability, to further contribute to global sustainable development efforts and to adapt to current and future social and environmental uncertainties. Innovation in tourism can benefit from emerging sustainability approaches, current digital and technological developments, and increasing public awareness of global climate issues (e.g., Juvan & Dolnicar, 2016; Gonçalves et al., 2022).

On this line, scholars are calling for ways to re-conceptualise tourism sustainability (e.g., Farrell & Twining-Ward, 2004; Dwyer, 2018) with tourism experts advocating the need for a radical shift of the current tourism paradigm that would reconsider the meaning of growth and decouple tourism activities from the degradation of resources – especially natural ones – while holding on the socio-cultural and economic benefits that the sector has and can continue to generate (e.g., Girard & Nocca, 2017; Manniche et al., 2018). The call for a paradigm shift in tourism became increasingly justified by the COVID-19 pandemic. In fact, the pandemic has shed light on the low resilience of the tourism sector and the urgent need for future-proofing destinations (e.g., Traskevich & Fontanari, 2021).

In this study, CE is seen as a promising mitigating solution to the negative issues associated with tourism and as a booster to the sector’s contribution to society and the natural environment. The CE, although not a new concept, is increasingly applied across industries and strongly advocated as a response to the global sustainability challenges, better resource valorisation and more inclusive distribution of the socio-economic benefits of our economic activities (Stahel, 2019). In tourism-centred discussions, the transition to a CE is seen as unavoidable (e.g., Vargas-Sánchez, 2018), but research intersecting the CE and the tourism sector is still in its infancy, leaving

many queries unanswered. Moreover, the CE literature tends to develop around circular (Bonato & Orsini, 2017) and smart cities contributions (Taewoo & Pardo, 2011), which shed light only to a certain extent on how a CE may be applied to tourism of large urban areas. Nonetheless, these contributions do not provide the necessary broad picture that tourism requires in planning for a CE in other destination typologies.

Understanding the broader picture is necessary as often the CE demands a fundamental shift in how businesses create, provide and acquire value from their operations (Lewandowski, 2016) – and such a transition may be challenging (Ormazabal et al., 2018). Existing literature delivers an intense conceptual and empirical understanding of critical challenges that may be faced by businesses towards a CE (Galvão et al., 2018). Yet, while the literature also emphasises the context-based nature of these challenges (Tapia et al., 2019), limited is the contribution that conceptualises the links between a CE and the territorial context where it unfolds. This leaves a significant knowledge gap on how a CE may translate differently across contexts and the drivers causing such variations.

In tourism, this is particularly noteworthy for small island destinations (SIDs). In SIDs, not only are the impacts and benefits of tourism activities often amplified (e.g., Sharpley, 2009; Seetanah, 2011; Luchman et al., 2011) but islands are also considered territories with specific features (Monfort, 2009) that require tailored planning strategies (Moncada et al., 2010), including tourism (McLeod et al., 2018). These specific features of islands have often been conceptualised as being the result of their islandness. In particular, Fernandes and Pinho (2017) see islandness as being generated by four spatial-geographical factors characterising all small islands: a) smallness or the small scale of island territories; a) boundedness or the existence of spatial frontiers; c) isolation or the degree and nature of contact with the outside world; and d) the spatial fragmentation or the geographical discontinuity of the island settings.

In fact, sustainability in SIDs is often challenged or facilitated by factors that are rooted in the islands' territorial characteristics. For instance, their small size, high degrees of isolation, scarce natural resources and narrow economy and skillsets are often accountable for the sustainability challenges faced by SIDs (Sheldon, 2005); while other factors, such as the strong social capital of island communities, tend to

facilitate their sustainable lifestyles (Petzold, 2018). Consequently – and in the light of an urgent need to adopt CE solutions –, there is a necessity for improving the sustainability of island tourism in a way that capitalises on the local island strengths and identifies and mitigates the local weaknesses. From the broader CE perspective, the specific characteristics of SIDs make them ideal case studies to further develop our understanding of the adoption of the CE in specific contexts as well as of the challenges and enablers that businesses experience.

Thus, the problem is twofold: in broader terms, more clarity is needed in the ways a CE is developing and being conceptualised in the tourism sector; and in narrower terms – upon learning from the rapidly advancing knowledge on the CE –, there is a need to capture how the CE and tourism are intersecting in specific contexts for which SIDs represent a priority focus. Moreover, and as mentioned above, businesses may face challenges, but even enablers, to the adoption of circular solutions. Therefore, this intersection needs to be explored focusing on the drivers, barriers and enablers that are faced by tourism enterprises, and if – and how – these are rooted in their island context.

The added value of the study lies in an understanding of, if and how contextual issues of small islands influence the limiting and enabling factors to a CE in tourism and SIDs. This approach shifts existing discussions on CE in tourism from a standardised to a place-aware focus.

### **1.3. Case Study Selection**

In this study, the researcher opted for a case study approach embedded within the context of Scotland, which represents a relevant national effort to a CE transition as shown by the CE strategy published in 2016, “Making Things Last: a circular economy strategy for Scotland” (Scottish Government, 2016). The strategy has marked the country’s first significant step toward a CE and stimulated the emergence of CE initiatives both in Scottish cities (e.g., Circular Glasgow) and SIDs (e.g., Arran, Orkney), placing Scotland at the forefront of the CE transition within the European context and beyond.



A variety of islands worldwide is adopting CE strategies, especially in the European context, where an increasing number of projects, such as the EU Interreg projects Blue Island (Blue Islands, 2020) and InCircle (2020), seek to promote island's sustainability by capitalising on their strengths. In this light, several SIDs were initially considered for their potential inclusion in the study. Yet, after careful desk research and considerations, the OI in Scotland were selected over other SIDs. This was mainly because the OI, in addition to being SIDs with innovative centres for renewable energy (Orkney Renewable Energy Forum, 2022) appeared to be also actively seeking the implementation of CE initiatives from a variety of perspectives (such as food waste) and, therefore, have provided the researcher with the opportunity to explore drivers, enablers and barriers in a timely relevant manner.

An initial number of informal meetings were conducted by the researcher to gain a preliminary understanding of the considered SIDs, and the OI appeared to retain the potential of lending themselves for the exploration of the transition to a CE. It must be said that the OI represent an active tourism destination characterised by seasonal peaks and cruise tourism. The wide range of service providers throughout the archipelago allowed the involvement of a variety of stakeholders in the study. The OI are briefly introduced in the following section.

### **1.3.1. The Orkney Islands**

The Orkney Islands (OI) are situated in the northeast of Scotland. The region is formed by more than 70 islands and islets and most of the inhabitants live in the towns of Kirkwall and Stromness. In 2019, the population of the OI was 22.270 (Highlights and Islands Enterprise, 2019) and it is a region that attracts a significant number of tourists given its natural and cultural heritage.

The OI are subdivided into linked and non-linked islands. The former refers to Mainland Orkney (the core island of the region) and all other islands that are connected to Mainland Orkney with bridges. The latter refers to all other islands of the region that are, instead, not connected (The Orkney Partnership, 2018).



**Figure 1.1.** View from Stromness in Mainland Orkney

Source: Author's owned (2020)



**Figure 1.2.** View of Stromness in Mainland Orkney

Source: Author's owned (2020)

Tourism is a key economic sector in the OI which has contributed, only in 2019, to £67.1m spending in the region. The sector is for around 90% formed by small-scale tourism businesses (University of Strathclyde, 2020). Several pressures are faced by the OI, including environmental pressures on wildlife, and pressures related to erosion and waste generation (Blumenröder et al., 2017; Buckingham et al., 2020; Orkney Islands Council, 2022). These and other pressures are often directly linked to tourism activities and in other cases, the tourism sector tends to enhance them indirectly (Energy of Orkney, 2017; Orkney Islands Council, 2022).

There are growing discussions in the region on the role that the CE can play in minimising pressures – including tourism-related - in the region (Energy of Orkney, 2017). The CE can also allow the tourism sector to become more environmentally, economically and socially sustainable for the region. Efforts to promote a more sustainable tourism sector reflect in the most recent tourism strategy for the region that emphasises the role of tourism in improving economic prosperity, conserving the natural and cultural heritage as well as sustainably managing visitors' numbers (Orkney Tourism Strategy 2020-2025, 2020).

#### **1.4. Thesis Aim, Objectives and Research Questions**

Drawing from this discussion and focusing on the case of OI, Scotland, this study aims to provide an account of the drivers, barriers, and enablers to a CE in SIDs, and to examine if and how these are rooted in islandness.

A key research question and three research sub-questions underpin the study.

##### Key research question:

What are the drivers, barriers and enablers of the circular economy in the tourism sector of the Orkney Islands?

- 1) What drives the implementation of a circular economy in the Orkney Islands' tourism sector?
- 2) What are the barriers and enablers to the adoption of a circular economy in the Orkney Islands' tourism sector?
- 3) How does islandness affect the adoption of a circular economy in the Orkney Islands' tourism sector?

To address these questions, there are four study objectives.

- 1) To conduct a literature review surrounding the topics of circular economy, circular business models, islandness, and their significance for tourism in SIDs.
- 2) To develop a conceptual framework for the study articulating the drivers, barriers, and enablers of a circular economy in small island destinations within the context of islandness.
- 3) To explore with a range of local stakeholders their perceptions of drivers, barriers, and enablers in the application of circular business models in the Orkney Islands' tourism sector.
- 4) To contribute to the theoretical development of circular economy, islands, and circular tourism literature.

Therefore, the intended contribution of the study is to narrow down the theoretical gap currently existing between the CE in tourism destinations and specifically on SIDs and to inform more place-aware planning and implementation of CE solutions of tourism in small islands. The next section summarises the methodology.

## **1.5. Methodology**

The study is rooted in the researcher's bounded relativist ontological, subjectivist epistemological position and inductive, qualitative methods, namely semi-structured interviews and documentary analysis. The researcher as he adheres to bounded relativism, a specific relativist position that posits while different realities exist, shared

realities can also exist within specific social contexts, and these shared realities can be uncovered through the identification of shared and predominant themes. As an islander, the researcher has experienced and believes in the existence of a shared reality within a small island system and that cannot be ruled out due to the geographical features that characterise small islands and to which the islander is always subject.

Fifteen (15) semi-structured interviews were conducted with regional stakeholders that were considered relevant for the study based on their current involvement in the CE transition of the regional tourism sector in the OI. The study involved stakeholders from the public, private and civil society sectors. Data collection and analysis activities were conducted between October 2020 and November 2021, and, due to the COVID-19 pandemic, they took place remotely.

The researcher adapted to the unpredictable situation and relied on technology to carry out the interviews. Embedded in an interpretive research paradigm, qualitative data were processed using thematic analysis through a non-linear interpretive process to ultimately identify shared themes. The following section provides a short researcher's reflexive note on the selected research topic.

## **1.6. The Researcher**

My motivation to embark on this research project emerged from my personal and professional experience. As an islander, I have always been attentive to the islands' environmental, social-cultural and economic conditions. Moreover, by growing up in a tourist destination – the east coast of Sicily - I have also developed a strong interest in the tourism sector, and its positive and negative impacts on coastal and island communities. This background led me to undertake studies and a career in tourism. In particular, my professional activities in Myanmar, focusing on rural as well as island areas, have strengthened my understanding of peripheral and island tourism whilst developing a growing interest in how a CE can contribute to sustainability when applied to tourism operations. I was inspired by technological and digital developments applied to enhance sustainability, but also by forms of “traditional” circularity of more rural communities. Thus, as a researcher, I become interested to

investigate the intersection of CE, tourism and islands and how circular solutions may be enhanced, facilitated and/or challenged by island territorial conditions.

## 1.7. Structure of the Thesis

The thesis is composed of seven chapters. Figure 1.3. provides a summary breakdown of each of them.

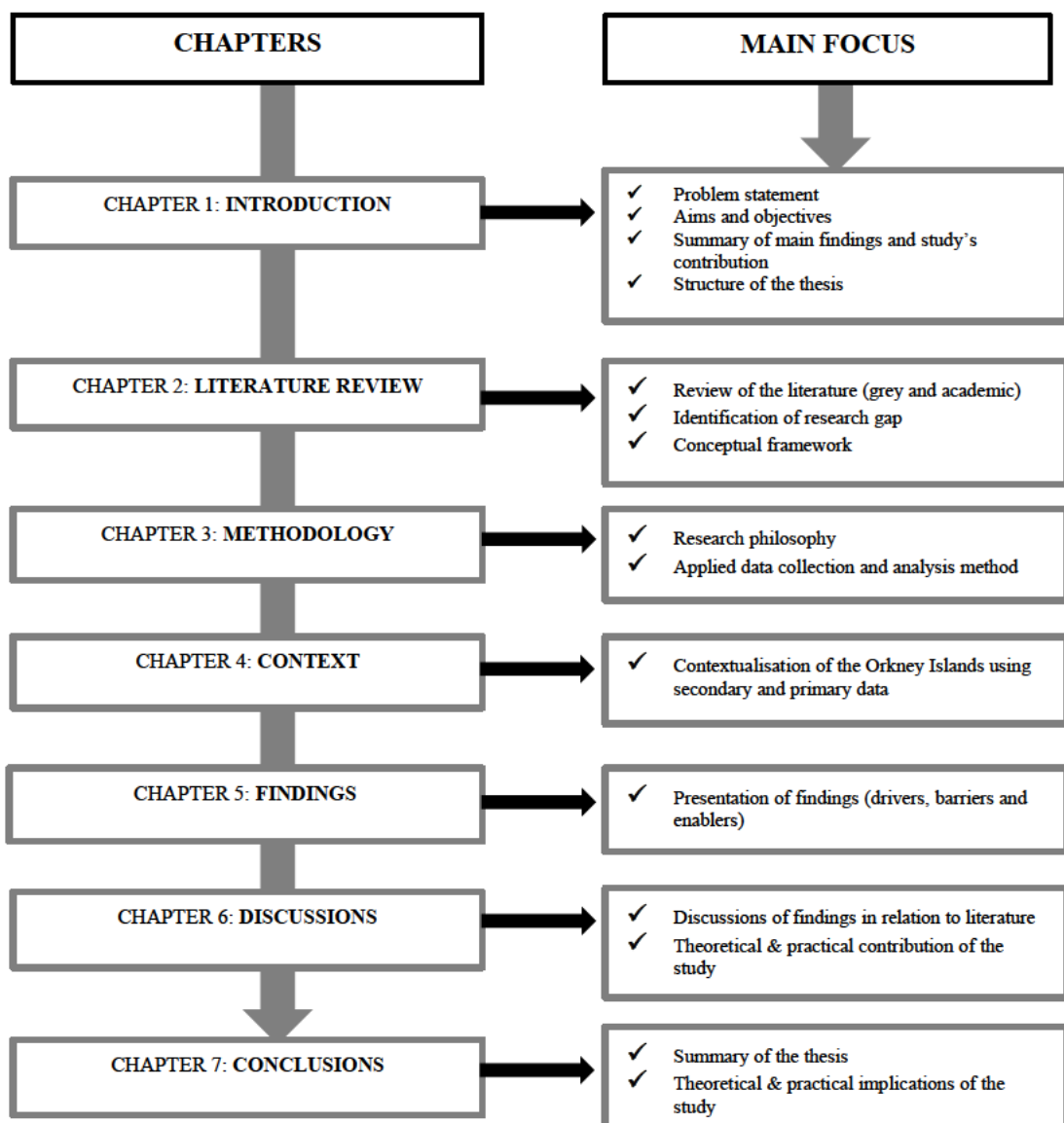


Figure 1.3. Structure of the Thesis

Following Chapter 1, in Chapter 2, the researcher reviews the literature to identify the research gap and build the conceptual framework of the study. In Chapter 3, the methodology is detailed. The chapter starts by describing the philosophical position of the researcher and then moves to the applied data collection and analysis techniques. Drawing from the qualitative research approach – which recognises the importance of the thick description in the study –, Chapter 4 contextualises the study by describing the OI using secondary and primary data. Chapter 4, therefore, details the OI's islandness and other characteristics that are relevant for the reader ahead of the findings and discussions.

Chapter 5 focuses on presenting the findings of the research. These are presented in the form of themes that have emerged from the interviews and documentary analysis. In Chapter 6, the findings are discussed in relation to the relevant literature. It is in this chapter that the contribution of the study is detailed and shared with the reader. The last chapter, Chapter 7, concludes by summarising the thesis and communicating the theoretical implications of the findings discussed in Chapter 6.

## **Chapter 2 - Literature Review**

### **2.1. Introduction**

Chapter 2 reviews the literature underpinning the study. This is a critical discussion building upon academic and non-academic literature and the stated problem in Chapter 1. Chapter 2 constructs a rationale for the study, supported by the identified knowledge gaps and presents interconnected topics providing a critical conceptual and empirical view of the CE in SIDs, along with the drivers, barriers and enablers faced by tourism businesses in these contexts.

In Part 1, the CE is introduced as a new sustainability paradigm. Part 2 seeks to intersect the CE and tourism, and Part 3 justifies the need to prioritise SIDs. Part 4 examines the drivers, barriers and enablers of a CE from empirical sources and analyses current CE initiatives in small islands and SIDs. Part 5 provides an overview of the OI and introduces the CE in their context, justifying their selection as a case study. Finally, Part 6 discusses the knowledge gap and presents the study's conceptual framework.

### **2.2. Part 1 - Circular Economy**

Part 1 of Chapter 2 introduces the CE. Firstly, the CE is defined and the transition from linearity to circularity is theoretically discussed and placed within the broader discussions of sustainable development. Secondly, the review focuses on the evolution of the CE and the typologies of circular business models. The review concludes by critically looking at the role of the CE on sustainable development – with attached criticisms – along with studies discussing the drivers, barriers and enablers of a CE.

#### **2.2.1. Defining the Circular Economy**

In recent years, the CE has received increasing attention, and several definitions have been developed. The Ellen MacArthur Foundation (2017) defines the CE as “an



economy based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems”. In similar terms, Geng and Doberstein (2018) describe the CE as the realisation of a closed loop of the material flows in the whole economic system. The key goal of the CE is to minimise waste across the supply chain – from production to consumption processes – by creating a circular flow of materials. Yet, the literature goes beyond such a concise – although clear – description of the CE by providing additional defining elements. To this extent, Kirchherr et al. (2017), after analysing 114 definitions of the CE, propose the following definition:

a circular economy is an economic system that replaces the end-of-life concept with reducing, reusing, recycling, and recovering materials in the production, distribution and consumption processes. It operates at macro, meso, and micro levels with the aim of accomplishing sustainable development. It is enabled by novel business models and responsible consumers. (pp. 224-225)

This definition clarifies the role of the CE within the framework of sustainable development, whereby not only the environmental dimension is considered, but also the social-cultural and economic ones. Therefore, Kirchherr et al. (2017), find it pertinent to note that a transition towards a CE must occur at the different and harmoniously interconnected geographical and institutional levels. They also clarify that the transition must occur not only at the industry but also at the consumer level. Another comprehensive contribution by Korhonen et al. (2018) reinforces the above definitions by stating that the CE is:

an economy constructed from societal production-consumption systems that maximize the service produced from the linear nature-society-nature material and energy throughout the flow. This is done by using cyclical materials flows, renewable energies sources and cascading-type energy flows [...] and successful circular economy attributes to all three dimensions of sustainable development. Circular economy limits the throughout flow to a level nature tolerates and utilizes ecosystems cycles in economic cycles by respecting their natural reproduction rates. (p. 39)

The definition of Korhonen et al. (2018) – along with the other discussed contributions – provides shared elements that depict the CE as a multi-level and systemic paradigm shift towards a more sustainable society. Nevertheless, it is only when we combine the key elements from the different definitions that we can obtain a holistic and

operational working definition of the CE. This is because all definitions provide important elements that should be combined into a more comprehensive definition of a CE. A CE is characterised by circular business models embracing the industry and the consumers; therefore, the CE should consider shaping production and consumption patterns.

Furthermore, both the biological and technical resources spheres are included in CE strategies to embrace all forms of resources in circular processes. Moreover, a CE is operationalised by the cooperation among micro, meso and macro institutions and organisations to support a CE that contributes to the social and economic, in addition to environmental sustainability.

For this study – and drawing from the discussion above – a working definition of the CE is proposed that considers all key elements discussed above.

A circular economy is:

an economic system that designs out waste and pollution in the biological and technical resource spheres, contributing to environmental, social and economic sustainability. It functions at the macro, meso and micro levels and across the production, distribution and consumption processes and it is enabled by business models that replace the end-of-life concept with prioritised strategies promoting resource cycles (e.g., reducing, reusing) and natural system regeneration. (Author)

It is important to note that the circular practices, while historically present in society from an industrial perspective, have only evolved in recent decades through the intersection of various schools of thought. The evolution of the CE is discussed in the following section to provide a brief picture of its historical and evolutionary perspective.

### **2.2.2. Evolution of the Circular Economy**

A circular society has been present throughout the history of mankind mainly because of resources scarcity and the need to make their best use (Stahel, 2019). Yet, nowadays the CE is needed in a society of abundance as a last resort solution to overcome

devastating waste problems and where the CE is perceived as the most desirable and sustainable option (ibidem).

Several scholars (e.g., Andersen, 2007; Su et al., 2013) posit that the term circular economy was first coined by Pearce and Turner (1990) while investigating the linear to open-ended characteristics of the contemporary economic system. Yet, their work was largely influenced by an earlier work by Boulding (1966) titled “The Economics of the Coming Spaceship Earth” describing the Earth as a closed and circular system with a limited assimilative capacity. Stahel and Reday (1977) followed Boulding (1966) by providing an early conceptualisation of a loop economy to describe industrial strategies aimed at waste prevention, resource efficiency and dematerialising solutions. Nevertheless, it remains difficult to trace back the CE to a single origin. In fact, it is believed that, instead, a combination of schools of thought has constructed the CE concept (Ellen MacArthur Foundation, 2017a).

These include Cradle-to-Cradle, holding the idea of a continuous flow of materials inspired by nature cycles (McDonough & Braungart, 2002); Performance Economy, suggesting selling services rather than products (Reday-Mulvey & Stahel, 1981); Biomimicry, imitating forms, process and systems of nature to create a more sustainable economy (Benyus, 2002); and Industrial Ecology, promoting a closed-loop economy by creating a connection between operators within the industrial system (Chertow, 2000).

Appendix 1 provides a more detailed view of the different schools of thought of the CE. Perhaps, considering these contributions, the CE can be considered as a framework and a generic notion that draws upon several and more specific approaches sharing a basic set of principles. After defining the CE, it is essential to clarify what a transition from a linear to a CE entails.

### **2.2.3. From a Linear to a Circular Economy**

The core principle of the CE lies in the shift from a linear to circular management of resources (Sariatli, 2017). A linear economy or the take-use-dispose approach to the

management of resources in the economic system (Sung & Dao, 2021) differs from a CE that seeks to close the resource flows by maximising their value (Velenturf & Purnel, 2021). As Suarez-Eiroa et al. (2018) argue, when production and consumption remained within the tolerable capacity of the biosphere, the linear economy was still acceptable. However, with production and consumption activities growing dramatically since the last century (Joy, 2021) the need for more innovative sustainability approaches became unavoidable. These innovative approaches should reduce the economic system’s size to a suitable portion where economic activities can again be tolerated by the biosphere to ensure ecological health and social well-being (Suarez-Eiroa et al., 2018; Compagnucci et al., 2021).

The CE, as articulated by Suarez-Eiroa et al. (2018), is driven by three principles: a) reduction of material inputs in the economic system; b) retention and enhanced value of resources; and c) promotion of re-circulation of materials. Thus, the key aim of a CE is to reduce the input of resources into the economic systems, a process that is supported by business models that optimise and re-circulate the resources in the system (Suarez-Eiroa et al., 2018) in a financially and environmentally feasible way (Bocken & Ritala, 2021). In the view of Ghisellini et al. (2016), while the CE principles outlined by Suarez-Eiroa et al. (2018) are the engine for a CE, their operationalisation requires a multi-level and interrelated effort (Ghisellini et al., 2016), during which the CE becomes a product of an integrative approach that merges bottom-up and top-down initiatives through collaborative and participative operations (Dyer et al., 2021). It is beneficial to summarise in Table 2.1. the linear and the circular economy to better capture the differences between the two paradigms.

**Table 2.1.** The Difference Between a Linear and a Circular Economy

	<b>Linear</b>	<b>Circular</b>
<b>Step plan</b>	Take-make-dispose	Reduce – reuse – recycle
<b>Focus</b>	Eco-efficiency	Eco-effectivity
<b>System boundaries</b>	Short term, from purchase to sales	Long term, multiple life cycles

**Source:** Ellen MacArthur Foundation (2012); Geissdoerfer et al. (2017); Galvão et al. (2018); Stehel (2019)

As shown in Table 2.1., the CE seeks to apply a circular step plan – in contrast to the linear step plan – to minimise resource leakages in production and consumption processes. Moreover, the linear economy, in its most sustainable form, follows eco-efficient techniques that seek to only minimise the volume, velocity and toxicity of the material flow system but that are incapable of altering its linear progression (Braungart et al., 2007). Acting with this focus, some materials are recycled, but often as an end-of-life solution, since they are not designed to be upcycled (Braungart et al., 2007; Ellen MacArthur Foundation, 2012; Geng & Herstatt, 2014). Instead of true recycling, this process is downcycling, a downgrade in material quality that limits their usability and maintains the linear dynamics of the material flow (Zhao et al., 2021).

By contrast, eco-effectiveness proposes the transformation of products and their associated material flows so that they form a supportive relationship with ecological systems and future economic growth (de Souza et al., 2021). Here the goal is not to minimise the cradle-to-grave flow of materials, but to generate cyclical, cradle-to-cradle resource metabolisms that enable materials to maintain their status as resources and accumulate intelligence over time through what is usually defined as upcycling (Braungart et al., 2007; Ellen MacArthur Foundation, 2012; Gang & Herstatt, 2014). This generates synergetic relationships between ecological and economic systems.

In other words, while eco-efficient strategies of the linear economy minimise impacts from the same output, the eco-effectiveness of a CE seeks to generate positive ecological, social and economic impacts (Hetgroenebrein, 2020). In fact, as Mylan et al. (2016) remind us, eco-effectiveness reflects the idea of a “potentially infinite contribution of materials to the generation of value, to be harnessed rather than minimised” (p. 2) and that eco-effectiveness takes “account of the social value of consumption” (p. 1). Yet, to reach eco-effectiveness, residual flows must be reused for a purpose that is the same (functional cycling) or higher (upcycling) than the original function, retaining or increasing the environmental, social and economic value of the material (Hetgroenebrein, 2020; Mies & Gold, 2021).

Braungart et al. (2007) articulate that the shift from efficiency to effectiveness necessitates a fundamental redesign of products and of the system of industrial

material flows within which they circulate. This redesign needs frameworks that put into practice the right technologies, where needed, and strategies (Braungart et al., 2007). For Niero and Rivera (2018), the fundamental redesign suggested by Braungart et al. (2007) needs the adoption of guiding principles that are detailed in Appendix 2. These principles suggest a system approach – as also supported by Balanay and Halog (2021) – as a key driver to innovation and to activate synergies among actors for the flow of intangible and tangible resources for a CE. Moreover, for Niero and Rivera (2018), value optimisation lies at the core of a CE when novel opportunities are created to minimise and optimise the use of resources (Hadi et al., 2021). Additionally, stewardship and transparency are key to collaboration, innovation and, ultimately, to a more efficient transition towards a CE (Niero & Rivera, 2018). While discussing the CE principles, Niero and Rivera (2018) certainly emphasise that a transition towards a CE is not a solo effort, but a collective function that needs effective coordination among actors.

From the above discussion, it becomes apparent that the CE entails a radical shift in the ways resources are managed, and that scholars have brought forward fundamental arguments on how a CE system functions and have identified its core principles. Yet, as mentioned in previous sections, circular business models are needed to operationalise the CE at the business level, and these are discussed in the following section.

#### **2.2.4. Circular Economy Business Models**

Several scholars have conceptualised circular business models. Schulte (2013) provides a fundamental overview of the circular business models' basic principles as detailed in Table 2.2. The first principle of a circular business model is waste minimisation. Secondly, circular business models build upon stakeholders' interactions (Schulte, 2013) or a systemic approach (Senaratne et al., 2021). Thirdly, circular business models are supported by flexible product design that promotes its reusing, recycling, or re-processing (Schulte, 2013; de Kwant et al.; 2021). Moreover, Schulte (2013) articulates that the central principle is the ultimate reduction of resource exploitation.

**Table 2.2.** Principles of Circular Business Models

<b>Principles of CBMs</b>	<b>Description</b>
Minimise waste	By selecting adequate material, design for disassembly to facilitate recycling; promote standardisation of solutions.
Understand total ecosystem of a business	Higher transparency and interactions between the various phases of product life cycles; promote better collection and cycling systems.
Maximise flexibility through design	Ease to repair without making the product obsolete.
Use renewable energy	Reduce wasteful exploitation of resources.
Maximise energy efficiency	By minimising total energy context of products and services.

**Source:** Schulte (2013)

By building upon Stahel (2008)'s work on performance economy, Bocken et al. (2016) provide a valuable and compacted conceptualisation of circular business models. They categorise circular business models into three major functional categories: a) slowing, b) closing and c) narrowing the resource flows. Bocken et al. (2016) indicate that resource flows are slowed by designing strategies that extend the utilisation of products, such as design for long life, improved user-product attachment, design for reliability, durability and for easy maintenance and repair (Jørgensen et al., 2018). Moreover, Bocken et al. (2016) argue that resource flows are closed – or loops created – by opting for solutions that endorse the continuous cycle of materials, including upcycling – in contrast to downcycling, which only delays the traditional linear flow of resources throughout the system (Bocken et al., 2016; Antonini & Scolaro, 2019) – and through biological cycles including biodegradability (Bocken et al., 2016). Yet, resource flows can also be closed through industrial symbiosis, occurring when residuals of one process acquire value in another process (de Abreu & Ceglia, 2018). Bocken et al. (2016) further indicate that resource flows can be narrowed by using fewer resources per product.

Geissdoerfer et al. (2018), by building upon the circular business models conceptualisation of Bocken et al. (2016), add two additional dimensions: intensifying the loop, which stresses the intensified use of products in CE mechanisms; and the dematerialisation dimension of circular business models, when products and services are dematerialised and, therefore, drastically decreasing the production process and resource flows within the system (Geissdoerfer et al., 2018).

Clearly, the slowing, closing, narrowing, intensifying and dematerialising the resource flows discussed by Bocken et al. (2016) and Geissdoerfer et al. (2018) agree with all the points articulated Bocken et al. (2014). However, although there is a tendency to segregate the functional purpose of circular business models into different categories, it must be noted that the ultimate drivers of these categories within a CE are interconnected and overlapping. In fact, while, for instance, strategies aiming at slowing the resource flows may have the primary effect of slowing down the resource flows, ultimately, they will also contribute to narrowing the resource input by leading to a decrease in demand for new resources. Therefore, while the literature helps to conceptualise and create categories of circular business models that are analytically valuable, this segregation is less clear.

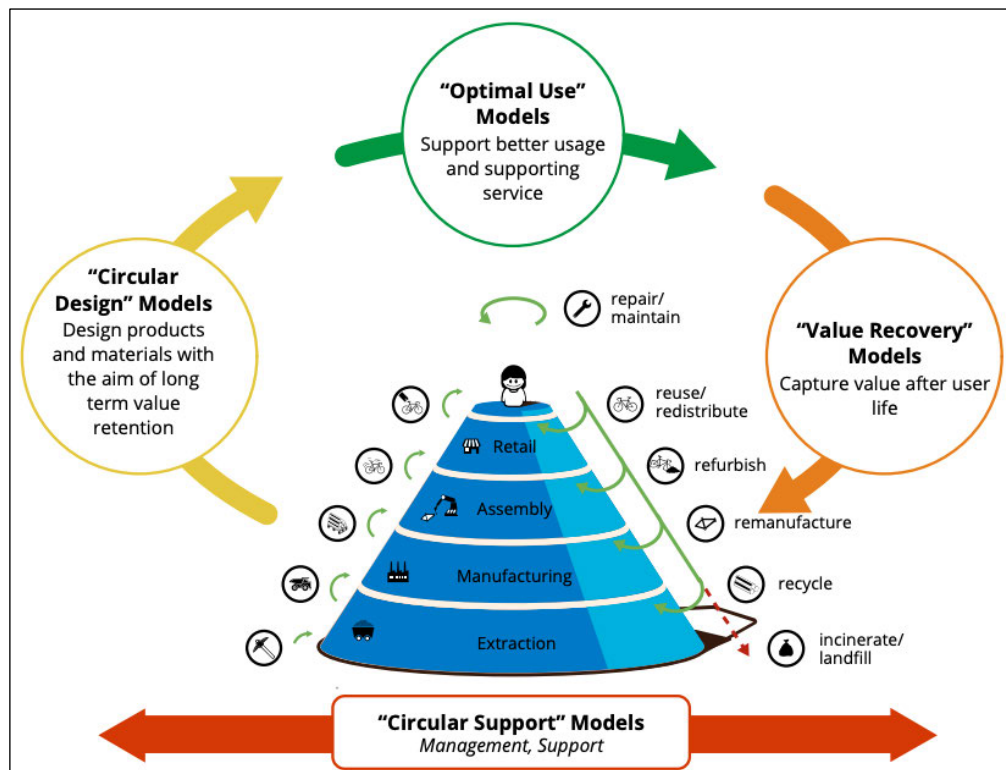
The Ellen MacArthur Foundation (2013), Accenture (2014) and Achterberg et al. (2016) provide a conceptual answer that clarifies the typologies of circular business models or circular practices. In fact, while Bocken et al. (2016) and Geissdoerfer et al. (2018) propose a classification of circular business models from the perspective of their final purpose (e.g., for slowing, closing, etc.), other scholars and organisations (e.g., Ellen MacArthur Foundation, 2013; Accenture, 2014; Achterberg et al., 2016) developed a detailed overview of circular business models and the broad range of circular solutions that should be applied by businesses.

To this extent, Accenture (2014) proposes five circular business models that businesses can adopt when seeking to slow, narrow, close, intensify and/or dematerialise resource flows (Bocken et al., 2016; Geissdoerfer et al., 2018).



- 1) Circular Supplies Business Models that businesses apply by providing and/or purchasing materials that are fully renewable, bio-based, and recyclable to replace single lifecycle inputs (Accenture, 2014).
- 2) Product Life Extension Business Models that businesses apply when seeking to extend the working lifecycle of products and components by repairing, upgrading and reselling (Accenture, 2014).
- 3) Sharing Platforms Business Models that businesses apply when seeking to enable the increased utilisation rate of products by making possible and/or taking part in shared use/access/ownership of these products (Accenture, 2014).
- 4) Product as a Service Business Models that businesses apply when seeking to offer access to products and retain ownership to internalise the benefits of circular resource productivity.
- 5) Resource Recovery Business Models that businesses apply when seeking to recover useful resources/energy out of by-products (Accenture, 2014).

Complementing the work of Accenture (2014), Achterberg et al. (2016) classify circular business models based on the stage/phase of the product/service lifecycle in which they can be implemented and on the value that the model creates/retains within a CE framework. In this respect, Achterberg et al. (2016) articulate circular business models in the Value Hill model as illustrated in Figure 2.1. The Value Hill could be considered as the model that ties everything together, and it represents a valuable analytical framework adaptable to various circumstances by clearly clarifying the stage during which certain circular business models may be applied over others.



**Figure 2.1.** Categories of Circular Models and the Value Hill

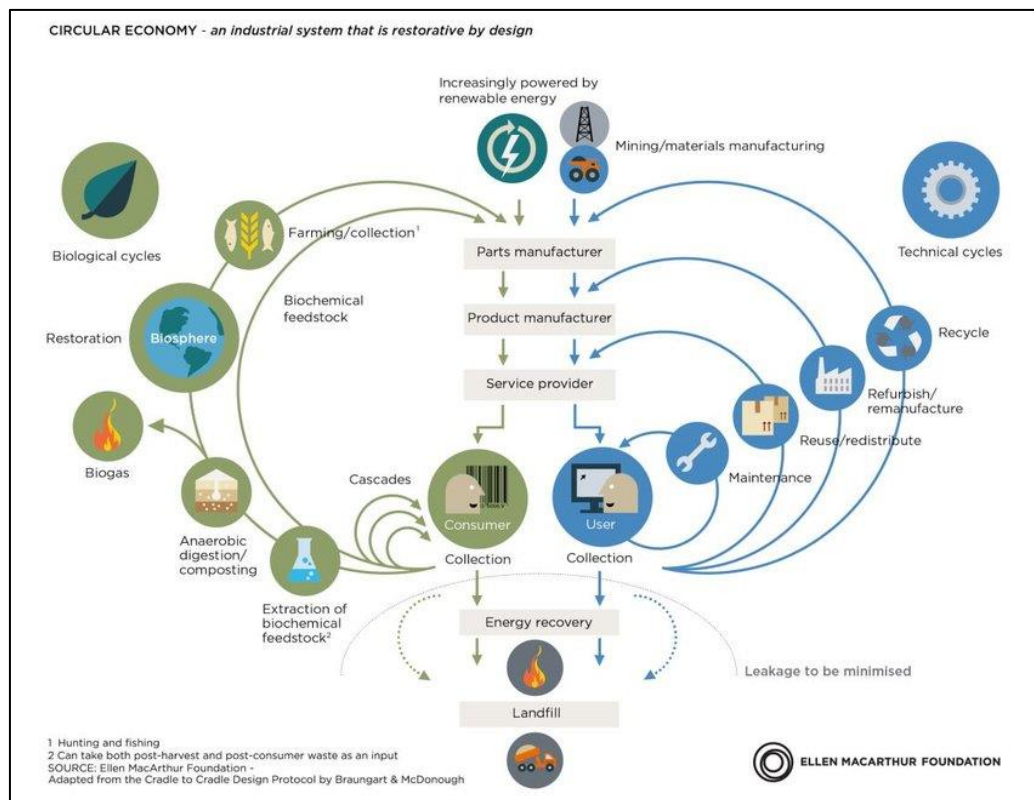
**Source:** Achterberg et al. (2014)

Circular Design Models are applied in the pre-use stage – the design and production phase of a product – and seek to organise an extended life of the product when entering the use phase (Achterberg et al., 2016; Charter, 2018) and to prioritise less resource-intensive production processes that re-use existing products, components and materials recovered from earlier stages (Achterberg et al., 2016). Optimal Use Models – applied in the use phase of a product – seek to promote more intensive and effective use of resources through practices such as product-as-a-service, life extension, sharing platform, repair and maintenance (Achterberg et al., 2016; Alamerew et al., 2019). Value Recovery Models are applied in the post-use phase of a product to capture value from the product/material after its use maintenance (Achterberg et al., 2016; Ranta et al., 2018).

The Value Hill clearly illustrates the level of circularity of the different practices. For instance, reuse is prioritised by being positioned in the higher level of the Value Hill, as it helps to retain higher value from the used product compared to recycling,

positioned in a lower level of the Value Hill (Zacho et al., 2018). Moreover, Achterberg et al. (2016) classify an additional category of circular business models, the circular support models. These models are needed to engage in the management and coordination of circular value networks. This entails the coordination and management of resource flow as well as other supporting activities in a circular network (Achterberg et al., 2016) in line with the system principles of circular business models emphasised earlier by Schulte (2013). Appendix 3 illustrates examples of circular business models in line with the Value Hill of Achterberg et al. (2016).

A similar conceptual depiction of how circular business models concretise is provided by the Ellen MacArthur Foundation (2013) through the Circular Economy Butterfly Diagram (Figure 2.2.). The diagram has conquered academic and practitioners' attention and complements the Value Hill of Achterberg et al. (2016) by clarifying the two different resource flows: biological and technical.



**Figure 2.2.** Butterfly Diagram of the Circular Economy

Source: Ellen MacArthur Foundation (2013)

The model depicts the circularity levels with the smaller circles representing higher circularity – which, similarly to the Value Hill, refer to solutions that help capture higher value from circular practices. Yet, the added value of this model to the above discussions is that it clearly distinguishes the technical from the biological cycles of materials. Nevertheless, the Butterfly Diagram lacks a clear illustration of the CE's components mentioned by Achterberg et al. (2016) concerning the pre-use phase. In fact, it mostly details the optimal utilisation (e.g., repair) and value-recovering models (e.g., reuse). These models in the biological cycles are designed to feedback into the system through solutions including composting and anaerobic digestions to regenerate living systems. In the technical cycles, materials are recovered and restored through reuse, repair, remanufacture, and, as the last option, downcycling (Ellen MacArthur Foundation, 2013).

The above provides a clear understanding of circular business models and why, when and how they may be deployed. Yet, Bauwens et al. (2020) believe that the extent to which one circular business model is prioritised over another also depends on a variety of non-static factors in addition to the value that they can create. Factors may include path dependency, governance type, small versus larger communities and location. For instance, Bauwens et al. (2020) indicate that the circular transition can be purposely promoted through slow technological innovation or more bottom-up initiatives – such as in small towns (Brown, 2019) –, by more modern approaches through innovative technologies or it can be deployed through peer-to-peer circular solutions. Ultimately, the circular future envisioned in a context would influence which and how circular business models are applied.

The above discussion is a clear effort from scholars to shed light on the ways a CE materialises. Scholars largely agree on all points of the discussions, presenting limited contrasting concepts. Yet, the contributions of Achterberg et al. (2016) and the Ellen MacArthur Foundation (2013) provide a more organised visualisation of circular business models' categories which can be taken forward as an analytically valuable conceptual representation. However, it was also indicated (Bauwens et al., 2020) that circular business models develop and are prioritised based on what circular future is envisioned, suggesting potentially significant differences across contexts that may result in a large array of drivers, barriers and enablers to the application of CE

practices. Moreover, it must be noted that the CE is not free of criticisms, which are discussed in the following section.

### **2.2.5. Criticisms of the Circular Economy**

Scholars have raised concerns about the extent to which a CE can promote improved sustainability in practice. Millar et al. (2019) open the discussion by questioning the effectiveness of the CE in facilitating sustainable development by arguing that there is currently an incomplete understanding of how the CE may contribute – in the long term – to sustainable development. Moreover, Korhonen et al. (2018) claim that it is almost inevitable the physical expansion of the global economy's system, and a CE is only likely to delay the environmental impacts of economic processes. From another standpoint, Allwood (2014) debates that it is currently too ambitious to declare the possibility of a fully closed-loop economy because we currently lack the needed technologies to break down all the materials for secondary production.

Instead, Ali (2016) sees it pertinent to point out that while a CE seeks to decrease manufacturing, it can generate significant impacts on the social aspect of sustainability (e.g., loss of employment). The World Resources Institute clarifies that a CE will inevitably bring changes in the employment landscape and this social dimension should be considered (Moss, 2019). However, while the above scholars criticise such aspects of the CE, they also see a way through by developing approaches that reconcile human needs and the CE. Other scholars, such as Hertwich (2008) and Zink and Geyer (2017) posit that a CE can be jeopardised by the rebound effect, whereby the opportunity costs created by the CE can unexpectedly lead to higher consumption of resources. This is an issue that the CE – through the rebound effect – could lead to increased consumption of resources.

Clearly, there are concerns about whether transitioning to a CE can facilitate sustainable development. Nevertheless, most scholars adopting a critical standpoint still recognise the potential of the CE but acknowledge that, if not well planned, the CE can also bring negative impacts to the environment and society. Yet, a more positive standpoint is adopted by an increasing number of scholars (e.g., Bonviu, 2014;

Korhonen et al., 2018) who not only contrast the critics in this section but strongly support the CE as the way forward.

#### **2.2.6. The Circular Economic and Sustainable Development**

Other scholars have positioned the CE as a suitable direction to create a more sustainable society. Bonviu (2014), for instance, whilst debating on the CE effort of the European Union, suggests that the CE is the new and needed practical tool to be used for achieving sustainable development at different levels of economic processes. This notion that inevitably advocates the CE as the tool for sustainable development is also supported by Suarez-Eiroa et al. (2018), whose work seeks to find links between the theoretical and practical dimensions of the CE and by several other scholars who place the CE as a pathway to the Sustainable Development Goals (e.g., Dantas, 2021; Dong et al., 2021).

Thus, as Bonviu (2014) and Suarez-Eiroa et al. (2018) articulate, the CE can be visualised at the intersection between ecological, economic and social dimensions of sustainability, and as a holistic and guiding framework. Moreover, as the COVID-19 pandemic has highlighted the limited resilience of our economic system (Ibn-Mohammed et al., 2021), the CE can contribute to promoting sustainable development while supporting the creation of a more resilient society (Wuyts, 2020; Cifuentes-Faura, 2021). Scholars support that this can occur in a variety of ways, including technological innovation through a CE (Khan et al., 2021), economic diversification and job creation (Conde, 2021), and less reliance on new and raw materials (Baars et al., 2021).

In support of these discussions on the CE's role in sustainable development and resilience building, Korhonen et al. (2018) articulate a multi-beneficial position of the CE within the economic system describing the several "wins" that can be obtained through the application of CE solutions at the different stages of a product's lifecycle. These wins are environmental, social and economic, recalling the intersection suggested by Bonviu (2014) and Suarez-Eiroa et al. (2018) and more specific discussions on resilience-building pathways mentioned by Conde (2021) and Baars et

al. (2021). Expanding from the above discussions, Bauwens et al. (2020) believe that the nature and degree of the CE benefits to sustainable development depend upon the CE development models and type of governance adopted. The CE can ultimately be considered a conceptual and practical tool to plan, implement and monitor strategies for the promotion of sustainable communities through a fundamental shift in their economic system. This suggests that despite criticisms, the CE still represents an improved framework in relation to previous sustainability approaches rooted in linear processes to be adopted in the present and future sustainability strategies.

Understanding what drives, challenges and enables the adoption of the introduced CE practices – and if and how these factors are contextual are important issues affecting success in the implementation of CE.

#### **2.2.7. Drivers to a Circular Economy**

In this study, based on the definition of a driver as “one of the main things that influence something or cause it to progress” (Oxford Learner’s Dictionaries, 2021), the drivers are the factors that motivate businesses to adopt CE practices or a CE solution and not enablers which are the factors that enable businesses in their adoption of CE. Although the two terms are often used interchangeably, drivers are the reasons why businesses decide to be part of and/or adopt a CE in their operation.

The discussion on what drives a CE is still in its infancy but provides some initial perspectives. Most scholars agree that businesses – through the CE – seek to boost their sustainability performance, as highlighted by Cano-Rubio et al. (2021) in an extensive study of Spanish small and medium-sized enterprises. This is to contribute, ultimately, to sustainable development (Sehnem et al., 2019). Yet, the greatest visualisation of the CE drivers is perhaps provided by Korhonen et al. (2018) who articulate and categorise a great number of “wins” to a CE as shown in Table 2.3. These include environmental, social and economic “wins”, spanning from job creation to reducing raw materials, and energy costs and increasing a sense of community. Yet, despite that Korhonen et al. (2018) present these “wins” as the main benefits of a CE, they can also be interpreted as drivers, where the expected benefits become drivers of the transition.

**Table 2.3.** Drivers to a Circular Economy

<b>Category</b>	<b>Driver</b>
<b>Economic</b>	<ul style="list-style-type: none"><li>• To reduce virgin material and energy costs</li><li>• To minimise the costs of using scarce resources</li><li>• To reduce costs caused by environmental legislations, taxes and insurance</li><li>• To improve image, responsible and green market potential</li><li>• To reduce loss of economic value from leaks of resources</li><li>• To reduce waste management costs</li><li>• To reduce emission control costs</li><li>• Access to market for resources</li></ul>
<b>Environmental</b>	<ul style="list-style-type: none"><li>• To reduce virgin material and energy input</li><li>• To promote predominant renewable virgin materials</li><li>• To reduce wastes and emissions</li><li>• To use resources productions – consumptions systems repeatedly</li></ul>
<b>Social</b>	<ul style="list-style-type: none"><li>• For new employment opportunities through new uses of the value embedded in resources</li><li>• To increase a sense of community, cooperation and participation</li></ul>

**Source:** Korhonen et al. (2018)

As shown in Table 2.3., the drivers of a CE may not only be environmental, but also economic and social. This notion is also supported by several empirical studies (e.g., Ambec & Lanoie, 2008; Ikiz Kaya et al., 2021) that complement and add to what is outlined by Korhonen et al. (2018). To this extent, Ilić and Nikolić (2016), drawing upon the case study of Serbia, argue that the CE is applied by businesses to ultimately minimise waste. Moreover, and still in support of what is reported in Table 2.3., Manninen et al. (2018) indicate how a CE tends to be applied by businesses to reduce their overall environmental impact through the minimisation of product/service production footprint. They seek to do this by closing material loops and prolonging their life (Nußholz, 2018) and by reducing material usage and energy consumption (Ikiz Kaya et al., 2021). Furthermore, Gusmerotti et al. (2012) argue that a CE is often applied to meet legal compliances that require businesses to adopt circular solutions and minimise their environmental externalities. Thus, Gusmerotti et al. (2012) advance the presence of a legal driver.



In addition to environmental and legal drivers, studies have also articulated economic/market drivers to a CE. Ambec and Lanoie (2008) and Saarinen (2021) support that the CE is driven by the businesses' willingness to improve their image and product quality (Ilić & Nikolić, 2016). The transition to CE also seems to be motivated by the possible improvement in customer relationships and satisfaction that can be achieved through circular solutions (Saarinen, 2021). Thus, there is a driving scope for achieving a competitive market advantage (Iraldo et al., 2009; Saarinen, 2021). Except for Ilić and Nikolić (2016), which have documented a CE being applied for product quality, the discussed contributions are largely in line with Korhonen et al. (2018)'s argument on the CE as a strategy to gain access to promising green markets.

By reinforcing the economic discussions, Miroshnychenko et al. (2017) indicate that the CE tends to be appreciated as a tool to improve business production efficiency by reducing operational costs. This notion was later supported by Saarinen (2021) when arguing that CE projects are adopted by businesses with the main expectation being profits and direct and/or indirect cost savings. Geng et al. (2008) and Franklin-Johnson et al. (2016) add to such discussion when debating that the CE is prioritised to generate profit from reducing, reusing and recycling practices.

In line with the CE's economic perspective, Ikiz Kaya et al. (2021) and Sulich and Sołoducho-Pelc (2021) indicate that the CE is a perceived strategy to boost sustainable economic growth and the creation of green jobs. For Moreno-Mondéjar et al. (2021), these new job opportunities can emerge – especially – from the application of reusing and redesigning practices, which represents a social driver to a CE. The application of CE practices can not only create job opportunities but, in the view of Kalaitzi et al. (2018), also reduce the company's dependency on raw materials, by enhancing materials and energy efficiency (Su et al., 2013).

There are clearly environmental, social, economic, and legal drivers to a CE, and it is evident the COVID-19 pandemic has impacted these drivers. The CE is recognised as a transformative pathway to promote a low-carbon and prosperous post-COVID-19 recovery (Ellen MacArthur Foundation, 2020). Scholars also indicate that the CE is seen to promote resilient businesses for a more future-proof economy (Khan et al.,

2021; D'Adamo & Lupi, 2021) and, ultimately, a more resilient society (Linkov et al., 2021).

The COVID-19 pandemic gave scope for a sustainable transition (Su & Urban, 2021), and the CE provides opportunities for businesses to contribute to environmental sustainability and responsible economic growth (Doussoulin, 2020). On the same note, the CE is considered an opportunity to generate new professional practices and income-generating activities as a response to the limited economic resilience made transparent by the pandemic (Corrêa & Corrêa, 2021). This would ultimately balance profit with minimal environmental harm in the post-COVID-19 era (Ibn-Mohammed et al., 2021).

Other scholars argue that the COVID-19 pandemic led to an increase in waste, and the CE is considered a direct solution to the issue (Yuan et al., 2021; Felix et al., 2021). Additionally, it appears that the COVID-19 pandemic highlighted the low resilience of logistics and supply chains. According to Gupta and Singh (2021), the CE is applied to strengthen the logistical systems and make them more resilient, as well as the needed radical shift of the supply chain towards more resilient practices (Kayikci et al., 2021). This resilience of the supply chain is also discussed from the perspective of minimising risks in resource accessibility, and the CE is now seen as a key tool to improve resource security as a lesson learned from the supply chain disruptions caused by the pandemic (Sarkis, 2020; Ivanov & Dolgui, 2020).

The COVID-19 pandemic appears to have accentuated some of the drivers because of the need to build more resilient businesses, supply chains and, ultimately, societies. Yet, while scholars begin to advance an understanding of the reasons that drive businesses to the adoption of a CE, more empirical research is needed considering the COVID-19 pandemic that is changing the business environment and its perception of the CE. To this extent, the following section explores and critically discusses the barriers and enablers of a CE to provide the foundation for later debates.

### 2.2.8. Barriers and Enablers to a Circular Economy

As discussed in the previous section, a transition towards a CE requires changes in the way firms operate internally and externally (e.g., Schulte, 2013), changes that face financial, technical, market, institutional and socio-cultural enablers and barriers. de Jesus and Mendonça (2018), through a comprehensive bibliographical analysis, distinguish barriers and enablers between soft and hard. The soft factors correspond to the sociocultural and institutional factors that may inhibit and/or facilitate the transition towards a CE, whereas the hard factors are the technical, financial and market barriers and enablers. For de Mattos and de Albuquerque (2018), these barriers and enablers to a CE can be internal and external to the business.

From the soft spectrum of de Jesus and Mendonça (2018) – also in line with Tura et al. (2019) –, the sociocultural barriers and enablers refer to a great number of issues, including the degree of social acceptance of circular products and/or services and the overall awareness of consumer responsiveness and demand. These notions are also supported by an extensive survey conducted by Guerra and Leite (2021) in the construction industry, highlighting how a lack of consumer awareness can hamper the CE. Yet, Guerra and Leite (2021) also argue that the socio-cultural barriers and/or enablers can manifest through degrees of industry resistance to circular changes, pointing at a need for more education on the CE and, in the view of van Keulen and Kirzherr (2021), the creation of an industry common vision of the benefits and opportunities of a CE. This is also evidenced by Hossain and Khatun (2021) and Grafström and Aasma (2021) when arguing the degree of industry willingness to adopt circular practices and consumer awareness as two main facilitating and/or impeding factors. In particular, low consumer awareness has been indicated as a crucial barrier to a CE (Bilal et al., 2021), as it can lead to low demand for circular products and services (Badhotiya, 2021). As Dieckmann et al. (2020) posit, it is ultimately how the consumers perceive these products as well as their quality. Yet, according to de Mattos and de Albuquerque (2018), firms play a key role in improving consumers' awareness and appreciation of circular products and services.

Moreover, social-cultural barriers and enablers can also be related to specific social structures and levels of trust (Patel et al., 2021) that may or may not facilitate intra-

firm collaboration and knowledge spill-over (Baggio, 2011; Del Chiappa & Baggio, 2015), which is needed for a CE to exchange tangible resources (Ghisellini et al., 2016; Tapia et al., 2019) and innovative knowledge among stakeholders, both horizontally and vertically (Marra et al., 2018). As Adam et al. (2017) noted, the lack of CE knowledge can be a main barrier to the transition, thus any social structures hampering the flow of knowledge need to be considered as a predominant hampering issue to the CE.

As mentioned above, there are also institutional factors that can impede and/or facilitate the transition to a CE. For de Mattos and de Albuquerque (2018), these factors can be positioned as external to the firm and, for Mehmood et al. (2021), they represent main barriers and/or enablers to a CE. On this note, Milios (2018) argues that the public sector may inhibit or facilitate a CE through the level of coherency in tax regimes or, as discussed by Wilts et al. (2016), by applying too loose or too strict regulations. Interestingly, often scholars (e.g., Dieckmann et al., 2020; Bilal et al., 2021) tend to find environmental regulations and laws as the root of the rest of the barriers to the CE, or as the root of the lack of mitigating solutions to overcome these barriers.

This makes the role of public institutions crucial. In fact, government support was identified as one of the main factors in facilitating the CE (Topnes & Sjulstad, 2020; Grafström & Aasma, 2021; Guerra & Leite, 2021; Badhotiya, 2021), making policies a key barrier when they are based on silo thinking (van Keulen & Kirchherr, 2021) and inconsistent (Ayçin & Kayapinar Kaya 2021; Hossain & Khatun, 2021).

Moreover, there are technical, financial and market factors that may impede and/or facilitate a CE in addition to the institutional dynamics introduced above (de Jesus & Mendonça, 2018). Financial factors have been classified as predominant barriers and/or enablers to a CE (Grafström & Aasma, 2021; Mehmood et al., 2021). Grafström and Aasma (2021) evidence that businesses often face high investments when seeking to apply circular strategies and they point out that this barrier is often accentuated by poor access to financial support. Moreover, Ritzén and Sandström (2017) indicate that financial issues may include the firm's overall capability to invest in new equipment for a CE. Similar to Grafström and Aasma (2021), scholars including Adam et al.

(2017), Ayçin and Kayapinar Kaya (2021) and Hossain and Khatun (2021) indicate that the lack of appropriate incentives for a CE appears to be a widespread issue to the application of circular strategies. This often accentuates the upfront costs to be directly covered by the businesses (Topnes & Sjulstad, 2020; Guerra & Leite, 2021; Hossain & Khatun, 2021). These financial challenges – and the lack of supporting and mitigating solutions (Hartley et al., 2021) – can jeopardise the viability of circular solutions (Dieckmann et al., 2020).

Furthermore, scholars greatly discuss the technical barriers and enablers of a CE. These appear to take different forms in the literature. Garcés-Ayerbe et al. (2019) and Hartley et al. (2021) evidence low levels of skills available for a CE as a potential barrier. They refer to skills availability to innovate through disruptive designs and skills available to manage new technologies and processes, such as in the case of small and medium-sized manufacturing firms investigated by Rizos et al. (2016) that shared this barrier. The latter is a particularly crucial issue as technologies and digitalisation are increasingly considered enablers of the CE (Bressanelli et al., 2021). In fact, a lack of appropriate technologies can hamper that transition to a CE significantly (Mehmood et al., 2021) and, therefore, businesses should be supported in their technological readiness (Hossain & Khatun 2021) by allowing them to take part in technological innovation programmes (Gedam et al, 2021). Yet, the availability of skills may also depend upon the status of the labour market and turnover level (Jyoti, 2019).

Technical factors have been associated with the firm's capability to operationalise circular solutions, including interacting with other stakeholders, sharing resources and establishing new partnerships (Symeonides et al., 2019). This was, for instance, argued by Adam et al. (2017) when indicating that barriers to a CE can be generated by a fragmented supply chain, which would affect the businesses' ability to benefit from green procurements options and from the availability of circular supply supporting systems (Hartley et al., 2021; Hossain & Khatun, 2021; Patel et al., 2021). The opportunities that are available to establish a network of partners and create collaboration for a CE can be influenced by a range of technical issues such as logistics, information sharing and supply chain management (Tapia et al., 2019) that would ultimately affect the feasibility of strategic partnerships for a CE (Patel et al., 2021). The absence of feasible collaborations among stakeholders is a main barrier to

a CE (Ayçin & Kayapinar Kaya, 2021). In fact, as Hossain and Khatun (2021) also remind us, business-to-business collaborations may be impeded and/or facilitated by internal and/or external factors to the firm (de Mattos & de Albuquerque, 2018).

From a market perspective, it is argued that circular products often undergo significant changes (Bocken et al., 2016) creating uncertainties in the market which can be a predominant barrier to a CE (Grafström & Aasma, 2021). Galvão et al. (2018) point out that the market can potentially inhibit the transition to a CE, especially when proposing product-as-services and when the products and services are subject to significant changes, for instance, through novel designs. Yet, market-related factors may also relate to the degree of regular market accessibility as well as economies of scale (Adam et al., 2017; Tapia et al., 2019). The latter is especially an issue when end-of-life materials have low value (Adam et al., 2017).

In addition to stimulating the integration of the CE in planning and policies (Almén, et al., 2021), there is a need to understand how the COVID-19 pandemic is facilitating and/or inhibiting the CE. Yet, beyond scholars that argue the role of the CE in the post-COVID-19 recovery (e.g., Corrêa & Corrêa, 2021; Ibn-Mohammed et al., 2021) there are currently no insights that position the COVID-19 pandemic as an enabler and/or as a barrier to the application of CE practices.

Drawing from the drivers discussed in the previous section – where the CE is seen as a tool for resilience building –, it can be inferred that the COVID-19 pandemic is enabling the CE by motivating stakeholders in adopting it to become more resilient, but further empirical insights may be needed to shed light on other facilitating and/or impeding factors around the COVID-19 pandemic.

Although there appears to be an agreement in the literature on the barriers and enablers firms face to transition to a CE, further empirical research is necessary to enrich the understanding of the various issues affecting a CE for businesses. Moreover, scholars support that the factors discussed above cannot be seen in isolation. To this extent, Kirchherr et al. (2018) suggest that it is not enough anymore to understand and produce taxonomies of barriers and enablers to a CE as currently reported in the literature, but instead it is crucial to capture and map out what they define as the chain

reaction among barriers and enablers to a CE. This mapping out can shed light on the most pertinent issues, aiding the development of strategic models, the implementation of which will allow a smoother transition towards a CE. By illustrating this chain reaction among four categories of barriers – regulatory, cultural, market and technological, as a result of 208 surveys and 47 experts’ interviews –, Kirchherr et al. (2018) show the importance of understanding the interconnected landscape of barriers and enablers to a CE to inform planning processes. Yet, more need to be done to bring these relationships to light as Kirchherr et al. (2018)’s study represents a first effort that should be followed by more in-depth studies.

Linking to the importance of informing planning processes, a common theme in the literature concerns the role of the public sector in facilitating or even inhibiting the transition towards a CE. In fact, on one hand, the public sector can and should create and coordinate a policy landscape that facilitates a CE and, on the other, it can obstruct the transition when the policy plan is not appropriately provided (Milios, 2018). In similar terms, Domenech and Bahn-Walkowiak (2019) remind us that, ultimately, the ability of actors at the micro-level to successfully implement CE initiatives relies on the wider policy frameworks provided at the regional, state and supranational levels. In their conceptual study, which explored the main factors that stimulate the process and product innovation for a CE, Ruggeri et al. (2016) conclude that regulatory initiatives at different levels and other stimuli, such as taxation and incentives, are the top facilitators of the transition.

Yet, it has also been discussed within the CE research stream that CE interventions must be place-based and industry-aimed (Varjú & Dabrowski, 2018; Tapia et al., 2019), enhancing the expected territorial cohesion, such as in the case of the EU Cohesion Policy (European Commission, 2009), to avoid regulatory conflicts (Berger & Pohoryles, 2019), to capitalise on local strengths (e.g., Avdiushchenko, 2018) and to build on local knowledge, capacity, traditions and values (CSIL, 2015; Borodin et al., 2020; Nicolosi et al., 2021; Tapia et al., 2021). In fact, a place-based approach is defined as a “policy strategy aimed at promoting development from outside (the place) by means of intervention tailored to context” (Barca et al., 2012, p. 139). The place-based approach is considered a new paradigm for regional policies (OECD, 2006) and

a means to create closer interaction between institutions and the geographical contexts of interest for policy and planning (OECD, 2009).

Adopting a place-based approach to planning and policies would help the public sector capture local characteristics – and, therefore, issues – and integrate them into planning and policies to develop strategic instruments such as incentives and taxation for a CE that are more in line with local characteristics and challenges. Such an approach would place policymakers in a strategic standpoint in enabling a CE in a particular context (Zhijun & Nailing, 2007; Domenech & Bahn-Walkowiak, 2019) by building strategic instruments upon the local economic activities, stocks of capital, institutional contexts and other local resources and features, all influencing the potential and opportunities for a CE at the local level (Rodríguez-Pose & Wilkie, 2017). As Fratesi and Perucca (2019) point out, these local characteristics not only directly inform the development of policies but also affect the implementation of a policy itself (e.g., local technical capacity). A loud call, therefore, exists for studies that consider the local context (e.g., Zaucha, 2014; Tapia et al., 2019; Bachtögler et al., 2020) to allow the development of strategies that are more systematically integrated at the micro-level (Servillo et al., 2012).

Despite solid claims for place-based approaches to facilitating a CE, a recent literature review conducted by Centobelli et al. (2020) shows that further theoretical and empirical contribution is needed on the role of contextual factors in enhancing and/or inhibiting a CE transition. These contributions would focus on particular meso- or micro-environments, such as cities or regions and will help to “leverage on technological, sociocultural, economic, and institutional features [...] for the full achievement of a circular economy transition” (p. 1739) by producing fundamental recommendations aiming at informing the designing of “a favourable environment and a responsible political agenda” (p. 1744). Such approaches would ultimately help to alleviate and mitigate the barriers faced by businesses to a CE. Silvestri et al. (2020) complement Centobelli et al. (2020) in an effort to explore how European regions differ in terms of implementation of the CE by affirming that the geographical dimension of the CE has been widely neglected in the literature. Yet, the consideration of the geographical dimensions is crucial if a more focused and cohesive approach to a CE needs to be promoted (Silvestri et al., 2020).



Such a position reflects, for instance, the EU cohesion policy designed and implemented at the regional level (European Commission, 2008). Still, within the EU context as an example, this has been translated into region-focused CE projects, such as the GREECO project (Territorial Potential for a Greener Economy) (Tapia et al., 2020), from which main findings show that the territorial dimension of a region is an important factor in the transition process, especially in term of a) physical characteristics of a region and b) the region's connectivity (Bačová et al., 2016). Other projects include the SCREEN initiative (Policy Lab for a European made by Circular Regions), aiming at the “definition of a replicable systemic approach towards a transition to Circular Economy in EU regions” (Veltha, 2020), and the REPLACE project (Regional Policy Actions for Circular Economy), to integrate and capitalise on lessons learned through the SCREEN project (Interreg Europe, 2020). A more focused (meso-micro) outlook could provide the necessary means to facilitate a full transition towards a CE because, to cite Bačová et al. (2016), “copy-pasting solutions from elsewhere will not be effective” (p. 7) and, thus, targeted analysis of the local context is increasingly needed. Some evidence of this targeted analysis are Levoso et al. (2020)'s suggestions of a CE-development framework based upon in-depth contextual analysis and where territorial exploration is a key enabler of the transition; and Tapia et al. (2019)'s study which proposes a framework of territorial characteristics, including the degree of urban and industrial agglomerations, technological base, accessibility, local knowledge and territorial milieus believed to be at the root of barriers and enablers to a CE. The framework of Tapia et al. (2019) is discussed in detail in Appendix 4.

This standpoint implies that while it is useful to create taxonomies of drivers, barriers and enablers to a CE and identify internal and external issues to organisations, the way these unfold and the dynamics occurring among them remain place-based and largely characterised by the industry itself. This means that current contributions – while being conceptually valuable – need to be complemented with more contextual studies that not only are specifically industry-oriented but also appreciate the relationships that may exist between drivers, barriers and enablers to a CE and the territorial conditions.

Thus, it is only when these industry and place-based landscapes are detailed that appropriate planning for a CE can be proposed. The public sector has the potential and responsibility to create an environment and a positive interplay between policymakers, local businesses and communities that can help alleviate all or most of the barriers, regardless of whether these are internal or external to firms, or concerning the technical, financial, market or socio-cultural aspects of the transition (Centobelli et al., 2020). It is, thus, essential to extend our understanding of barriers and enablers to a CE to continue to inform the public sector practice for better and incisive planning strategies.

While the above discussion provides the conceptual fundamentals of the CE, what has been debated is mainly the result of investigations focusing on manufacturing and industrial contexts. For this reason, their generalisation to the tourism industry remains potentially highly limited. The fashion in which tourism businesses may adopt CE practices may differ from other contexts given the fact that products and services provided by tourism firms differ largely, as well as the markets they serve. Moreover, the way a tourist destination develops varies dramatically, in comparison to, for instance, industrial districts. It is vital, therefore, to understand how the CE and the barriers and enablers to its implementation are experienced in the tourism sector. Consequently, the next part of the literature review seeks to intersect tourism and the CE.

### **2.3. Part 2 – Circular Economy in Tourism**

It is well established that tourism activities generate benefits along with significant costs (Hall & Lew, 2009). This duality has been the focus of discussions over the years (e.g., Lukashina et al., 1996; Zubair et al., 2011; Hussein et al., 2014), positioning tourism at the centre of debates with its image fluctuating between beneficial and detrimental. Thus, tourism has often been praised but also criticised due to its both positive (e.g., Mathieson & Wall, 1982; Hall, 2007; Lonardi et al., 2021) and negative (e.g., Gareth & William, 2002; Haddad et al., 2019) impacts on destinations. Consequently, several authors (e.g., Stabler, 1997; Mowforth & Munt, 2011; Spenceley, 2021) and organisations, such as the UNWTO, advocate the sustainable tourism paradigm, defining it as “tourism that takes full account of its current and

future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” (UNWTO, 2020). This assigns responsibilities to the tourism sector to maintain a viable industry while protecting the social and environmental aspects of the destination (Dwyer, 2005). Accordingly, new sustainability approaches in tourism have been proposed, which have been, in part, applied through alternative forms of tourism (e.g., ecotourism, slow tourism) (e.g., Fennel & Weaver, 2005).

Nonetheless, these alternative forms of tourism are only a partial solution or a partial contribution of the tourism sector to global challenges as they still tend to be rooted in linear processes. In fact, pressures on tourism’s operating status quo are intensifying (Scott, 2021), calling for new governance and policy mechanisms (McHugh et al., 2021). This is especially crucial in light of new climate actions such as the Glasgow Climate Pact (United Nations, 2021) and the increasingly envisioned more resilient sector in the post-COVID-19 era (Duro et al., 2021; Sharma et al., 2021). As Morgan (2021, p. 14) states, “COVID-19 presents an opportunity for a tourism reset, as governments rethink sustainable pathways [...] to ensure that their tourism sectors are resilient to future climatic events, natural disasters, disease outbreaks, and economic shocks”.

Therefore, while alternative forms of tourism have shown the potential for the tourism industry to generate significant benefits (e.g., Leslie, 2012), critics point out the sustainability gap that remains within the tourism industry (e.g., Frey & George, 2010; Dwyer, 2018). Consequently, from recent contributions (e.g., Florido et al., 2019; van Rheede, 2012; Cave & Dredge, 2020) emerge a shared vision that more needs to be done to improve the sustainability of the tourism sector, and the CE appears as a potential framework to undertake such essential steps forward in tourism, and potentially leading it to a more holistic and resilient, sustainable future.

As a result, although still at a very preliminary stage, the CE is rapidly entering the tourism research agenda (e.g., Camilleri, 2021; Khan et al., 2021), and the need to integrate the CE into tourism planning is supported by an increasing number of scholars. For instance, Acampora et al. (2018) and Manniche et al. (2018) remind us that, despite the emergence of the so-called responsible and alternative forms of

tourism, the current sustainable tourism paradigm seems to be still rooted in the traditional linear model, impeding advancement in the way the industry could potentially operate more sustainably. Girard and Nocca (2017) reinforce this stance while observing that the expected contribution of the tourism industry to the global sustainable development effort can be significantly facilitated under a CE scenario. In fact, through a preliminary conceptual work on tourism's CE, Girard and Nocca (2017) articulate that, while the tourism sector requires innovative development and new resource management strategies, the CE presents itself as a potential solution to better operationalise sustainability principles in the sector. In their work, Girard and Nocca (2017) write that "in order to be sustainable, tourism needs to transform its processes from linear to circular" (p. 67), believing that the concept of the CE can be transferred to tourism through a new conceptualisation of tourism business models.

The adoption of circular processes in the tourism sector, according to the UNWTO and UNEP (2019), is vital due to the existing interlinkages between tourism and other economic activities and the direct interactions it generates between consumers and producers. This gives the tourism sector the potential to create positive and long-term impacts that go well beyond the sector (UNWTO & UNEP, 2019). In fact, also to Girard and Nocca (2017), in a CE scenario, tourism can effectively become part of a system where its waste can be introduced and flow through a resource metabolism leading to resource optimisation across various economic activities linked to tourism.

Scholars have pointed out specific reasons why the CE is sought to be applied in the tourism sector, which are more or less in line with the reasons driving the adoption of a CE in other industries. Generally, the CE is perceived as relevant in the tourism sector to improve its overall sustainability and provide a more sustainable experience (Van Rheede, 2012). Yet, others link the implementation of the CE in tourism to the need for a more regenerative sector (e.g., Jones & Wynn, 2019), whilst Aryal (2021) sees the CE in tourism as essential to develop new innovative models, reducing the overall use of resources in tourism operations and reduced the generated waste. Vargas-Sanchez (2018) and Naydenov (2018) also support these notions. Thus, the CE appears to be a relevant pathway to move away from previous failures of forms of sustainable tourism that are still characterised by the linear management of resources

and to promote a more resilient sector by optimising the use of resources through innovation.

Sterren et al. (2021) provide more details by arguing that the CE is today's direct response to the need to reduce energy use and emission, water usage, waste generation and the depletion of other resources entering the tourism system. For Kurtagić (2018), it is crucial the application of CE in tourism to positively disrupt the tourism value chain from sourcing to manufacturing and consumption. However, for Sorin and Sivarajah (2021) and Khan et al. (2021) – in addition to supporting that the CE is promoted to minimise the sectoral environmental impacts –, economic factors are also driving the transition to a CE in tourism. These include the reduction of waste management costs – in particular food waste –, reduction of water and energy costs, mitigating properties upkeep and refurbishment costs, and becoming in line with customer demand for sustainability. Therefore, the relevance of CE in tourism is considered from multiple perspectives.

Yet, despite the potential importance and the drivers of a CE for the tourism sector's sustainability – as outlined above –, not much research attention has been given to CE in tourism. However, acknowledging that the resources are limited, the prevailing linear economic model of the tourism sector is no longer viable, and the shift to a CE seems unavoidable (Manniche et al., 2018). As noted by Vargas-Sánchez (2018) in desk research seeking to shed light on the state of contributions to a CE, very few well-documented initiatives are offered by the literature, representing a limited understanding when it comes to intersecting the CE and tourism and current limited scientific contribution to planning and policies. Yet, although lacking in substantial academic and applied contributions, an initial stream of literature focuses on a circular tourism economy. The following section reviews this literature that seeks to conceptualise CE in the tourism sector.

### 2.2.1. Conceptualising a Circular Economy in Tourism

Attention to a CE in tourism is rapidly growing, shaped by an increasing tendency to use the term circular tourism (e.g., Girard & Nocca, 2017; Pattanaro & Gente, 2017;

Naydenov, 2018; Arzoumanidis et al., 2020). Particularly, Girard and Nocca (2017, p. 68) referred to circular tourism as “a model able to create a virtuous circle producing goals and services without wasting the limited resources of the planet that are raw materials, water and energy”. On the same note, Arzoumanidis et al. (2020) pointed to circular tourism as a new model allowing low-impact tourism with low carbon emissions that stimulates circular flows to conciliate the tourism sector and the sustainable management of resources.

The above definitions are in line with Manniche et al. (2018), that find it pertinent to stress that a CE in tourism is about rethinking the firm to value a multitude of products and materials that would otherwise be wasted. This recalls some of the broader discussions (e.g., Braungart et al., 2007) on the transition from linear to a CE and the importance of shifting from eco-efficiency to eco-effectiveness to ensure circularity in the system. Hence, it implies redesigning operations that do not delay the negative impacts but instead promote positive environmental, social and economic inputs in the system. This is also stressed by Girard and Nocca (2017), who argue that “circular tourism is not only green tourism” (p. 69), writing that “recovery, reuse, redevelopment, but also valorisation and regeneration are key words if we think about sustainable and circular tourism” (p. 69). Here, the growing discussion on circular tourism reflects a sector’s capacity to stimulate circular resource flows, aiming to reconcile tourism with the sustainable management of resources. Thus, drawing from Girard and Nocca (2017) and Manniche et al. (2018), a circular tourism economy must go well beyond classical solutions, such as recycling, by adopting the principles of a CE that articulate a redesigning of operations and relationships needed to lead to circular material flows.

Yet, while Girard and Nocca (2017) and Manniche et al. (2018) seem to highlight the value recovery potential of circular tourism, Acampora et al. (2018) add that a CE in the tourism sector should not only be driven by recovery options but also by elements rooted in the sharing and performance-based economy, such as sharing tourism facilities and equipment within the destinations (e.g., laundries, cars), and leasing furniture rather than purchasing them. This is to redesign how the tourism sector uses and offers services in a way that the need for a material/product – at the individual business level – is reduced in the first place. Therefore, the position of Acampora et

al. (2018) adds an important piece to the puzzle that widens the horizon of circular tourism by looking at the dematerialisation and intensification of materials flows, much advocated by Geissdoerfer et al. (2018) in previous sections and that tend to promote product and service sharing.

Drawing from the above, there seems to be a common understanding that a circular tourism economy should disrupt classical practices to maximise the valorisation of resources. Most importantly, discussions communicate the feasibility of adopting CE principles in the tourism sector. In fact, key CE terminology, such as recovery, regenerative and redevelopment, is rapidly entering tourism-related discussions (e.g., Girard & Nocca, 2017; Pattanaro & Gente, 2017), showing that there is a degree of conceptual appreciation and confidence that a CE can be adopted as a framework also in the tourism sector in addition to more industrial fields.

Florido et al. (2019), in a recent contribution that seeks to provide guidelines for the transition of the hotel sector towards a CE, try to establish a closer relationship between the CE and tourism by writing that:

a systemic transition to a CE would imply that the hotel sector would be understood as a set of circular flows of interrelated and more or less closed materials, allowing a cascade display of the materials between activities or services (accommodation, restaurants, well-being, and leisure, etc.). (Florido et al., 2019, p. 8)

This statement embeds the dynamism of a CE in a tourism destination, recalling previous discussions on actors' collaboration and system thinking for a CE (e.g., Schulte, 2013) and cascading as a concept that prioritises certain strategies over others throughout the Value Hill (Achterberg et al., 2016). Clearly, Florido et al. (2019) recognise the potential of actioning a circular flow of materials that are both biological and technical after entering the tourism system. Moreover, in their paper, Florido et al. (2019) see that a CE in tourism is integrated at the different stages of the tourism product and service lifecycle – as early as the construction of hotel facilities, for instance.

The above conceptual discussions tend to successfully depict the potential of unfolding a CE in the tourism sector. It clearly communicates the feasibility of

slowing, narrowing and closing the material flows (Bocken et al., 2016) of both biological and technical materials entering the tourism system, as well as intensifying and dematerialising (Geissdoerfer et al., 2018) these resources flow.

However, it remains evident that, when searching the literature intersecting CE and tourism, the discussions require further insights. A number of recent bibliometric literature reviews on the topic confirm this need for further conceptualisations of so-called circular tourism. For instance, Rodríguez et al. (2020), in an effort to evaluate the importance of tourism in the CE literature, affirm that not much attention has been given to the topic, and a lack of empirical and conceptual evidence on how to drive a transition towards a CE in tourism remains. Similarly, Schögl et al. (2020), when conducting a review of two decades of research on CE, shows how tourism is one of the least explored topics from a CE perspective.

Yet, while lacking intensity, the current literature provides an initial conceptual foundation for circular tourism. This conceptual understanding should be coupled with a review of the literature that articulates the more practical level of the application of the CE in tourism.

### 2.2.2. Circular Business Models in Tourism

Scholars sought to explore how CE practices are applied in the tourism sector, but their contribution is still limited to building an empirical and comprehensive understanding of circular business models in tourism. While there is an overall agreement on the feasibility of adapting and applying circular models in the tourism industry, current literature fails to provide empirical evidence on how they are adapted and applied in day-to-day operations.

Manniche et al. (2018), in an investigation of circular tourism in the South Baltic region that focuses on the specific tourism sub-sectors of accommodations, restaurants and spas, provide an initial detailed conceptualisation of CE practices applied within the tourism industry. In their work, they discuss several circular opportunities that lead, although with limitations, to an understanding of the characteristics of a CE in



the context of tourism. Examples surround the topics of circular construction, water and energy management, utilisation of refurbished furniture in the accommodation sector, food waste prevention, redistribution and energy recovery in the context of restaurants. Camilleri (2021) also pays emphasis on food circularity in the tourism sector by highlighting potential circular solutions such as local procurements, reusing and recycling surplus food, utilisation of sharing economy platforms to reduce food waste, donating surplus food to food banks and charities, and recycling inedible food through composting, animal feeds and methanation processes.

On a similar line, Florido et al. (2019) debate that a CE in tourism is mainly related to the construction phase of facilities through circular construction and circular restoration strategies (e.g., refurbishing and decorating) and to the operational activities, including circular practices about energy, water and food. Instances include surplus food sharing and the introduction of smart technologies for water circularity and circular supply chain management. Yet, although, their contribution clarifies that circular opportunities in tourism can be found in all tourist product/service stages, it does not map out in detail the circular tourism models and actors involved.

A complementary but broader effort perhaps is advanced by Yuksel (2017) in a report that sought to advise Oman's government on the CE strategy for the national tourism industry. Here, Yuksel (2017) articulates four circular models that would apply to the tourism industry: a) circular supply chain management; b) recovery and recycling models; c) tourism product life extension model; and d) sharing platforms models. Clearly, Yuksel (2017) seeks to embed CE principles in this broad categorisation of models. Yet, the fact that the author's contribution is not based on actual field documentation of circular practices in tourism makes the discussion too broad to allow a precise articulation of how these models materialise in tourism operations. For instance, while it is already widely accepted that recovery models drive a CE, it remains unexplored how these recovery models are implemented within specific sectors of the tourism industry to extend the life span of resources. Thus, Yuksel (2017)'s work is reductionist in the context of this review.

A clearer approach that complements the conceptualisation of circular models in tourism is increasingly provided by think tanks and other organisations. For instance,

the CenTOUR Handbook of Circular Economy Best Practice in the Tourism Industry (2021) lists several initiatives adopted by the tourism sector that design out waste and pollution, keep products and materials in use, and regenerate natural systems. Examples include upcycling bottle corks into building materials, redistributing old furniture through sharing platforms and integrating circular procurements in business operations with an emphasis on leasing solutions. Moreover, projects such as the EU Interreg InCircle (2021) and EU Interreg FACET (2021) develop around specific pillars for the promotion of a CE in tourism, including waste and water management, energy efficiency, sustainable mobility and circular buildings.

Drawing from what was discussed above, contributions start to indicate a great variation of CE practices in tourism. Some of the contributions, such as Manniche et al. (2018) and Yuksel (2017), provide some initial insights on the topic and perhaps add some conceptual pieces to the discussion that fit within the broader framework of CE discussed in previous sections. However, there is a call for future research to add to the conceptualisation of a CE in tourism by shifting towards research questions that seek to capture what is being done, rather than what can be done. Without making this bridge, the current contribution will only tell a partial story. Thus, there is a clear need for research that sheds light on how a CE is operationalised in the tourism industry.

Moreover, it becomes essential to review the challenges tourism businesses face in their transition to circular tourism. Although barriers and enablers are extensively considered from the broader perspective of the CE, as discussed in previous sections, a closer look at the tourism industry is required. This is because barriers and enablers to a CE, although characterised by largely shared categories (e.g., technical, market, social-cultural etc.), emerge in ways that may depend on the industry and its specific context. Thus, the following section takes a closer look at the barriers and enablers of a CE in the tourism sector.

### 2.2.3. Barriers and Enablers to Circular Business Models in Tourism

Martínez-Cabrera and López-del-Pino (2021) indicate that the COVID-19 pandemic is impacting positively the application of a CE in the tourism sector through the development of regulations that encompass CE principles and the establishment of

pandemic-reactive waste management systems. Yet, this remains the only contribution specifically indicating the COVID-19 pandemic as an enabler.

Vargas-Sánchez (2019), while exploring the relevant factors influencing a CE in tourism, subdivides the factors affecting the application of circular tourism into external and internal to the firm. Such classification is similar to the work of de Mattos and de Albuquerque (2018) discussed in Part 1 of Chapter 2. For Vargas-Sánchez (2019), the external factors to the tourism firm correspond to the institutional environment within which the firm operates and the level of normative (value and social norms) and coercive (regulatory framework) pressures they experience, thus recalling broader discussions. Martínez-Cabrera and López-del-Pino (2021), in a recent empirical study on the topic, provide further evidence on the institutional/political environment playing a key role, by interviewing experts who identified as main challenges to the tourism circular economy: a) the missing adaptation and alignment of policies to local contexts; b) a lack of adequate CE support by the government such as incentives, funding, training and legislation; and c) tax systems that tend to favour linear processes. Moreover, and in line with what was mentioned by Vargas-Sánchez (2019) on the normative external environment of the tourism firm, Martínez-Cabrera and López-del-Pino (2021) find that tourism experts are concerned with the society's aversion to change their behaviour, values and attitudes in support of a circular tourism economy.

However, interestingly, Vargas-Sánchez (2019) integrates an additional external factor into the firm: the experienced mimetic pressure. This factor indicates that the transition to circular tourism not only is affected by the local values and norms and by the regulatory framework but also by mimetic pressure, i.e., the firm's motivation to replicate sustainability initiatives. The mimetic pressures or mimetic isomorphism, as also called, refer to when the "firm imitates or copies the practices and structures that have been embraced by the majority of firms within an industry" (Vargas-Sánchez, 2019, p. 4). It especially occurs when firms face similar issues and tend to "imitate others in order to maintain competitiveness and avoid or minimise adverse and unexpected outcomes" (Masocha & Fatoki, 2018, p. 4). It has been empirically proved that mimetic isomorphism facilitates all dimensions of sustainability (Masocha & Fatoki, 2018). Yet, it can also be argued that mimetic isomorphism among tourism

firms can occur if knowledge spill-over is facilitated by the social, destination and institutional structure, as network studies in tourism explain (e.g., Baggio, 2011; Del Chiappa & Baggio, 2015).

In addition to the external factors, Vargas-Sánchez (2019) delineates internal firms' aspects affecting circular tourism. These would reflect the organisational culture of the firm as a source of competitive advantage in reference to its proactiveness or reactiveness to strategic changes (Vargas-Sánchez, 2019). This was shown also by Martínez-Cabrera and López-del-Pino (2021) when indicating that organisational resistance to changes towards a CE is often a main barrier. In the discussion of Vargas-Sánchez (2019), there is also a clear emphasis on the context-based nature of barriers and enablers to a circular tourism economy that are internal to the firm but strictly contextual or affected by their outside environment. For instance, by mentioning local values and social norms, the mimetic pressures from other business actors or even the existing potential stimulate learning and the replication of practices. However, the work of Vargas-Sánchez (2019), while providing additional conceptual elements to the discussion, remains limited. In fact, it serves mostly to provide a model for guiding empirical investigations. Yet, seeking to complement these discussions, other scholars share insights on the topic by opting for empirical case study investigations.

From this standpoint, an earlier paper on the Hanan Province in China by Fan (2008) pursues to develop a model of the determinants of a circular tourism economy for destinations. The contribution relates to some of the key points discussed by Vargas-Sánchez (2019) and later by Martínez-Cabrera and López-del-Pino (2021), such as, for instance, the fact that a circular tourism transition needs improved laws and regulations – adapted to the context – and the development of educational and sociocultural aspects that strengthen the environmental ethics. Yet, Fan (2008) sees this process as majorly a top-down process mainly due to the CE strategy's structure in China emphasising top-down regulations (Vargas-Sánchez, 2019). This also reflects what Han et al. (2010) reported in another attempt to develop a model for a CE transition in Hanan tourist destinations by emphasising the need to enforce macro government control. Yet, it can be argued that while regulations are needed, a CE transition should be seen as a more complex process than solely a top-down enforcement mechanism, as was also indicated in the findings of Martínez-Cabrera

and López-del-Pino (2021). However, the contribution from China (Fan, 2008) shows that macro-level perception and planning orientation of the CE can ultimately influence the way barriers and enablers unfold at the micro-scale.

Moving away from this reductionist approach which seems to emphasise a top-down effort, and by linking to the discussion of Vargas-Sánchez (2019), Florido et al. (2019) advance the debate by developing a three-axis model depicting three key actors' determinants for facilitating a circular tourism economy. In fact, while one of the axes articulates the role of the public administration and destination management organisations in designing incentives to promote CE measures in tourism – as well as laws and regulations that reduce the obstacles to the application of the CE as widely discussed above –, Florido et al. (2019) pay attention to the other two axes depicting the role of the tourism private sector in driving bottom-up initiatives and complying with regulations, and the resident population in supporting the circular changes in the destination.

In fact, the tourism sector should design strategies that enhance the social and environmental benefits of circular practices among tourist infrastructure, showing that a bottom-up effort is expected (Florido et al., 2019). To support this, the tourists' willingness to accept circular practices when choosing their hotels has been documented (Bica et al., 2020). The tourism sector should also raise awareness and provide capacity building by involving human resources in the design of a circular strategy (Florido et al., 2019). This was also noted as a main barrier by Martínez-Cabrera and López-del-Pino (2021), as they highlighted concerns about the lack of CE-related technical resources and know-how, lack of CE-skilled human resources within the company, lack of experts to hire and as well as of CE training offerings.

Complementing the discussion of Vargas-Sánchez (2019) and others, with a perhaps more complete framework, Manniche et al. (2018) investigate the barriers and enablers of a circular tourism economy faced by the South Baltic tourism industry. While they recognise, similar to the above, that the barriers and enablers are external and internal to the tourism businesses, they also debate that the nature of these depends on the type of material flow that characterises the circular strategy (e.g., food, plastic) and that they can be assessed by splitting barriers and enablers in the near future or

more distant future, adding, therefore, a sort of time continuum, which could help planning by easier prioritising and allocating resources. Moreover, Manniche et al. (2018) distinguish barriers that depend on the firm itself or other actors. This last point becomes relevant because it can be argued that many internal firm barriers depend upon external factors, and many external inhibiting factors may also depend on how the firm behaves in that context. This recalls the importance of the chain reaction of barriers and enablers within a CE context discussed by Kirchherr et al. (2018).

By applying this elaborated analytical framework to a small number of tourism small and medium-sized enterprises in the South Baltic region, Manniche et al. (2018) observe the barriers faced by these businesses from a plurality of resource flows' perspectives (e.g., water, energy, food) and related circular opportunities. Key findings of their investigation of accommodation and restaurant tourism sub-sectors show that the level of the firms' interaction with other actors at the destination plays an essential role in the transition to circular tourism. This not only recalls the system notion needed for a CE (e.g., Niero & Rivera, 2018) and one of the key principles of circular business models discussed in earlier sections (Schulte, 2013) but, potentially, also the mimetic factor (Vargas-Sánchez, 2019) and the need for knowledge sharing in a CE (e.g., Ghisellini et al., 2016; Tapia et al., 2019). Other issues that emerge from the study of Manniche et al. (2018) – and later supported by Martínez-Cabrera and López-del-Pino (2021) – include the lack of capital to invest in novel technologies and the lack of access to remanufactured and redistributed infrastructure and equipment (e.g., used mattresses). This last point refers to the importance of the firm's access to a circular supply chain and establishing partnerships. On this line, Martínez-Cabrera and López-del-Pino (2021) indicate difficulties – and often low willingness – in finding suitable CE partners across the supply chain and in building solid relationships with them as often the main barriers to circular tourism.

Evidently, the degree of access to a circular supply chain may depend upon several factors, spanning from costs to logistics and regulations, hence largely driven by contextual characteristics. Yet, in their investigation, Manniche et al. (2018) show that tourism small and medium-sized enterprises are likely to face bigger issues in establishing relationships outside their immediate region. The acuteness of the barriers that tourism small and medium-sized enterprises face was highlighted by Khan et al.

(2021) in a survey that uncovered how they particularly suffer from a lack of funds, skilled personnel, environmental experts and information of potential partners to activate CE solutions.

A final key point mentioned by Manniche et al. (2018) corresponds to the institutional barriers identified during their investigation. These were mainly concerned with prohibiting regulations towards food surplus distribution and waste separation and handling. Furthermore, other relevant barriers that emerged during the investigation include the availability of infrastructure and the geographical challenges the tourism firms face (Manniche et al., 2018), a factor that was later evidenced by Martínez-Cabrera and López-del-Pino (2021), where geographical circumstances often restrict the applicability of the CE solutions. To this extent, Manniche et al. (2018) and Martínez-Cabrera and López-del-Pino (2021) are the only contributions recognising that a circular tourism transition may be affected by geographical challenges. Yet, it remains unclear how these geographical challenges unfold and how they may affect the nature and degree of barriers discussed above.

Largely, what has been discussed provides some insights that clearly recall the broader categories of barriers and enablers to a CE. Yet, discussions seem to be too broad, inclined towards barriers and neglecting the enablers which should be equally understood, and largely lacking an investigation that brings into play the destination's dynamics and characteristics. Bringing these place characteristics into play can lead to more impactful discussions that go beyond the reductionist argument on what barriers and enablers tourism businesses face. In fact, we should consider that if and how businesses face certain barriers or enablers is a matter of context. This is largely supported by Jones and Wynn (2018), who argue that the development of theoretical work should recognise the potential, and often complex, interlinked nature of environmental, social, economic, and political factors of the industry. While there is some effort in providing intersecting discussions on circular tourism, it appears that contribution seems to replicate to a certain extent the same list of barriers and enablers faced by businesses operating in other industries, as discussed in Part 1.

While it can be often the case that broad categories of barriers and enablers (e.g., technical, financial) are applied across industries, the way they unfold and the reasons

behind them may be different. To this extent, the current literature fails to analyse in detail a CE in tourist destinations, also by appreciating the potential variations occurring among different destinations when planning and developing a CE model and the need to consider the destination as an entity with its own characteristics and as a field of play for actors promoting a CE transition in tourism. Contributors such as Vargas-Sánchez (2019) allow the reader to aspire to place-based approaches but do not explore the existing relationships between destination typology and circular tourism.

Moreover, both from a general CE's perspective (e.g., Ormazabal et al., 2018) and more specifically on circular tourism (e.g., Manniche et al., 2018), studies tend to focus on urban areas, such as cities and mainland regions, leaving more peripheral areas unexplored. Existing knowledge of CE is based on urban realities without contextualising studies with specific destination typologies and their characteristics (e.g., de Jesus & Mendonça, 2018; Guerra & Leite, 2021). Nevertheless, more specific investigations are needed to provide added value to broader discussions through industry-aimed and place-based investigations. Consequently, studies on circular tourism should align with the place-based investigation and inform tailored planning.

Drawing from the above, small island destinations (SIDs) are selected as the case of this study in order to contribute to the needed investigative methodology and to try to shed light on the wider gap discussed above in relation to circular tourism. Two main reasons exist for prioritising SIDs over other destination types. Firstly, island territories have been largely neglected in existing CE and circular tourism literature; secondly, small islands are often referred to as territories with special features (European Commission, 2008; Monfort, 2009), and are often located in the so-called rural areas, calling for heavily tailored planning strategies (Moncada et al., 2010), including tourism planning (McLeod et al., 2018), and where circular tourism development models are adapted to the specifics of each territory (Immacolata, 2018).

It is because of this significant emphasis on tailored planning that SIDs lend themselves as an ideal study context, where a CE transition may be highly territorialised, therefore offering the opportunity to fully explore the place-based relationship between the destination and the CE. Finally, as SIDs are often recipients



of acute impacts from tourism activities while often heavily relying on tourism's economic contribution (e.g., Seetanah, 2011), urgent sustainability solutions are needed that help retain the tourism economic value while minimising negative impacts. In this respect, a CE becomes a promising approach for SIDs (ten Brink et al., 2017). In light of this turning point that narrows down the discussion to SIDs, some of the main questions that this literature review sought to address in previous sections from a broader perspective remain unanswered within the context of SIDs. This direction delineates the scope of Part 3 of Chapter 2.

### **2.3. Part 3 – Small Island Destinations**

Part 3 introduces literature on small island destinations (SIDs). The first section defines small islands, whereas the second extends to the different island typologies, to be followed by an introduction to the concept of islandness, which further rationalises the need for islands to be treated by considering their features. The last section of Part 3 narrows the discussion to tourism in small islands by defining SIDs before moving to Part 4, which intersects SIDs and the CE.

#### **2.3.1. Small Islands**

Islands are amongst the most popular tourist destinations (McLeod et al., 2018). Inevitably, tourism is both beneficial and detrimental for islands, especially small islands (SIs) (Sheldon, 2005, I Klabatsea, 2006; Deka & Baruah, 2021). Yet, in addition to being popular tourist destinations, close to 10% of the world's population, or about 600 million people, live on islands (Baldacchino, 2007). Despite their socio-cultural and economic importance, within island studies, there is no common agreement on what constitutes an island. Consequently, this section seeks to avail from the main contributions to define a small island.

Peron (2004) seeks to define what makes an island small by stating that SIs are:

these specks of land surrounded by water, large enough to support permanent residents, but small enough to render to their inhabitants the permanent consciousness of being on an island. (p. 328)

Evidently, Peron (2004) seeks to highlight the geographical element of SI, pointing at their physical size or landmass which should be small enough to produce a feeling of being on an island. Thus, the geographical element is predominant in defining a small island. However, the geographical characteristics of small islands do not provide the whole picture, as their complexity goes beyond the visible features.

Complexity in defining small islands is also captured by Stratford (2003), stating that small islands are:

absolute entities surrounded by water but not large enough to be a continent, territorial relocation spaces, bounded but porous, isolated, connected, colonised, post-colonial, vulnerable to linguistic, cultural, and environmental changes, robust and able to absorb and modify. (p. 495)

Stratford's (2003) definition not only defines small islands from a geographical perspective but points out the different extremes that can be captured in small islands. In fact, here, small islands are isolated but connected and porous, and vulnerable to external changes while being able to absorb and adapt. Complexity is, therefore, central to this definition. Yet, contributions are still unclear in differentiating islands from small islands and the difference is often made based on perceptions and size (but without a standard agreement on what is the size of a small island).

For McElroy and Albuquerque (1990), the complexity of small islands unfolds across the island sub-systems, namely the sociocultural, economic and environmental sub-systems giving rise to events taking place on island territories, both when interacting among themselves and with the external forces. The nature of these events has been the subject of attention and conceptualisation, as discussed in the following section by presenting the concept of islandness.

### 2.3.2. Islandness

A stream of scholars (e.g., Jackson, 2008; Fernandes & Pinho, 2017) argue that the events unfolding on small islands are directly and/or indirectly conditioned by what

has been termed “islandness”. This section, therefore, defines and discusses islandness and the factors that produce it. The conceptualisation of islandness has been broad and narrow and often adapted by scholars for the study and the discussion’s purposes.

Relevant is the view of Vannini and Taggart (2013) of islandness as the “mundane experience” of islanders (p. 227), where islandness is considered the outcome of “what islanders do and how they move” (p. 228). For Conkling (2007), islandness – as seen as mundane events on an island (Vannini & Taggart, 2013) – is path-dependent because islandness is “a metaphysical sensation that derives from the heightened experiences that accompany the physical isolation of island life” (p. 200), meaning that the way/s islandness or events unfold is intertwined and influenced by historical and present isolation.

Yet, by moving away from the abstraction of the concept, Fernandes and Pinho (2017) propose four factors, from a spatial-geographical perspective, that define and produce islandness. Thus, islandness is the mundane experience of islanders (Vannini & Taggart, 2013) that is rooted in the spatial-geographical features of an island. This view of islandness is also supported by Grydehøj (2020) in a critical effort on island geography. The four factors proposed by Fernandes and Pinho (2017) are 1) smallness, or the small scale of island territories; boundedness, or the existence of spatial frontiers; isolation, or the degree and nature of contact with the outside world; and spatial fragmentation or geographical discontinuity of the island settings.

In support of such a conceptual understanding of islandness – being the product of spatial-geographical variables –, Jackson (2008) writes about islandness as:

the dynamics of natural boundaries and the resulting island qualities, including geographical (for example, the degree of separation from a mainland), political (often expressed through tensions between autonomy and dependence on a mainland jurisdiction), and social (such as islander identity and sense of place). (p. 47)

Explicitly, Jackson (2008) places the dynamics emerging from the natural boundaries of small islands as the sources of all the other events occurring on the island, further

supporting the role of islands' spatial-geographical features in affecting the behaviour of small islands.

Extending such discussion on islandness, Pugh (2016) supports that there is a need to shift from considering islands as isolated entities to seeing them as embedded in a relational reality. In other words, this entitles considering the effects of spatial-geographical features – and the produced islandness – not only as effects that occur within the island but also how these effects and the islandness they produce influence the way/s the island reacts and relates to other islands and the mainland. Therefore, the island is not isolated but should be seen and investigated in relation to its broader context. This is defined by Pugh (2016) as the relational turn in island studies, meaning that the islandness' producing factors (Fernandes & Pinho, 2017) condition not only the events occurring within the island but also the relational events of the island with the external world.

The four islandness factors of smallness, isolation, boundedness and spatial fragmentation articulated by Fernandes and Pinho (2017) show how the common spatial-geographical features of small islands tend to dictate how the different dynamics – and relational dynamics (Pugh, 2016) – on islands unfold. The nature of islandness, therefore, remains highly contextual, making it essential to identify what makes islands distinctive (Grydehøj, 2020). To this extent, Grydehøj (2015) reinforces such discussion by stating that “sensitivity to place-specific spatial factors is necessary if we have to understand islands” (p. 429), thus pointing out the importance for island studies to take onboard the islandness-producing factors in analytical terms. Such a notion is also supported by Spilanis et al. (2003; 2005) when arguing that islandness needs to be considered in analytical terms as isolation, size and degree of connection – as also supported by Weaver (2007) – islandness has an influential role on the sociocultural, economic and political aspects of the island. Considering islandness in the study of islands – in the view of Baldacchino (2020) –, will influence the island's development models.

In fact, even Crevoisier (2014) posits that analysis cannot be reduced to interactions among actors – however powerful these interactions may be –, suggesting that while actors in interactions produce the territory, the territory shapes actors including their

rationality. This proposes that it is crucial to understand sustainability as a phenomenon that is dependent on the territory because “the fundamental concept is not the actor, but the relation whatever this is called an institution, proximity, territory” (Crevoisier, 2014, p. 6). Yet, despite such relevance, Walshe and Stancioff (2018) write that these spatial units of analysis are often neglected by uncritical approaches to the study of an island’s communities. In fact, according to Fernandes and Pinho (2017), the patterns of changes faced by islands tend to be related to the four islandness factors, and their neglect would only promote a reductionist approach to island studies. For this reason, the islandness factors cannot be neglected in the study of islands.

For the present study, islandness, from a spatial-geographical perspective, is vital because it provides key analytical guidance to place the study of CE in SIDs within a place-based dimension, in addition to the industry-oriented approach. That is, moving from a reductionist to an embedded approach that rejects place-blinded and appreciates the place-based transition to a CE. In the case of SIDs, the place-based approach cannot be promoted without understanding the role of islandness in driving, facilitating and/or inhibiting the CE transition. In fact, the islandness features reflect the special character of islands mentioned by the European Commission (2008) and Monfort (2009) and the main reason why small islands deserve tailored planning. Hence, the study of circular tourism in small islands should be developed with a clear frame and awareness of islandness and islandness-producing factors in order to be critical, holistic and innovative, both for research and planning.

### 2.3.3. Conceptualising Islandness Producing Factors

Drawing from the definition of small islands and islandness provided above, this section seeks to dive slightly deeper into the four islandness-producing factors of boundedness, smallness, isolation and spatial fragmentation. This is essential because these factors tell what islands are and how their spatial-geographical circumstances influence life on an island (Baldacchino, 2018).

Boundedness is the most defining feature of an island (Baldacchino, 2018). The encirclement of islands by the sea tends to define the island’s biome, history and

economic development (ibidem). Yet – and linking back to Stratford’s (2003) definition of small islands –, for Baldacchino (2018) these natural boundaries are porous, in contrast to human borders that often allow zero porosity. Unless connected by “fixed links” to the mainland, island borders unfold at the beach/shore, and for islands that are not that close to other lands, only seaports and airports are access points to and from the island, leading them to suffer the challenge of transportation (Baldacchino, 2018). Baldacchino (2018) believes that islands are always bounded, and this boundedness – a factor that would ultimately contribute to the production of islandness – tends to be alleviated when islands are connected to the mainland through fixed links such as bridges and tunnels. Yet, this conceptualisation becomes more complex and unexplored in the case of secondary islands – within an archipelago – that are connected through fixed links to the core islands. One would ask: is the islandness of these secondary islands alleviated because of their fixed connectivity to the archipelago’s core island? In response, Grydehoj and Casagrande (2018), after observing the complexities present in Venice’s lagoon, suggest that these fixed links should not be seen as an islandness-alleviation solution but, instead, as a way in which a place’s islandness is expressed. Thus, the boundedness of the islands does not disappear or is alleviated through the application of connectivity-enhancing solutions, but these solutions are the resulting behaviour of the islandness itself. Therefore, all islands are bounded naturally, and this boundedness contributes to the production of islandness or life on an island, including the development of connectivity-enhancing solutions. While boundedness exists in all islands – as per their natural defining feature –, this boundedness does lead to reactions, events and opportunities and mitigating solutions that island communities unfold.

Reflecting on island smallness, Baldacchino (2018) reminds us that a common way to define an island as small does not exist. Land area, resident population and local economy are three common factors that are often used to define the size of an island. Yet, the utilisation of these factors in defining an island as small is ambiguous and not straightforward. For instance, Greenland is a large island mass with a very small population. In fact, in line with Baldacchino (2018), Ratter (2018) also posits that island size cannot be defined by area alone and that size is relative. Yet, it remains essential – within the context of this study – to find an agreed reference to define what makes an island small. However, most of the existing literature focuses on raising the

issues of difficulties in measuring smallness, lacking specific indicators to help – even with limitations – define a small island.

To this extent, only Eurostat (2021) proposes an indicator to facilitate socio-economic analysis by creating three different regional classifications as a hierarchical system for dividing the economic territory of the European Union and the UK: NUTS I, II and III. NUTS stands for Nomenclature of Territorial Units for Statistics. NUTS I are large socio-economic regions, NUTS II are basic regions for the application of regional policies and NUTS III are small regions for specific diagnosis which include small island regions (e.g., Orkney Islands, Balearic Islands). This classification identifies island regions within Europe that are pre-defined as small and is regularly updated by taking into consideration a wide range of factors that go beyond land size. Therefore, the classification helps recognise which island regions are considered as composed of small islands within the EU and the UK for studies that take place within Europe without embarking on complex frameworks.

Furthermore, as Baldacchino (2018) suggests, we may say “islands”, but we often really mean “archipelago”, which is a set of islands sharing a common space. Archipelagos are congregations of islands that range from a minimum of two islands to over 50,000 (Baldacchino, 2018). All archipelagos are fragmented spaces, and this fragmentation of the island region does affect life on an island. The appreciation of island and archipelagic characteristics in research and planning – helps provide a deeper analytical perspective of islands.

Extending from what was discussed above, it becomes increasingly complex to conceptualise the isolation of islands. Ratter (2018) suggests that islands are always remote, where distance always implies space between the island and the person wanting to come or go. Yet, this distance is also relative, in physical, social and cultural terms (Ratter, 2018). This means that an island can be well connected but socially isolated, physically distant from the mainland or other islands but logistically well connected, or physically close to other lands but badly connected. Thus, measuring distance alone does not provide the full picture of an island’s isolation. For the researcher, all islands are considered somehow isolated because they are bounded, and within an archipelagic region, some islands may be more isolated than others.

Yet, it may be epistemologically more ethical to not try to define the degree and nature of isolation from the perspective of an outside analyst but, instead, prioritise the bottom-up perception of isolation, based on the perception of the islanders. Therefore, in research, islanders should communicate if a certain degree of isolation exists and if yes, the nature of this isolation (e.g., social, physical). It is only the first-hand experience of life on the island that can define isolation. For this reason, isolation cannot be measured with standard mechanisms. The extent to which it exists and the nature of its effect on life on the island (through the production of islandness) will be at the discretion of the islanders that may or may not share aspects of it through island studies. Moreover, the perception of isolation by the islanders may be related to specific issues, objectives and development plans of the community, such as the transition to a CE. Other scholars conceptualise different typologies of islands as a result of the degree of islandness. These classifications are made to – as much as possible – standardise the approach to island studies and overcome challenges such as the one of measuring isolation.

#### 2.3.4. Island Typologies

As Baldacchino and Ferreira (2013) remind us, each island tends to have a distinct history and certain unique cultural characteristics. Because of these distinct characteristics inherited and driven by islandness, it becomes pertinent to move away from traditional ways of defining small islands to a manner that appreciates the different island typologies existing with related implications for planning and policies, as well as research approaches. The importance of understanding the typology of the island and avoiding too reductionist generalisations in island studies is strongly advised in a PLANISTAT (2003) study. The study posited that the specific issues faced by islands can be managed with strategic approaches aimed at alleviating the challenges of small islands. A similar standpoint is adopted by Moncada et al. (2010), whose work suggests that the complexity of small islands goes well beyond what is usually perceived, indicating the need to avoid oversimplification in island planning and studies.



To this extent, Taglioni (2011) provides a world view of island typologies by recognising three levels of insularity resulting from a variety of factors that – according to what was discussed in previous sections – tend to be rooted in the broader islandness-producing dimensions. In fact, while the four spatial geographical factors condition the events on an island – creating the so-called islandness –, the ways that islandness unfolds give rise to different levels of insularity, a term and concept that helps us define the nature of unfolding islandness on an island within a regional archipelagic or even global context. These levels of insularity are briefly described in Table 2.4, with related examples of islands falling within each category.

**Table 2.4.** Island Typologies

<b>Typology</b>	<b>Sub-categories</b>	<b>Examples</b>
<b>Hypo-insularity</b>	Developed island states or island territories part of an industrialised mother country	Barbados, Martinique, Guam and Bahrein
	Main island within a developed independent archipelago or main islands within an archipelago integrated into an industrialised country	Malta and Tenerife
<b>Insularity</b>	Developing island states	Domenica and Nauru
	Main islands in a developing independent archipelago	Trinidad and Mauritius
	Secondary islands in an archipelago integrated within an industrialised mother country	Moorea and Lifou
<b>Hyper-insularity</b>	Secondary islands integrated within a developing independent archipelago	Barbuda and Espiritu Santo
	Specific cases of non-coastal islands without a port or airport	Tristan da Cunha

**Source:** Adapted from Taglioni (2011)

Taglioni (2011) sees these insularity levels through a macro lens (world view rather than the regional lens). By doing so, he considers three criteria for classifying the islands: a) geographical architecture, b) institutional environment and c) level of development. Clearly, the classification brings into play different dynamics of islands, spanning from environmental, socio-economic and political differences, all of which

may have implications for their sustainable development. These dynamics may be rooted and/or highly influenced by the nature and degree of the islandness-producing factors.

On the same line, but by adopting a more micro and regional standpoint, Baldacchino (2013) simply distinguishes between dominant and satellite islands in an archipelagic region. The dominant island stands at the core of the region (which may be less isolated, bigger and less affected by the regional fragmentation), while the satellite island, which stands at the periphery of the region, represents a degree of isolation from the core island (dominant) of the region. Usually, satellite islands are smaller than the core island, showing how the islandness-producing factors may be at the root of the extent to which one island is core or remains satellite. This implies that significant differences exist among islands of a region, for instance, in terms of infrastructure available. Hence, it can be assumed that these differences can often have substantial implications for planning and policy and should be captured during investigations. Moreover, it has been argued that the difference among islands within a region can encourage the development, over time, of different types of communities, in terms of socio-cultural and economic development (Grydehøj & Hayward, 2014).

While Baldacchino (2013) recognises two levels of islands within one region, the Conference of Peripheral Maritime Regions of Europe suggests more levels of insularity including first, dual and often third insularity (2002), depending on the island's position within an island region and the resulting challenges. To this extent, the Conference of Peripheral Maritime Regions of Europe (2020) strongly urges the European Institutions and the Member States to pay particular attention to these levels of insularity, acknowledge the resulting permanent vulnerabilities and implement policies that are best situated to their conditions. It seems essential, therefore, to take into consideration what type of island is analysed and planned for, to develop discussions that are clearly delineated in the context of one specific level of insularity. This should be done by recognising the often existence of not only two levels of islands (dominant and satellite islands) within a region as Baldacchino (2013) argued, but also the possibility of having a third level.

If applying a regional lens, as Baldacchino (2013) and the Conference of Peripheral Maritime Regions of Europe (2002) do, the typology of the island that is being observed misses a potential third level of insularity that is likely to occur in large archipelagic regions. Yet, by providing clear criteria of measurement, Taglioni (2011) sees the necessity to understand the system in which islands are embedded, implying that insularity is, therefore, variable and measurable. Taking into consideration these different levels of insularity is part of defining small islands, and this section shows that it remains essential to appreciate the differences existing among islands. Yet, for the purpose of this study, while the classification of Taglioni (2011) is highly valuable for a more global outlook, the researcher needs to further valorise a more micro-level classification based on the SIDs' position and condition within an island region, thus following the approach of Baldacchino (2013) and the Conference of Peripheral Maritime Regions of Europe (2002). This is a necessity to recognise the uniqueness of islands.

The above has described the significance of understanding island typologies and the need to consider islandness and the levels of insularity that may exist in an island region. Yet, for the purpose of this literature review, it is essential to define what a SID is, and what are its main characteristics. Hence, a brief discussion on the topic is essential before intersecting the argument focusing on the CE in SIDs.

#### 2.3.5. Small Island Destinations Characteristics

It is established that tourist destinations are complex and systemic entities (Leiper, 1979). This systemic nature of the destination is integrated into the recent UNWTO's (2019) definition of tourism destination from which it can be drawn that the destination is a geographical entity with interconnected stakeholders.

The UNWTO (2019) defines a destination as:

a physical space with or without administrative and/or analytical boundaries in which a visitor can spend an overnight. It is the cluster (co-location) of products and services, and of activities and experiences along the tourism value chain and a basic unit of analysis of tourism. A destination incorporates various

stakeholders and can network to form larger destinations. It is also intangible with its image and identity which may influence its market competitiveness.

From the definition above, a destination can be identified as a physical or administrative entity where the co-creation of tourism products and services occurs through stakeholder collaboration. According to an early contribution of Leiper (1979) seeking to unfold the tourism system, the way a destination functions, as depicted by the UNWTO (2019), cannot be fully understood in isolation but in strict interaction with the diversity of factors surrounding it (e.g., technological development, socio-culture, institutional frame, etc.). However, scholars such as Gretzel et al. (2015) bring forward the notion of destinations as open systems by introducing the concept of destination ecosystems, describing them as made up of interdependent and interacting entities and their environment, with relationships creating products and/or services. This conceptualisation combines earlier contributions of Leiper (1979) on the tourism system with more contemporary tourism-related network studies (e.g., Sainaghi & Baggio, 2017), depicting a destination mainly as an interactive entity. Inevitably, such logic applies to SIDs and their CE transition, where the destination is seen as an ecosystem and as a geographical and administrative entity. However, in island contexts, it becomes clearer the geographical delineation of the destination.

Some scholars argue that it is the bounded and isolated features that have long positioned small islands in tourist imaginaries (e.g., Sufrauj, 2011; Deloughrey, 2012). This has concretised over time with a dramatic increase in the number of visitors that every year visit small islands around the world and with tourism becoming a key economic sector for island communities (Seetanah, 2011). However, moving away from the misconception that islands offer only sun, sea and sand tourism, leading to dense research focusing on islands from warm climates (e.g., Trousdale, 1999; Shelter & Duval, 2004; McLeod & Airey, 2007), Baldacchino (2006) reminds that there is much to uncover from cold-water island tourism which is emerging as a key tourism sector in many of the Nordic regions.

Yet, the popularity of islands has inevitably led to locating islands in the research agenda of tourism and beyond, especially due to the often relevant negative and positive impact of tourism on islands (e.g., Pantin, 1999; Luchman et al., 2012;

Spilanis & Glyptou, 2012). Despite the increasing attention from academia, a common definition of SIDs is still to be provided. Butler (1993) attempts to define why small islands retain popularity in tourism by writing that:

their appeal may be related to the very real feeling of separateness and differences, caused in part by their being physically separate [...] and given people's desires for the different while in pursuit of leisure, different climates, physical environments, and culture can all be expected to further the attractiveness of islands as tourism destinations. (p. 71)

Here, Butler (1993) clearly points out that islands are appealing entities mainly given the separateness and the often-different climates and cultures, which, in the view of Baldacchino (2012), makes islands "locales of desires, as platforms of paradise, as habitual sites of fascination emotional offloading or religious pilgrimage" (p. 55). Evidently, this recalls the concept of islandness and how it has often facilitated the positioning of islands as top tourist destinations creating specific markets. A similar standpoint is adopted by Cave and Brown (2010), whose work, in addition to emphasising islandness and the derived insularity in attracting tourists, clearly indicates that tourism markets on islands break the boundaries of remoteness, especially in modern times.

To this extent, Cave and Brown (2010) write that:

islands are attractive as tourism destinations because of their sense of distance, geographic finiteness, cultural and environmental insularity, regardless their remoteness from centers of population... the physical and psychological degree of separation from the mainland... has appeal from the utopian imaginations of local and returning residents, lifestyle newcomers, seasonal second homeowners or habitual long-stay visitors. (p. 96)

Cave and Brown (2010), while reflecting on the physical separateness of islands as an attractive factor for tourism, also find it pertinent to mention the psychological degree of separation that islands provoke among visitors, leading to a sense of being isolated, separated and seeing islands as an escape from the daily routine. As argued by Cave and Brown (2010), the island tourism market seems diverse with local natural and cultural heritage both playing a key role in their tourism potential.

Moving away from understanding why islands are popular tourist destinations, McLeod et al. (2018) define island tourism from a planning standpoint as:

a special form of tourism that often requires specific consideration as there are distinctive characteristics of islands such as fragile environments and historical and socio-cultural aspects that can result in unique challenges to developing successful tourism destinations (McLeod et al., 2018).

This definition indicates that differences lie between mainland and island tourism development strategies, reinforcing the need for tailored solutions for SIDs. In accordance with this definition, these tailored solutions should be aware of the distinctive characteristics of SIDs that derive from their islandness. In fact, McLeod et al. (2018) depict islands as often being fragile, with challenges from tourism development that are frequently rooted in the island's history and social and cultural aspects. Thus, while islands are popular tourist destinations, they tend to require appropriate planning because of their insular characteristics and the tourism market they create. Yet, due to their successful position in the global tourism market (Hall, 2010), inevitably tourism activities bring negative impacts that are often more acute in small islands than in other locations (e.g., Briguglio & Briguglio, 2005; Cave & Brown, 2010).

Therefore, while tourism in small islands is often one of the few economic opportunities (Hall, 2010), it remains vital not to neglect the wide range of downsides that tourism activities entail for them. The vital economic importance of tourism in small islands and the negative impacts that the industry can generate underline the need for sustainable approaches that maximise the economic potential of the industry while minimising its negative effects. It is in light of these two extremes that a CE becomes a promising approach to tourism in small islands, and the following section further narrows down the discussion by intersecting the CE and SIDs.

#### **2.4. Part 4 - Circular Economy in Small Island Destinations**

Drawing upon the previous section, small islands appear to be popular tourist destinations, and tourism activities seem to be as beneficial as detrimental (Sheldon,

2005). In fact, numerous studies portray island realities where tourism challenges the local well-being and the integrity of the natural environment (e.g., Briguglio & Briguglio, 2005; Chen et al., 2005). Contributions also examine the difficulties in developing a sustainable tourism industry in small islands contexts, depicting SIDs as complex realities for sustainable tourism planning (e.g., Sharpley, 2001; Willmott & Graci, 2012) where islands often engage in what has been defined by Grydehøj and Kelman (2016) as “conspicuous sustainability” (p. 106).

This means that islands often adopt symbolic sustainability initiatives whether or not they contribute to the sustainability of the island, initiatives that become counterproductive (Grydehøj & Kelman, 2016). Consequently, increasing is the attention, although still limited, on the role that a CE can play in small islands and SIDs in facilitating sustainability in tourism and beyond (e.g., ten Brink et al., 2017). From this standpoint, Part 4 of the literature review seeks to intersect the conversation by discussing the CE in the context of SIDs. Due to the lack of tourism-based studies on circular tourism in SIDs, the discussion mainly develops around contributions belonging to other fields, that are still deemed relevant for this review. Given that previous discussions have already conceptualised the challenges and enablers of a CE and argued the need for empirical analysis of CE in tourism destinations, the following section solely focuses on the role of islandness in driving, facilitating and/or inhibiting a CE in tourism.

#### 2.4.1. Islandness and the Drivers to a CE in Small Island Destinations

In addition to the broad drivers that underpin the transition to a CE and, more specifically, a CE in tourism, several scholars narrow down the discussions to the context of small islands by indicating island-specific reasons that motivate the implementation of a CE. For this study, it is crucial to valorise a place-based understanding of the factors that may drive the transition to a CE to allow the researcher to incorporate a place-based dimension in this review.

Feenstra and Alofs (2020) discuss the implementation of CE strategies in Aruba to mainly solve the problem of waste management within the island and purport that, in

island contexts island conditions typically challenge waste management activities, and the CE can provide a response to a better, more valuable, and effective waste management systems. While identifying industrial ecology solutions for islands, Eckelman et al. (2014) also argue, that strategies are needed to solve the waste management challenges that characterise these territories.

A similar perspective is shared by Kowlesser (2019) from Mauritius, where waste remains mostly landfilled as opposed to more sustainable solutions that could be promoted under a CE scenario. The sensitivity of small island communities towards waste minimisation was also noted by Randazzo et al. (2019) in the context of the CE proposal on the island of Pantelleria, in Italy. Fuldauer et al. (2019) noted that a CE is a response to the accentuated waste management challenges faced by small island developing states, and Millette et al. (2019), writing from Trinidad and Tobago, pointed out that the reduction of plastic waste seems to be a key factor in the local CE effort. Additional scholars tend to illuminate the CE as a solution to mitigate the waste management challenges of islands. To this extent, also Argo and Rachmawati (2021) – by focusing on the Karimunjawa Islands in Indonesia – highlight that the CE is a direct response to the increasing solid waste accumulation in these islands. Mena-Nieto et al. (2021) bring a similar perspective from the Balearic Islands, where the CE is considered a pathway to achieving the EU targets for municipal waste reduction.

Whilst the above scholars emphasise the island challenges to waste management – which are implied to be territorial –, it is with Saavendra and Alleng (2020) that this is clearly specified when stating that the implementation of a CE in small islands is essential given their attributes, including remoteness, spatial dispersion, degrees of proximity, economies tied to oceans, small landmass, scarce population and high reliance on imports. For Saavendra and Alleng (2020), these and more island-related issues make islands highly vulnerable to external shocks and so, there is a need to create the conditions for resilience and interconnectedness that allow people to satisfy their needs within the limits of the island through a CE system. Extending from what was evidenced by Saavendra and Alleng (2020), and writing from the Caribbean islands, Mohammadi et al. (2021) believe that a CE would promise solutions to become more self-sufficient, diversify the local economy and create new jobs to mitigate narrow economic specialisation. Concu and Pani (2019) – despite writing



from the non-small island of Sardinia – further reinforce that the need for sustainability in island territories is mainly related to the fact that they are particularly vulnerable to climate change and imports, and that the CE represents a route for better resource management to become more efficient and self-sufficient. This is specifically argued by Eckelmann and Chertow (2009) drawing upon the island of Oahu in Hawaii where its high dependency on external resources makes the CE a key opportunity to re-use domestic waste to substitute imports and simultaneously reduce waste generation on the island. The CE, for Elgie et al. (2021) – writing on the island of Granada –, is essential as the island has limited waste absorption capacity due to its remoteness and size. Similar issues are outlined by Santamarta et al. (2014) from the Canary Islands, where the waste management is a complex task further accentuated in the islands' territories because of isolation and limited territorial size.

It is evident that CE is regarded as a strategy to mitigate the pressing waste management challenges which appear to be common across contributions. Moreover – although limited –, there are some hints that the CE reduces imports and the islands become more self-sufficient. Interestingly, unlike the broader discussions, the COVID-19 pandemic has not emerged as a driver in island CE in existing studies. Yet, the needs underpinning the drivers to a CE outlined above were clearly placed in relation to islandness factors such as island size, isolation, etc., providing a first understanding of how islandness may drive or motivate the CE transition on islands. Contributions are not only in their infancy – calling for more investigations – but also not tourism-specific, thus leaving a key gap in the literature for the purposes of this study. When seeking to adopt CE strategies, tourism businesses face barriers and enablers, and the next section reviews the islandness-driven barriers and enablers to a CE in SIDs.

#### 2.4.2. Islandness and the Barriers and Enablers to a CE in Small Islands Destinations

Answering a call for place-based approaches to a CE, especially in small islands (Moncada et al., 2010), this section seeks to review how islandness has been examined in the context of the CE transition in SIDs. SIDs, although prioritised in the literature

in deserving tailored planning for sustainability and CE (e.g., Andriamahefazafy & Failler, 2021), have received significantly limited attention.

From the broader perspective, current debates on the sustainability of small islands have resulted in contrasting views. On one side, islands with their socio-geographical features are characterised by significant advantages in adopting and adapting to sustainability (e.g., Baldacchino, 2000; Petzold & Ratter, 2015). On the other side, small islands have often been portrayed as highly vulnerable to external changes (e.g., Beyerl et al., 2018, Perkins & Krause, 2018) and characterised by limited socio-cultural and technical resources to be employed for a sustainability transition (e.g., Briguglio & Briguglio, 2005; Ratter, 2018). While the literature is concerned with such duality within the broader perspective of sustainable development, limited remains the empirical evidence examining it from a CE standpoint and especially through tourism-related studies. Over the years, scholars have often related this duality to the island's features, finding a direct relationship between islandness-related variables and the degree and potential of sustainability in small islands. For instance, Ratter (2018), in a recent book on the geography of small islands, posits that spatial-geographical features such as isolation, remoteness, size and connectedness tend to significantly influence the ways an island society functions. Clearly, the discussion makes a direct connection between islandness and the sustainability of small islands by recalling Baldacchino's (2004) emphasis on the role of islandness in affecting the events taking place on islands.

Yet, from a CE perspective, this relationship is explored only by a few researchers belonging to the research stream of industrial ecology and not tourism, thus mostly focusing on the resource-sharing perspective of the CE facilitating the so-called industrial symbiosis (resource sharing between businesses). However, despite their focus on the industrial aspect of the CE, they provide relevant discussions that shed light, to an extent, on the role of islandness in facilitating and/or inhibiting a CE in small islands while delineating a knowledge gap characterised by a tourism focus.

Deschenes and Chertow (2004), while exploring the barriers and enablers faced by industries on the island of Puerto Rico towards the implementation of industrial symbiosis for a CE, point out that often the definite geographical boundaries (or

boundedness) of islands allow a more manageable resource sharing mechanism due to the typical aggregation of industries. Yet, while this standpoint may be applied to other industries operating in small islands, the dispersion of tourism operations in a destination tends to be less aggregated than, for instance, industrial clusters (Vukonic, 2005). In fact, contrasting Deschenes and Chertow's (2004) findings, by writing from the islands of Mauritius, Mauthoor (2017) observes that the often-fragmented islands' system creates a lack of proximity among actors, hindering a CE that promotes resource sharing among operators.

This discussion relates to the work of Tapia et al. (2019) when conceptualising an existing relationship between the degree and potential development of a CE and the level of industrial agglomeration or spatial concentration of territorial features that tend to affect the local ability to embrace a certain degree of circular practices. The level of industrial agglomeration, but also the wider industrial profile of the region (Bačová et al., 2016), is believed to allow the functioning of a CE, especially industrial symbiosis. However, it is also supported that high industrial agglomeration facilitates better skills' market and knowledge spills (Tapia et al., 2019). Hence, it seems that industrial agglomeration can be directly linked to a variety of barriers and enablers to a CE, spanning from technical and operational, unfolding in various forms, such as by influencing the degree of collaborations, sharing and skills available to develop new circular products and/or services, or even to operate new technologies for a CE. Yet, it remains empirically unexplored how agglomeration and spatial fragmentation of SIDs affect the CE transition of tourism firms.

Writing about Puerto Rico's end-of-life tyres market, Millette et al. (2019) observe that a key challenge faced in islands when promoting a CE concerns the availability of markets for end-of-life products in order to valorise and keep them within the resource cycles. The study findings emphasise the importance of urban agglomeration (e.g., cities) existing on islands (Tapia et al., 2019). In fact, as Masi et al. (2018) remind us, urban agglomeration can significantly facilitate market access for circular products' re-marketing and economies of scale that are becoming increasingly essential to closing material loops (Bahers et al., 2017). Although unexplored from a tourism industry perspective, the discussion, in addition to suggesting that urban agglomeration of destinations may affect the capability of tourism businesses in

promoting a CE through the re-circulation of end-of-life materials, links to the importance of the spatial fragmentation of island regions for a CE. Yet, in the view of Tapia et al. (2019), the impact of urban agglomeration on the CE goes beyond re-circulating resources to also include the environment for social interactions and cohesion, all factors that enhance social networking and community-led initiatives needed for a CE (Bringsken et al., 2018).

However, empirical contribution on the topic is notably limited from a tourism perspective and beyond. Therefore, a CE may be dramatically facilitated or even completely obstructed by the absence of sufficient agglomerations (both industrial and urban) (Masi et al., 2018), and while this logic may apply to tourism, the literature remains uninformed on the topic, thus not providing recommendations on what are the potential derived challenges and facilitators that should inform tailored planning for circular tourism in SIDs.

In island contexts, the absence of sufficient agglomerations can be a critical issue because it is more advantageous to re-circulate materials locally than to export them. Symeonides et al. (2019) observe such an issue in the context of Cyprus, where the limited potential to redistribute materials internally and the costs of exporting them outside the island make the implementation of certain aspects of the CE challenging and often economically unviable.

Inevitably, this discussion links to the notion of island-island and island-mainland accessibility. Accessibility has been broadly discussed as being directly linked to the degree of functionality of several types of CE practices (e.g., Chiaroni & Urbinati, 2016), yet views remain contrasted. In fact, for Tapia et al. (2019), greater accessibility plays a key role in reducing travel distance and time for a CE, thus, to a certain extent, helping to overcome challenges such as these encountered in the case of Cyprus by reducing travel distance and time, transport costs and ultimately improving access to materials. Similarly, for Buren et al. (2016), accessibility remains essential because a closed-loop economy comprises many different links and nodes, including suppliers' facilities, manufacturing plants, distribution centres, retailers and so on. Therefore, the presence of appropriate infrastructures and multiple transport modalities is essential to enable a CE to ultimately intensify the circular material flows (Accorsi et al., 2015).

Inevitably, the same logic applies to the implementation of a CE in SIDs. In fact, on several occasions, island communities have expressed concerns about the impact of their degree of isolation on sustainable development (e.g., Kerr, 2005; Moncada et al., 2010). Moncada et al. (2010), for instance, following a study of twenty-eight European islands, articulate that the most common and major concern for small island communities in reference to sustainable development is the actual peripheral attribute that characterises them.

However, from a more critical standpoint, Vallega (2007) argues that islands can be physically remote but well connected and less physically remote and badly connected. For this reason, the degree of isolation and remoteness as key variables characterising islandness can be argued to be relative concepts to the degree of forms of connection, such as internet and transport. Consequently, Vallega (2007) calls for more attention to transport and communication systems. This seems to be significantly relevant for both island-mainland and inter-island dynamics that could facilitate circular materials flows in the tourism sector.

While limited accessibility is largely discussed as a hindering factor to the application of a CE in small islands, several researchers suggest that this is not always the case. Noll et al. (2019), working on the Greek island of Samothraki, demonstrate that within the context of sustainable development, connectivity and affluence do not always provide the island with opportunities and fewer challenges to face, suggesting that even isolation can provide small islands with opportunities and be advantageous to sustainability. Anderson's (2001) extensive study on Pacific Norfolk Island, along with Perkins and Krause's (2018) work on the Yap States in Micronesia, articulate that a particular cultural heritage emerging from historical physical isolation can often result in the development over time of sustainable practices that continuously adapt to the changing environment. Yet, this appears to be also the case of less "physically remote" islands. In particular, Petzold and Ratter (2015) and Petzold (2018), on the island of Scilly in the United Kingdom, show how island communities tend to own significant advantages over other realities in adapting sustainable initiatives through social capital which, in practice, translates into collaboration, cooperation and the ability to set common targets. These interactions are crucial when it comes to

exchanging good practices, pooling resources, and creating relationships (Baggio, 2011).

As Parker (2021) writes, islanders tend to reinvent themselves in accordance with the opportunities and available resources in order to safeguard their island community, culture and identity, indicating the potential existence of traditional forms of circularity that have not been further explored by scholars within the context of CE. This can also be linked to the concept of frugal innovation traditionally adopted by communities where they seek to do more with less for more (Weyrauch & Herstatt, 2017) to mitigate their island-constrained environment. Innovating frugally has particularly been associated with the CE as providing low-tech and valuable transitioning opportunities (Levänen & Lindemann, 2016).

Within the context of a CE, therefore, it cannot be excluded that physical isolation may have generated advantages for small islands that have not been empirically documented yet. In fact, as Nunn et al. (2017) also posit, the island's culture is intrinsically related to the island's geography, dictating the ways in which island communities shift to more sustainable lifestyles. These can often be fully based and already existent among the local traditions. Human adaptation to territory is not a novel topic of study, especially from the anthropological and biocultural fields of knowledge (e.g., Lincoln et al., 2018), showing that isolation is often a driving force for local sustainable development. More recently it has been evidenced that adaptation in small islands has been boosted by the COVID-19 mitigating measures reinvigorating traditional food systems and local food production, and the re-emergence of cultural values and practices such as the barter system (Iese et al., 2021) which tend to enable a CE (Kiss et al., 2021).

Such discussion implies that accessibility can have a double impact in facilitating or inhibiting a CE. In fact, while it can limit a circular materials' flow with the external environment, it seems that isolation naturally leads communities to develop internal practices that may promote internal self-sufficiency (e.g., repair, reusing, redistributing) and, therefore, less dependency on external inputs. In line with such logic and building upon the experience of an ongoing transition towards a CE on the island of Guam, characterised by low-tech and bottom-up transition models,

Schumann (2020) affirms that the diffusion of a CE “will depend on the ideas and initiatives of business owners, managers and skilled staff, etc., that have practical knowledge about the specific opportunities and needs” (p. 18). Yet, Schumann (2020) does not exclude the need for centralised actions to speed up the transition, envisioning a non-static process. Ouzounoglou et al. (2014) complement Schumann (2020) in a study on the small Cyclades and the island of Naxos in Greece which highlighted those centralised actions as often representing a main barrier for a CE because of the inability of policymakers in creating actions aimed at the roots of problems and characteristics of the islands.

These characteristics, clearly descending from what was conceptualised as islandness in previous sections, call for a change of paradigm where more vertical and horizontal cooperation is promoted to ensure the sustainability of islands (Ouzounoglou, 2014). The work of Ouzounoglou (2014) shows that islandness generates policy implications to promote sustainable business models based on the CE principle and highlights the importance of listening to local communities and applying tailored solutions merging bottom-up with top-down actions. Yet, as island communities face a set of diverse challenges related to insularity, there is no single solution that is applicable to all islands (Grydehøj & Casagrande, 2020). This relates back to the importance of classifying islands (Taglioni, 2011) based on common features, challenges and strengths.

A European Union report (2016) adopts a more regional standpoint, discussing that challenges to islands’ sustainable development should also be seen in terms of island-island connectivity and that regional challenges are often significantly different among islands, such as the existing infrastructures between main and secondary islands. Such discussion links back to the importance of knowing and recognising the typology of the island that it is being studied, especially when located within an island region. In fact, isolation has been described by Bridge et al. (2013) as being concerned also with the location of the individual island within a network of islands. In this line, a presentation by Loizidou (2016) delivered during the International Conference on Circular Economy, Territorial Cohesion and Islands highlights the importance of seeing joint strategies as a solution in the management of island resources and waste for a CE. Joint strategies are actioned by island-island cooperation (where possible).

Empirical examples showing the dramatic differences among islands leading to planning challenges for sustainable development in small islands are provided by Barlett et al. (2010) and Gowreesunkar et al. (2018). Gowreesunkar et al. (2018) in Mauritius, evidence issues related to the core-peripheral relationship, where islets face major challenges to sustainable development, especially in terms of lack of infrastructure and natural resources. Meanwhile, Bartlett et al. (2010), writing from Vanuatu, advocate the importance of understanding island heterogeneity among clusters of islands in order to enhance sustainability by understanding the diverse dynamics and flexibility of natural resource management, which is significant from a CE perspective. In fact, regional cooperation for a CE should be facilitated by cohesion promoting parity in infrastructure and equal access to opportunities (Tapia et al., 2019), particularly in the context of small islands (Spilanis et al., 2010).

Clearly, the literature shows a strong relationship between the island features and the potential and nature of a CE. Moreover, while the debate shows that the same logic may apply to tourism businesses, it remains empirically unclear how such a relationship may evolve within a CE transition in SIDs. Thus, while the literature confirms the significance of understanding the role of islandness in the CE transition, still much needs to be investigated on the topic to inform the needed place-based planning. This is highly relevant given the fact that the CE is rapidly entering the development agenda of numerous SIDs, as discussed in the following section.

#### 2.4.3. Circular Economy Initiatives in Small Islands

Despite the lack of significant contribution concerning a CE and circular tourism in SIDs, the CE is rapidly becoming the development framework of many islands to decrease their dependency on the mainland in terms of water, energy and material resources (Cumulus, 2020). Moreover, the Smart Island Declaration, signed by more than thirty islands in sixteen European countries, represents a great and combined effort of European islands in tackling environmental challenges and improving social well-being through a CE framework (Island Initiative, 2019). The initiative embraces water, waste, energy and transport, directly addressing circularity in the economy.



Additionally, there is increasing attention to the islands' transition to a CE, with projects such as the IUCN's Plastic Waste Free Islands project, which promotes CE initiatives to address plastic leakages in small island developing states (IUCN, 2021), and InCircle, supporting CE initiatives in Mediterranean islands and coastal areas (Interreg Europe, 2021).

Some of the islands advocating CE projects are popular tourism destinations. For instance, the island of Favignana in the Italian Egadi archipelago, as a consequence of the significant flux of visitors, faces environmental and social challenges, especially in terms of resource scarcity to sustain the local and seasonal population (Cumulus, 2020). As a response, a CE strategy is being implemented, the "Integrated Project for the Development of the Egadi Islands", seeking to promote bioresources as inputs and the reuse of waste, associated with the minimum use of local resources, the production of waste and externalities (Cumulus, 2020). Nevertheless, the project seems to be at its early stages, and it is still unclear how tourism businesses are operationalising the CE initiatives.

Another documented initiative is the small island of Samsø, in Denmark, where there has been a great effort in positioning the island as a leader in circularity, especially in terms of renewable energy (Energia Akademiet, 2020). The island of Vlieland in the Netherlands is also at the forefront of applying circular principles to its operations. Similar to the islands of Favignana, Vlieland is a popular tourism destination in summertime, especially for the domestic market, causing pressures on the island. Here, CE initiatives are embracing a diversity of resource flows, including water and energy, but it remains unclear how circularity is applied at the business level (Metabolic, 2018). A similar response to tourism pressures has been adopted by the Capraia island in Italy and the island of Paros in Greece. Capraia is implementing the Capraia Smart Island Project mainly to develop circular opportunities that power the island and sustain the seasonal tourism industry. However, the project seeks to also boost innovation in the mobility, waste, fisheries, water and construction sector (Monni, 2017). In Paros, the focus is largely on plastic waste reduction through the project Clean Blue Paros, which has involved numerous tourism businesses in finding ways to reduce plastic in their operations (Common Seas, 2020).

These projects highlight significant initiatives unfolding in small islands and SIDs, yet the Orkney Islands (OI) in Scotland were favoured over the other islands for the purpose of the study. The OI are embedded within the Scottish context where the national CE strategy was published as early as 2016 and are paying particular effort to the CE transition (Scottish Government, 2016). While these initiatives (e.g., Zero Waste Scotland's Circular Highlands and Islands) (Zero Waste Scotland, 2022) are not currently empirically documented, they represent an ideal case for such investigation. To this extent, the OI are introduced in the next section with a brief discussion and justification of the reasons that have placed the OI as the selected focus for this study.

## **2.5. Part 5 - Circular Economy in the Orkney Islands**

Part 5 of Chapter 2 briefly introduces the OI, reviewing some of the CE initiatives that further justify the reasons why they are an ideal case study for exploring a circular tourism economy in SIDs. The first section introduces the OI with some basic information, which is further expanded in Chapter 4. The second section briefly pictures the Scottish CE context. To conclude, CE initiatives unfolding in the OI are discussed to justify their selection as a case study.

### **2.5.1. The Orkney Islands**

The OI are situated in the northeast of Scotland and are a popular tourist destination. The tourism sector in the OI is largely seasonal, with the majority of visits taking place between June and September, mainly for sceneries and historic culture, making tourism a major contributor to the local economy (Visit Scotland, 2018). It is estimated that tourism generates circa £50 million a year for the Orkney Islands' economy and involves about 500 tourism businesses in the county (Destination Orkney, 2020). Whilst being recognised as a key component of the local economy through the creation of income and jobs, a tourism strategy has been developed to protect and conserve the integrity of the Orkney's environment and local culture (Destination Orkney Strategic Partnership, 2020). The objective of the strategy is to increase the economic prosperity of the island, extend the visitor season, improve the sustainable management of

visitors, and ultimately conserve the islands' natural and cultural heritage (Destination Orkney Strategic Partnership, 2020). To accelerate the achievement of such a sustainable tourism industry, the OI are also seeking to embrace CE initiatives that are promoted under the national CE strategy. To this extent, the following section briefly discusses Scotland's effort towards a CE which reflects the micro effort of various Scottish regions in promoting circularity across industries.

### 2.5.2. A Circular Economy for Scotland

In 2016, the strategy "Making Things Last: a circular economy strategy for Scotland" (2016) was published, representing the first effort of Scotland to lay out a pathway towards a CE. With the aim of benefiting the environment, the economy and the community as a whole, the strategy prioritises four main areas: the food and drink sector and the broader bioeconomy, where food waste represents a significant source of carbon emission; the remanufacture sector; construction and the built environment; and the energy infrastructure sector (Scottish Government, 2016). Yet, the strategy places a great emphasis on empowering Scotland's repair sector as well as becoming an international leader in the efficient use of biological resources through cascading systems (Scottish Government, 2016).

To achieve such objectives, in 2019, the Scottish Government initiated consultations to develop a CE legislation (Scottish Government, 2019), showing the government's effort to further reinforce and accelerate the implementation of a CE framework. These consultations will ultimately help to propose legislations to cut waste as part of the wider plan to reduce, reuse and recycle materials (*ibidem*). This relevant effort towards a CE is being increasingly translated into initiatives, such as Circular Glasgow (Glasgow Chamber of Commerce, 2020), Circular Edinburgh (Edinburgh Chamber of Commerce, 2020), Circular Tayside (Circular Tayside, 2020) and inevitably across the Scottish Islands, including the OI. Hence, the macro effort to promote a CE that characterises Scotland creates a strong case to be investigated. The following section reviews some of the initiatives that have been and are unfolding in the OI, that deem the region as an ideal case study for the purpose of this research.

### 2.5.3. A Circular Economy for the Orkney Islands

As a result of the national strategy, CE initiatives have been developed or are in the development process across the OI. They emerge in parallel to the objectives of the recent Orkney Community Plan (2019-2022), stating that a sustainable and thriving community should be promoted across the OI (Orkney Islands Council, 2019). First desk research helps to reinforce the image of the OI as an exemplar SID in the context of a CE development. Several organisations, especially civil societies, are involved in the OI's effort towards a CE, such as Orkney Zero Waste, a community-run charity dedicated to the reduction and elimination of waste in the region (Orkney Zero Waste, 2020). The charity seems to be involved in several CE projects that promote educational sessions for the local community, workshops for local businesses and material sharing points, such as the Orkney Zero Waste Yard, hosting items that are too good to be recycled and that could be reused or repurposed (Grahame, 2017).

Nevertheless, it seems that in the OI major effort is directed towards the reduction of food waste among households as well as businesses. Such emphasis is perhaps the result of the key priorities articulated in the Scottish CE strategy, considering the reduction of food waste a key action to boost the CE across the Scottish regions, including the islands (Scottish Government, 2016). The priority of reducing food waste is also clearly articulated in the recently published Food Waste Reduction Action Plan (Scottish Government, 2019a). Yet, the plan was preceded by food waste reduction initiatives in the OI, mainly promoted by Zero Waste Scotland. For instance, in 2018, the Food Waste Prevention Week was created in the OI as part of Zero Waste Scotland's Resource Efficient Programme (Zero Waste Scotland, 2018). During the event, workshops were organised for the community and businesses to communicate food-sharing methodologies and benefits. They were introduced to the Olio digital application (Olio, 2020), intended to enable food redistribution. As an outcome of the Food Waste Prevention Week and the introduction of a digital methodology, during the year 2018, Olio users in the OI increased by over 500% (The Orkney News, 2018), which shows a great adherence and community motivation towards food redistribution (The Orkney News, 2018a).

The focus on food waste reduction in the OI through circular practices, especially redistribution, also mirrors the Love Food Hate Waste campaign promoted by the WRAP (The Waste and Resources Action Programme) (Love Food Hate Waste, 2018; WRAP, 2021), introduced in 2018 to promote a variety of food waste reduction initiatives nationwide, including in the OI, through workshops and other formative events (The Orkney News, 2018a). The effort towards a CE discussed above depicts a number of initiatives in the OI, but desk research shows that a major effort seems to be channelled towards food waste prevention circular practices. Nevertheless, little is known about the extent to which and how CE solutions are being adopted by tourism businesses, what drives this adoption, and the barriers and enablers that tourism businesses face in this transition. Such a lack of contribution makes the OI an unexplored case study in terms of circular tourism.

## **2.6. Part 6 – Knowledge Gap and Conceptual Framework**

As the literature review has evidenced, a CE is widely defined as a new sustainability paradigm retaining the ability to guide a holistic transition to a more sustainable society through regenerative business models that design out waste (Kirchherr et al., 2017). Essentially, the CE is a response to the linearity of the current economic system in order to keep materials circulating within the system for as long as possible by generating value over time (Suarez-Eiroa et al., 2018). This value, however, should be seen as not only environmental but also social and economic (Korhonen et al., 2018). It is such a holistic vision of the CE that positions it as an ideal framework to pursue sustainable development (Korhonen et al., 2018). The engine of a CE is the circular business model (Accenture, 2014) which can take various forms and be applied to various stages of the product or service lifecycles (Achterberg et al., 2016), both the biological and technical cycles of materials (Ellen MacArthur Foundation, 2013). A main characteristic of a CE is that it needs a system effort, where collaboration and transparency are key terms for its functioning (Niero & Rivera, 2018). Achterberg et al. (2016) see circular business models in the pre-use phase to design for a CE, the use phase to optimise the utilisation of products and services, and the after-use phase to valorise the used materials.

Yet, as discussed in this chapter, barriers and enablers influence how and the extent to which firms implement CE solutions (e.g., Masi et al., 2018). These are largely conceptualised as technical, market, socio-cultural, financial and institutional (e.g., de Jesus & Mendonça, 2018). A common theme in the literature is the role of the public sector in facilitating the alleviation of barriers to a CE and capitalising on the enablers through tailored industry and place-based interventions (e.g., Ruggieri et al., 2016; Domenech & Bahn-Walkowiak, 2019; Varjú & Dabrowski, 2018; Tapia et al., 2019). Moreover, these tailored approaches should also build on an understanding of what drives the transition to a CE or the reasons motivating its application. Motives driving the CE are varied, and Korhonen et al. (2018) indicate them as grouped into environmental, social and economic drivers, while other scholars evidence that the CE is being currently driven by the COVID-19 pandemic in a number of ways that would ultimately promote more resilient businesses (Khan et al., 2021) and society (Linkov, 2021).

Consequently, and inevitably, tourism scholars are paying increasing attention to the possible implementation of a CE in the tourism sector in order to alleviate its impacts on the destination while retaining the economic potential of the industry (e.g., Girard & Nocca, 2017; Manniche et al., 2018). In fact, it is clearly supported that a CE in tourism would be beneficial for the sector and beyond (UNWTO & UNEP, 2019). To this extent, several contributions seek to conceptualise the so-called circular tourism (e.g., Florido et al., 2019); however, while current contributions provide a degree of conceptual fundamentals of circular tourism, it is also evident that this research stream is still in its infancy. Similarly, while the feasibility of adopting a CE across the tourism sector is widely accepted, much still needs to be investigated to provide an empirical understanding of the variations of CE practices within the tourism sector. In fact, contributions are mainly limited to the description of opportunities for tourism (e.g., Yuksel, 2017) and do not articulate how the CE is currently unfolding.

The industry-aimed approach needed for the CE also calls for an understanding of the drivers, barriers and enablers faced by tourism firms to a CE to avoid generalisations and attempts to simply apply findings from other industries to tourism. To this extent, some insights from the literature shed light on several drivers, barriers and enablers of a CE faced by tourism businesses (e.g., Manniche et al., 2018; Vargas-Sánchez, 2019;

Sorin & Sivarajah, 2021). These largely recalled broader discussions on issues faced by businesses from other industries transitioning to CE, such as technical, socio-cultural etc., which provide general conceptualisations for standardised public interventions but are not suitable for the tailored and place-based approaches that are much needed in a CE (Tapia et al., 2019). Therefore, the need to consider the CE transition in tourism as a destination matter emerges, where circular tourism transition should be explored in relation to the destination's characteristics to shed light on realities that are place-based but can still be generalised across similar destination typologies.

It is in this light that SIDs emerge as an ideal case study. In fact, researchers have often called for improved sustainability due to the acute tourism impacts (e.g., Briguglio & Briguglio, 2005; Cave & Brown, 2010) and the common economic over-reliance on tourism in island settings (Hall, 2010). SIDs represent destinations with specific features, articulated into the concept of islandness which calls for heavily tailored planning for small islands (McLeod et al., 2018). Some authors acknowledge the significance of a CE for small islands given their need to increase self-sufficiency (e.g., ten Brink et al., 2017), but the current contribution intersecting small islands and the CE is only concerned with industries other than tourism (e.g., Deschenes & Chertow, 2004).

Moreover, a number of scholars recognise the need to consider the factors related to islandness, such as isolation, boundness, fragmentation and island size (Fernandes & Pinho, 2017) when investigating issues that impede or facilitate the island's sustainable development (e.g., Symeonides et al., 2019). From one perspective, islandness has been empirically linked to issues that may accelerate but also slow down the sustainable development of islands, making them vulnerable but resilient (e.g., Baldacchino, 2000; Petzold & Ratter, 2015). On the other hand, it remains less clear how this occurs in relation to the CE transition in SIDs. Only a small number of studies (e.g., Deschenes & Chertow, 2004) explore the CE in relation to islandness. While these studies focus on other industries, they provide some evidence of the relevance of considering islandness when studying the CE in small islands and provide more informative discussions that could be potentially useful for tailored planning.

The lack of studies linking islandness to the CE in SIDs opens a research gap that will be addressed firstly to inform broader discussions on circular tourism and, secondly, to provide a place-based dimension by focusing on a particular destination. Given the dynamic nature of the CE, the interconnected characteristics of barriers and enablers faced by businesses (Kirchherr et al., 2018) and the complexity of tourism destinations in general (often defined as open ecosystems) (Leiper, 1979; Gretzel et al., 2015; Sainaghi & Baggio, 2017) – and particularly SIDs and their islandness characteristics (Fernandes & Pinho, 2017; Ratter, 2018) –, the identified gap should be tackled through a holistic and systemic approach in order to provide a rich picture of the whole. A few initiatives promoting a CE in SIDs are unfolding, however, the OI in Scotland emerge potentially as an ideal case where to investigate the issues tourism businesses face when applying a CE and how the island context may influence such issues. Several initiatives in the OI are being reported creating the scope for the study. Finally, there is a lack of empirical research intersecting tourism and the CE in the OI that further justifies their selection as the focus of this study. Drawing from the literature review chapter, the following section articulates the study’s conceptual framework.

### 2.6.1. The Study Conceptual Framework

According to Miles and Huberman (1994, p. 18), a conceptual framework “explains either graphically or in narrative form the main things to be studied, the key factors, concepts, or variables – and the presumed relationships among them”. In this section, the researcher illustrates and explains the conceptual framework of the study. Figure 2.3. represents the study’s full conceptual framework that shows the relationships and concepts (including drivers, barriers and enablers) emerging from the literature and the areas of enquiry which have not yet been studied.



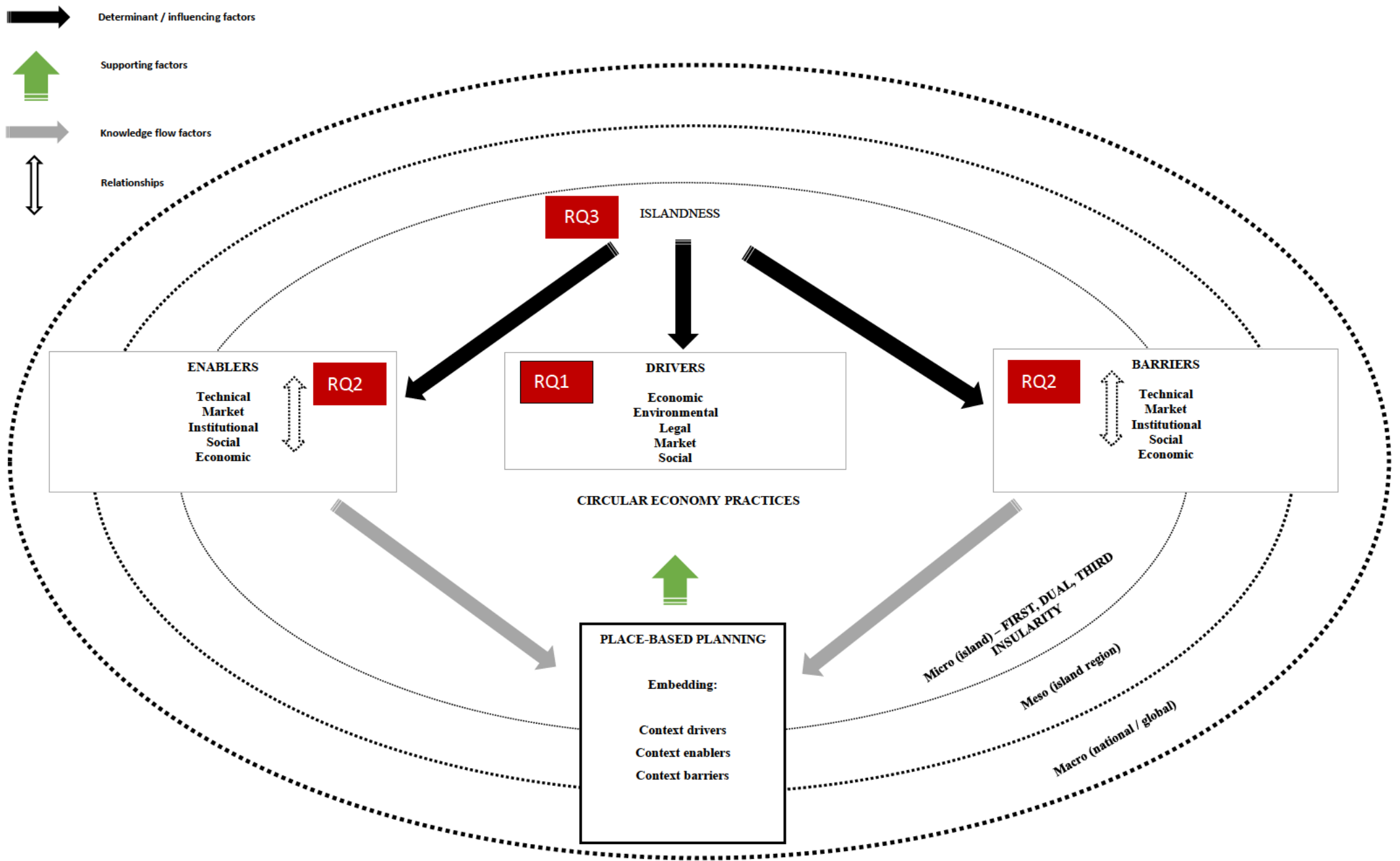


Figure 2.3. Conceptual Framework: Overview

In the literature, the CE is widely recognised as an emerging and disruptive tool with the potential of guiding a holistic transition towards sustainable development (e.g., Kirchherr et al., 2017). In this process, conceptual and empirical evidence from the literature shows that novel business models can create the needed bridge between the theoretical and the practical implementation of CE principles (Bocken et al., 2014). These novel business models have been defined as circular business models and – as discussed in the previous section – widely conceptualised in the literature in relation to the ways they tend to unfold, the drivers motivating their implementation and the barriers and enablers faced by businesses in adopting them.

The works of Achterberg et al. (2016) and the Ellen MacArthur Foundation (2013) provide a major conceptual contribution to the foundation of this study. The Ellen MacArthur Foundation (2013) depicts CE solutions across the technical and biological cycles, while Achterberg et al. (2016) taxonomise CE solutions based on their application across the product and service lifecycle. It is believed, therefore, that both contributions tend to provide a clear, structured and comprehensive representation of CE practices, along with when and why they are implemented. Moreover, they both complement rather than contrast each other while providing relevant conceptual guidance to this study. Thus, both categories of CE solutions (belonging to the technical and biological cycles) can boost the transition towards a circular tourism industry (Manniche et al., 2018), by retaining the potential to slow and narrow, close and even dematerialise the material flow in the economic system (e.g., Bocken et al., 2016; Geissdoerfer et al., 2018). Yet, as discussed in earlier sections, the adoption of a CE is not free of challenges and independent of enablers generated by a business's internal and external environment (e.g., de Mattos & de Albuquerque, 2018).

As Kirchherr et al. (2017) underline, barriers and enablers tend to be embedded in a chain reaction, thus interconnected and influencing each other. This dynamic nature of barriers and enablers that businesses face can, therefore, only be understood through systemic approaches. Within the context of small islands and SIDs, it is crucial to observe these barriers and enablers to a CE also in relation to the specific island characteristics (e.g., Millette et al., 2019). These are conceptualised with the

concept of islandness (Conkling, 2007; Fernandes & Pinho, 2017). Although islandness has previously been considered a state of mind (Conkling, 2007) or a more complex issue (Jackson, 2008), in this study, it is theorised from a geographical-spatial perspective, which is in line with the work of Fernandes and Pinho (2017).

In the current study, islandness is seen as composed of four main common island characteristics: isolation, boundedness, spatial fragmentation and small size (Fernandes & Pinho, 2017), which are utilised as a key indicator to evaluate the role of islandness in the CE transition in SIDs. As illustrated in Figure 2.3., islandness becomes an additional – although largely neglected – potential expression of the drivers, barriers and enablers to a CE in SIDs (e.g., Millette et al., 2019). In fact, islandness should be considered as a potential source of the reasons why a CE is sought to be implemented and a source of barriers and enablers of a CE that should be investigated. The spatial-geographical perspective of islandness is preferred over other potential dimensions of islandness (e.g., state of mind) based on the nature of the CE as a dynamic and collaborative framework which needs effective nodes and relationships within and across systems.

The categories of drivers, barriers and enablers shown in Figure 2.3. are illustrated cross-scale (micro-meso-macro or SID-region-national/supranational). This is because they cannot be considered confined to a specific context but, instead, operate in a dynamic environment. This is evidenced in the literature, especially within a CE transition framework, which is by nature a dynamic, systemic and cross-scale effort (e.g., Kirchherr et al., 2017). Yet, there is no empirical attempt to describe how these drivers, barriers and enablers of a CE in tourism unfold in SIDs. The need for this empirical effort is emphasised by the literature concerning the need for tailored and place-based planning for a CE, particularly in SIDs (e.g., Tapia et al., 2019). The tailored and place-based planning is also shown as a cross-scale in Figure 2.3. to delineate both the micro and macro actors across public and private sectors as responsible for contributing to the development of place-based interventions (grassroots, public, etc.). Moreover, as shown in Figure 2.3., the tailored approach should consider the level of insularity of the SID. Accordingly, it is inevitable to inform, through empirical research, the various stakeholders on potential recommendations for place-based planning. In fact, drawing from the literature, the

present conceptual framework assumes that often the drivers, barriers and enablers, as well as CE potential, are highly context-dependent (e.g., Tapia et al., 2019), and this dynamic should be understood and conceptualised to inform the needed tailored planning.

Figure 2.3. represents the CE transition conceptual framework for SIDs. The core elements of the framework are the supporting (drivers and enablers) and unsupporting (barriers) factors to the transition to a CE in SIDs and are – according to the literature – influenced or determined by the islandness-producing factors. An understanding of the supporting and unsupporting factors is needed to inform place-based planning through a process of knowledge flow. Moreover, the currently represented factors in the conceptual framework are a combination of studies that are not necessarily tourism or island-tourism based but also derived from CE broad studies (essential in the light of limited literature on CE in SIDs). Also, the four quadrants (drivers, barriers, enablers and place-based planning) extend over the micro, meso and macro levels because the supporting and unsupporting factors – although can be exclusively rooted in the micro (island) or meso (region) levels – also concern the macro level through responsibilities and when seeking to promote a regional or interregional circular system. Similarly, place-based planning is not the sole responsibility of micro actors.

RQ1 seeks to identify the drivers from a SID case study; RQ2, the enablers and barriers; and RQ3, the influence of islandness. This would provide a place-based understanding to intensify and tailor the knowledge flow by relying more on SID-based empirical evidence that might modify, confirm and complement the current contribution from the diversity of studies forming this conceptual framework with evidence that may or may not be relevant in the context of a SID.

In Appendix 5, two focused sections of the conceptual framework are illustrated. The first focused section concerns the drivers to a CE, a CE in tourism and a CE in small islands and SIDs. Due to the limited literature contribution on the CE in SIDs, the conceptual framework benefits from a variety of studies. Yet, the researcher keeps different levels of concepts in the conceptual framework, namely Levels 1, 2 and 3. This is because at this stage it is unclear – as shown in the conceptual framework – if broader evidence (Levels 1 and 2) may or may not apply to SIDs.

This means that only the empirical evidence from the present study would allow the researcher to confirm and shift to lower levels of the conceptual framework (tourism and SIDs), modify, add, or complement any of the factors illustrated in the focused section.

This is to illustrate the findings that solely concern the case study and that may apply to other similar contexts. It is important to note that if empirical evidence from the present case study does not concern one or more factors reported in the conceptual framework (in Levels 1 or 2), it does not exclude its/their applicability to other SIDs, as only empirical studies in these other contexts would give an answer to such question. Moreover, it must be noted that when one factor is mentioned in a lower level of the conceptual framework, it is not mentioned in a higher level as well. For instance, if evidence from a SID-based CE study shows that the CE is adopted to prevent waste, this same factor is not reported in Level 1 even though it is a driver evidenced in broader studies. This is because the context of relevance is SIDs. A second focused section of the conceptual framework – still reported in Appendix 5, concerns the enablers and barriers to a CE, a CE in tourism and a CE in small islands and SIDs.

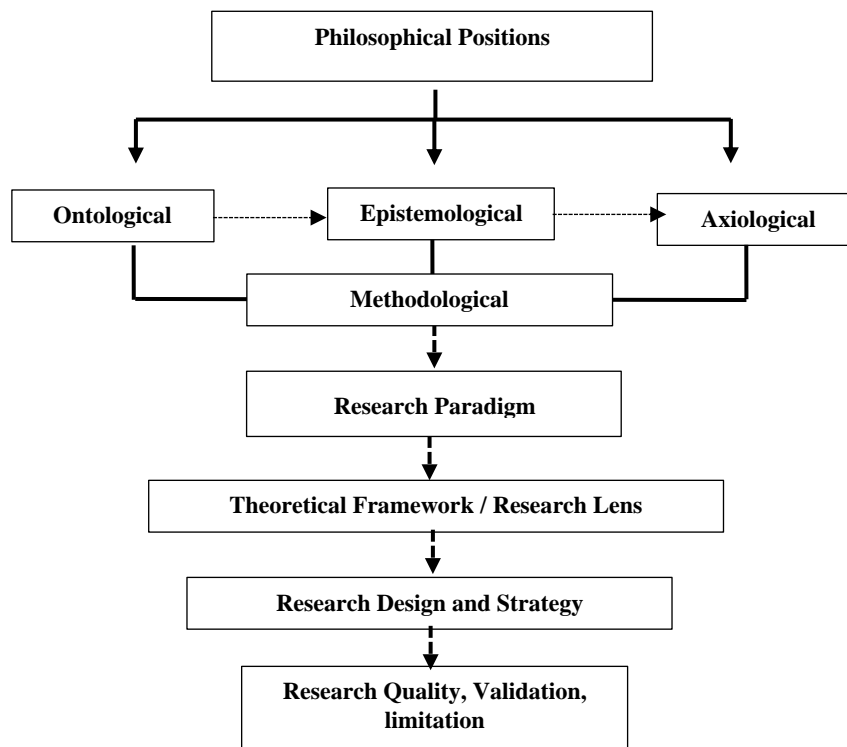
## **2.7. Conclusion**

Part 1 of the chapter focused on reviewing the relevant literature on the CE, including definitions, operating frameworks as well as the drivers, enablers and barriers to a CE, indicating a broad gap. In Part 2, the researcher narrowed down the review by intersecting CE and tourism. A CE in tourism was conceptualised, and studies on drivers, enablers and barriers to a CE in tourism were reviewed. With a justified link to the need to explore the CE in SIDs, Part 3 of the chapter introduced SIDs, the concept of islandness and island typologies. Part 4 merged SIDs and the CE by reviewing relevant literature on how the island context drives, enables and/or challenges the adoption of CE practices in the island tourism sector. Part 5 briefly introduced the OI to justify their adoption as a case study. Finally, Part 6 of this chapter presented the conceptual framework guiding the study and the research gap that it seeks to address. The following chapter describes the methodology of the study.

# Chapter 3 - Methodology

## 3.1. Introduction

Chapter 3 articulates the research methodology. The first part of the chapter communicates the philosophical position of the study: ontological, epistemological, axiological and methodological. The philosophical position adopted in the study informed the research paradigm and theoretical framework. Moreover, the chapter details the research strategy and design by discussing the case study strategy along with data collection and analysis techniques. The final section of the chapter focuses on research quality and validation. Figure 3.1. illustrates the chapter's structure.



**Figure 3.1.** Structure of the Methodology Chapter

**Source:** Own elaboration

As illustrated in Figure 3.1., each section informed the succeeding approach and/or standpoint. Consequently, the ontological position has inevitably informed the epistemological, axiological and methodological assumptions of the study.

Furthermore, the philosophical assumptions informed the theoretical lens that was adopted, which, in turn, framed the research strategy and design. Yet, before articulating the methodology adopted by the researcher, the research questions are re-stated in the following section.

### 3.1.1. Research Questions

Drawing from the gap outlined in Chapter 2, this study sought to answer the following research questions:

**Key research question:**

What are the barriers and enablers of the circular tourism economy in the Orkney Islands?

**Sub-questions:**

- 1) What drives the implementation of a circular economy in the Orkney Islands' tourism sector?
- 2) What are the barriers and enablers to the adoption of a circular economy in the Orkney Islands' tourism sector?
- 3) How does islandness affect the transition to a circular economy in the Orkney Islands' tourism sector?

The experience and background of the researcher have influenced the adopted methodological approach. Each methodological decision was informed by the researcher's standpoint, in addition, to be informed by the studied context and supporting literature. To better delineate such a process, the following sections outline the research paradigm.

## 3.2. Delineating the Research Paradigm

In line with Kuhn (1970), it is necessary to identify the research paradigm as it demarcates a number of philosophical assumptions regarding how problems should

be understood and solved. Four are the philosophical assumptions defining the research paradigm: ontological, epistemological, axiological and methodological (Guba & Lincoln, 1994). Yet, it is inevitable that the chosen research paradigm is also the result of pragmatic consideration based on the research focus.

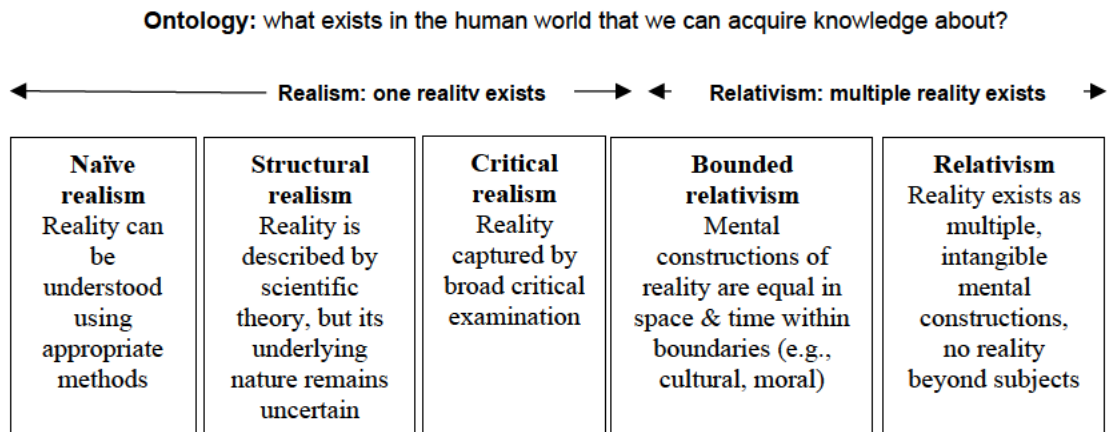
A bounded relativist ontology informs a subjectivist epistemology. Idiographic methodologies (Lindlof, 2008) were considered by the researcher most appropriate to uncover knowledge in this study. Consequently, the study is positioned within the interpretive paradigm, as the researcher's relativist ontological position recognises the existence of multiple realities based on their different interpretations.

In accordance, knowledge can be acquired subjectively, excluding, therefore, objectivity and the notion of research being value-free. These standpoints about the nature of knowledge and knowledge acquisition reflect the very nature of the interpretive paradigm (Burrell & Gareth, 1979). In addition, the interactive nature of practical methodologies associated with this paradigm (Guba & Lincoln, 1994) appeared to be more appropriate for the present investigation.

### 3.2.1. Ontological Assumption

Ontology is a branch of metaphysics (Hathcoat et al., 2018) concerning the “study of being” (Crotty, 1998, p. 10) and what can be “rationally understood” (Poli, 2010, p.1). Guba and Lincoln (1994) write that the ontological question is concerned with “what is the form and nature of reality and, therefore, what is there that can be known about it?” (p. 109). Accordingly, during the project design, the researcher reflected on his belief regarding what knowledge we can acquire from reality to find his ontological view along the ontological continuum provided by Moon and Blackman (2014), reproduced in Figure 3.2.





**Figure 3.2.** Ontological Positions in Research

**Source:** Own elaboration based on Moon and Blackman (2014)

The researcher positions himself towards the relativism end, where it is believed that multiple realities exist. It is where the researcher looks for an “understanding of a particular context” believing that “an understanding of the context in which any form of research is conducted is critical to the interpretation of the data gathered” (Willis, 2012, p. 5). Such position allows the researcher to dismiss the existence of one reality associated with realism positions, and where researchers look for universal theories, believing “that entities exist independently of being perceived, or independently of our theories about them” (Phillips, 1987, p. 205).

In fact, the researcher found it pertinent and agreed with the notion of knowledge contextualisation, in which reality is context-based and thus relative to the context (Hathcoat et al., 2018). The ontological position adopted by the research is endorsed by discussions on place-based planning in the literature review (e.g., Tapia et al., 2019), a notion that appreciates contextualised informative accounts more than potentially general and more simplistic representations of reality. According to the principles of relativist ontology, the researcher supports three key notions:

- 1) The researcher denies absolutism by believing that truth is relative to places or social and cultural frameworks. No universal truths exist (Baghremian, 2015).

- 2) The researcher trusts that there can be a plurality of judgments, opinions and/or norms, and denies the objectivity and singularity of truth, a notion widely supported by realists (Levers, 2013).
- 3) The researcher appreciates that truth is always dependent on judgments and beliefs at particular times and places, thus being mind-dependent and non-static (Baghremian, 2015).

According to the adopted ontological position, the researcher, in the present study, sought multiple interpretations of experiences to answer the research questions, as this can provide a rich picture of the phenomenon under study while appreciating the diversities existing within and across societies. To this extent, there was an agreement with Levers (2013) that the purpose of science from a relativist ontological standpoint is to “understand the subjective experience of reality and multiple truths” (p. 2). These multiple truths are, therefore, relative to the social contexts, implying that we can only unfold truth in relation to the context where beliefs, values and the truth itself unfold.

By aligning with this logic, the researcher took on board the notion of contextualism, referring to the truth as context-based (Richard, 2004), and tolerance, implying that all forms of life and culture deserve respect on their terms (Baghremian, 2015). Such notions allow the researcher to shift away from a single outlook towards the truth, implying that the researcher needed to capture the differences and similarities across individuals in their experience of the phenomenon, whereby an understanding of the micro-individual level was needed for an understanding of macro spaces.

Yet, while the researcher trusts that truth is mind-dependent and fully contextual, he recognises that beliefs and values as well as other contextual parameters (Booth, 2001) can be shared across sub-groups. Such sharing can often lead to the construction of shared realities that are bounded by moral and cultural spaces as well as by physical boundaries. This ontological standpoint is defined by Moon and Blackman (2014) as bounded relativism. Nevertheless, this notion does not deny the existence of multiple realities as constructed by individuals, but, instead, it opens a degree of flexibility in the way we see the truth within bounded spaces.

For the researcher, truth is constructed by individuals and relative to contextual and personal factors, but, at the same time, one reality can exist in relation to a bounded system. In this study, the bounded reality referred to islandness or the state of being on an island and the lifestyle of islanders as a result of their bounded life. Without recognising a potential bounded reality, it would have been difficult for the researcher to justify research methodologies that looked for shared reality among the respondents as individuals within a context, such as thematic analysis. Therefore, although a bounded shared reality may not always emerge from the studied context, the researcher believes that excluding such possibility of a bounded and shared reality would place heavy limitations on understanding collective interpretations of reality by only reducing truth at the individual level. Furthermore, by rejecting a bounded shared reality, the researcher would otherwise fail to justify the need to seek commonalities across individuals, commonalities that may be deriving from shared beliefs, values, events, living conditions, and so on that generate forms of boundedness.

The relativist position of the researcher was mainly informed by the specifics of small islands transcending from islandness and the focus of the study, along, certainly, with the researcher's own beliefs and past experiences which have also influenced the focus of the study itself. Yet, it is also recognised that islandness may create shared realities within the island society and across islands where common beliefs, events and challenges may be shared, a notion that has motivated the researcher to move towards the adoption of the more flexible relativist position that recognises the possible bounded realities. This critical outlook on relativist ontology allows the researcher to appreciate a more pragmatic approach to relativism and acknowledge and respond to criticisms that if the truth is relative, also relativism should be regarded as relative. The ontological stance adopted by the researcher informed the epistemological position in the present study.

### 3.2.2. Epistemological Assumption

In line with the ontological position discussed in the previous section, the epistemological position should also inform the theoretical perspective of the study (Crotty, 1998). While ontology refers to the form and nature of reality (Guba &

Lincoln, 1994), as Denzin and Lincoln (2005) write, epistemology “looks at the relationship between the knower and the knowledge, and asks “how do I know the world?” (p. 183). Hence, the researcher, in the present study, needed to adopt a standpoint on how he sought to know the knowledge or the truth. In fact, as Guba and Lincoln (1994) state, the epistemological question is “what is the nature of the relationship between the knower or would-be knower and what can be known?” (p. 108). Drawing upon the ontological position, the researcher assumes that meanings exist within the subject, implying that knowledge is the result of individual interpretation. This notion implied that during the methodological design, the researcher prioritised ways to capture the individual construction of reality and employ a process of interpretation.

The epistemological position adopted in this study is typically defined as a subjectivist (Moon & Blackman, 2014). Hence, the researcher sought to discover and interpret knowledge through an interaction created with the participants. This interaction let the knowledge be co-created, where both the researcher and the participants played a role in knowledge creation. Such a position contrasts the objectivist view where it is believed that the investigator and the investigated are independent entities without influencing each other (Shah & Al-Balrgi, 2013). It must be noted that while the subjectivist position allowed the researcher to fully appreciate the individual creation of truth, it is not value-free. Such characteristics were recognised by the researcher and dealt with in the research process as discussed later in the chapter.

### 3.2.3. Axiological Assumption

Axiology is a branch of philosophy that studies the nature of value (Smith & Alan, 1998). In analytical terms, the researcher should recognise the role of his values as well as the respondents’ values throughout the research process (Viega, 2016). Research can be value-free and value-bound, two positions that are informed by ontological and epistemological standpoints. The researcher recognises that the present study is value-bound, meaning that he was part of what was being researched (Frankfort-Nachmias & Nachmias, 1992). Such integration allowed the researcher’s values and intuition to affect the research process (Guba & Lincoln, 1982).

Moreover, the study could not have been free from the researcher's value because of the interactive process dictated by the subjectivist epistemology.

Yet, the researcher's values and intuition are essential when he assumes that knowledge is co-constructed and that he influences the research in a process of reflexivity. Moreover, in analytical terms, the researcher recognised the role of respondents' values throughout the research (Viega, 2016). Values may tend to affect the objectives and missions of participants and their activities (e.g., towards sustainability) (Tur-Porcar et al, 2018). This would ultimately influence what experiences participants face and the ways these are shared with the researcher as well as how the researcher interprets these experiences. Therefore, it is believed that value-free research does not exist in a world where facts cannot be separated from values when seeking to understand societies (Lekka-Kowalik, 2010). In the OI, the value-related influences on the study were made explicit to describe the complexity of the social system and to uncover any biases related to values, interests and social relationships. This is in line with the philosophical position of the researcher.

#### 3.2.4. Methodological Assumption

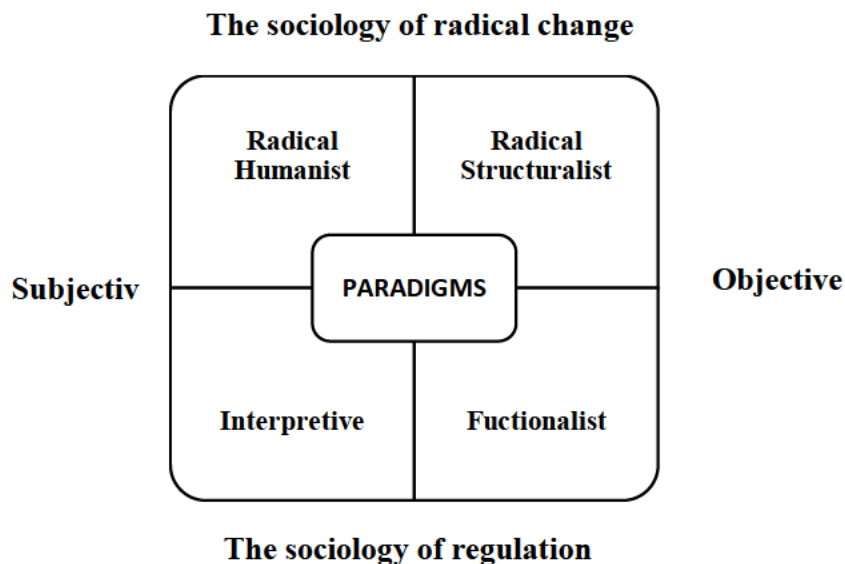
The researcher should clarify the methodological position that underlined the study as a result of the philosophical assumptions discussed above. For Guba and Lincoln (1994), the methodological question concerns "how can the inquirer (would-be knower) go about finding out whatever he or she believes can be known?" (p. 108). Clearly, given the researcher's bounded relativism ontological position, the applied methodologies needed to appreciate the uniqueness arising from the subjective individual experience. As already discussed, the researcher believes that social reality is not singular or objective but shaped by human experiences and social contexts. Hence, realities are best studied by forms of methodologies, called ideographic (Lindlof, 2008), that fully value the individual experiences, leading to a more complete interpretation and understanding of the individual experience.

This stance is highly valued within a relativist ontological and subjectivist epistemological position. In practice, in this study, ideographical methodologies have translated into interview techniques allowing interactions between the

researcher and the participants, open-ended descriptions of the experience and high flexibility during the research process. These methodologies were characterised by a detailed process of interpretation which is usually referred to as hermeneutics, a key pillar of the interpretive research paradigm reflecting the present study (Vandermause & Fleming, 2011; Kafle, 2011).

### 3.2.5. Research Paradigm: Interpretive

The philosophical assumptions made by the researcher in the previous sections determined the research paradigm within which the present study was positioned. In order to identify the research paradigm in line with these positions, it is useful to refer to the Four Paradigm model developed by Burrell and Gareth (1979), which identifies four different research paradigms: Radical Humanist, Radical Structuralist, Interpretive and Functionalist (Figure 3.3.). Each paradigm reflects different views of the social world, producing different theories and analytical tools (Burrell & Gareth, 1979), and delineating the research strategy and design of each study. The interpretive position emerges directly from the ontology and epistemology adopted by the researcher in this study.



**Figure 3.3.** Four Research Paradigm Model

**Source:** Own elaboration based on Burrell and Gareth (1979)

Each paradigm is therefore aligned with a set of philosophical assumptions about the social world and gives rise to a set of sociological theories. Burrell and Gareth (1979) conceptualise these theories along two dimensions: regulation vs. change, and subjectivity vs. objectivity. The assumptions made in each dimension are related to individuals, groups, and societies, as well as the objective of the study and the accepted evidence (ibidem). Drawing from the model, the present study was positioned within the interpretive paradigm. Previously made assumptions have communicated that the researcher finds it pertinent to the contextualisation and subjunctivisation of the truth.

These notions stay at the core of the interpretive paradigm. In fact, as Dean (2018) writes, the interpretive paradigm “was coined to demark research practices that turn away from de-humanised, [...] towards a re-humanised contextual and reflexive approach, which centralises human meaning-making and knowledge claims” (p. 3). Such a statement underlines the subjectivist dimension of the interpretive paradigm that was fully embraced by the researcher in the present study. Still in line with Burrell and Gareth’s (1979) model, the present research was identified as regulatory as it principally sought to describe a phenomenon followed by minor judgements and/or recommendations without posing major emphasis on changing the status quo.

The paradigm fundament is hermeneutic, and its methodological process was adopted in this study, whereby knowledge is created through a mental process of interpretation (Guba & Lincoln, 1994). This is reflected in the researcher’s search for an explanation within the individual subjectivity through practical and interactive methodologies applied to ensure that narratives were contextualised. Throughout the research process, the researcher worked along with the participants to co-construct the findings that are socially situated and may be transferable to similar contexts (Allen, 2017). The potential claim of transferability to similar contexts emerged from the bounded ontological nature adopted by the researcher where transferability may be claimed only in narrow and bounded circumstances. Yet, this does not represent the main objective of the study, which remained primarily the production of a rich picture narrating the contextual phenomenon. The following section introduces hermeneutic and its role in the study.

### 3.2.6. Hermeneutic

The core of the interpretive research paradigm is hermeneutic. Hermeneutics support that there are multiple realities, thus loyal to relativism ontology (Gjesdal, 2019) and subjectivism epistemology where individuals may experience reality differently (Patterson & Willian, 2002). Yet, for hermeneutics, rather than simply assigning meaning, individuals actively construct them. It is also recognised that the individual context may influence how individuals construct these meanings, and that observation cannot be unbiased and/or independent from prior individuals' conceptions (Vandermause & Fleming, 2011). This required the researcher to recognise potential biases through a reflexive process where he understands the context where the experience is studied and identifies how it can potentially affect the shared experience and its subsequent interpretation (Jootun et al., 2009), linking back to the importance of knowledge contextualisation (Hathcoat et al., 2018) and discussions on value-bound research (Viega, 2016).

There are different hermeneutic schools (e.g., Schleiermacher, Habermas) (Dilthey, 1990; Harrington, 2000), but the researcher followed the productive hermeneutics that emerged from the work of Hans-Georg Gadamer, Paul Ricoeur and Martin Heidegger (Grondin, 2016). This tradition supports that the researcher cannot "bracket" their preconceptions and that an innocent reading of the text (e.g., transcripts) is impossible because the interpreter helps construct meaning from the shared experience (ibidem). Therefore, rather than being objectivist, productive hermeneutic is constructive where the experience is not just there to be discovered, but constructed (Gillo, 2021). In the process of hermeneutic interpretation, the whole – in the case of this study, the potential bounded shared reality – is understood by understanding its parts in a process that is supported by a thick description (Grondin, 2016) or a deep understanding of the context in a specific time. This process is non-static, and it is a cycle, a back-and-forth process of interpretation until themes are identified, and a degree of saturation is reached.

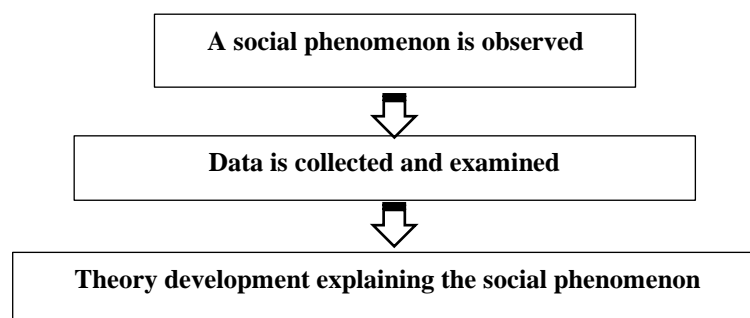


### 3.3. Methodological Framework

The above sections have detailed the philosophical nature of the present study and, as a result, identified the research paradigm that framed the research. The position of the researcher that was described had implications for the methodological framework. Section 3.3. introduces the research process, the research design and the analytical framework applied by the researcher in line with the philosophical position and within the parameters of the research paradigm characterising the study.

#### 3.3.1. Research Process: Inductive Reasoning

Drawing from the researcher’s philosophical positions, this study followed an inductive research process. Inductive reasoning, as Gerring (2007, p. 80) writes, is “the logical process of establishing a general proposition on the basis of observation of particular facts”. This implies that, in this study, the researcher sought to build conclusions rather than testing a theory – a process that is more in line with deductive reasoning and typically aligned with the positivist/realist standpoint (Saunders et al., 2009), which contradicts the interpretive route followed by the researcher. The inductive approach affected the whole research process. In fact, research questions provided the basis for conducting the data collection, data that was then analysed to extrapolate conclusions. Figure 3.4. provides a summarised illustration of the step-plan of this study that emerged from inductive reasoning.



**Figure 3.4.** Overview of the Inductive Research Process

**Source:** Own elaboration

In practical terms, according to the purpose of the inductive approach outlined by Thomas (2006), the researcher moved from observation and analysis of raw data to

find commonalities across data and develop a framework underlying the aspects of the phenomenon understudied. In line with the assumptions made in previous sections, the researcher opted for an inductive process primarily because it allows high flexibility and contextual research (Soiferman, 2010). Yet, the researcher had to be aware of the research's limitations to mitigate them where possible (Bryman & Bell, 2011). To this extent, the researcher recognises that according to mainstream criticisms, the greatest disadvantage of the inductive approach corresponds to the often-limited potential of generalisation (Tsang & Williams, 2012).

Nevertheless, while this limitation was to an extent mitigated by data collection techniques that will be discussed in later sections of this chapter, the researcher – in line with Flyvbjerg's (2011) notion of naturalistic generalisation – believes that it is not the responsibility of the qualitative researcher to seek generalisation but of the user of the findings to evaluate the extent to which they can be applied to other contexts. In fact, producing a universal theory remained beyond the scope of this study as well as contradicting the ontological and epistemological beliefs of the researcher. Throughout the inductive process and according to the interpretive paradigm, the researcher embarked on a process of interpretation based on the Hermeneutic Cycle, which is introduced in the next section along with its implications on the research process.

#### 3.3.1.1. Inductive Process through the Hermeneutic Cycle

The inductive process adopted in the study is based on the Hermeneutic Cycle that is rooted in productive hermeneutics (Grondin, 2016). The key dimension of hermeneutic research is the ideographical level, where analysis is always conducted at the individual level to understand the broader context (ibidem). The Hermeneutic Cycle provides methodological guidance in this inductive process where the inter-relationship between the part and the whole is uncovered (e.g., relationships between the individual experience to a CE and islandness). Here, the phenomenon is seen as depending on the larger whole. In a hermeneutic analysis, the text of an individual actor is read to gain an understanding of the data in its entirety (Grondin, 2016). This whole understanding is subsequently used as a basis for a closer examination of the separate parts as the research progresses.

This represents a circular approach that implies that the hermeneutic researcher does not wait until all data are collected to commence the analysis but, instead, begins when the few first texts or transcriptions are collected, so that emergent common themes (the whole) can be identified and used to guide further research stages to determine potential new questions and research strategies (continuing to uncover the parts). Therefore, interviewing is an evolving and semi-structured process where the interview strategy is non-static and builds upon the preliminary outcomes of previous interviews.

Another implication of the hermeneutic methodological process is that there is no definitive endpoint until saturation is achieved, reflecting a cycle of three – potentially repetitive – steps followed by the researcher. In step 1, the researcher examined the narratives of an experience (the individual and ideographical analysis of the experience) (the parts); in step 2, the researcher built upon the outcome of step 1 to identify the common themes through thematic analysis; and in step 3, the researcher sought the universal expression of these shared realities – within a bounded context – where a conceptual framework is proposed (the whole) (Monaro et al., 2014). This is a circle that can be repeated until saturation is not reached.

While hermeneutics does not prescribe a particular approach to data collection, in-depth interviews are usually applied in social sciences because they facilitate the assumed co-construction of data (Vandermause & Fleming, 2011). In data analysis, hermeneutics seeks to identify predominant themes through narrative accounts – interviews – that can be meaningfully organised, interpreted and presented (ibidem). This thematic process should provide the means for a holistic understanding of the context's themes and relationships among them. In fact, understanding and explaining the interrelationships among themes is one of the key features of hermeneutic analysis that offers the possibility of a holistic and insightful interpretation (Kafle, 2011). This has guided the researcher to uncover the relationships between the barriers and enablers. Having presented the research process, the next section describes the research design.

### 3.3.2. Research Design: Case Study Strategy

The researcher adopted a case study design to answer the research questions. Case studies are multi-faceted and can be adopted both in positivist and interpretivist research (Yin, 1984). Although case study research is often applied through mixed-method methodologies (Onwuegbuzie & Leech, 2010), the researcher adopted a fully qualitative practice in line with the interpretive paradigm, believing that the case study approach is versatile and – regardless of the research approach – can provide a valuable framework for observing a phenomenon in detail (Gerring, 2007).

This section briefly introduces the case study framework and how it applies to the selected case study of the Orkney Islands (OI). A case is defined by Gerring (2007, p. 19) as a “spatially delimited phenomenon (a unit) at a single point in time or over some period of time”. A case study is, therefore, an intensive study of one or more cases (Bryman & Bell, 2011). The key difference between the case study approach from other methods is that the focus is on a bounded situation or system (*ibidem*). The utilisation of a case study approach carries great advantages that motivated the researcher in adopting such a strategy. As Harrison et al. (2017) remind us, the case study can help examine a wide range of complex issues in their context. For the researcher, this is crucial because, ontologically as discussed in the previous section, he believes that knowledge is largely relative to specific contexts, appreciating the need for contextual research.

The researcher aligned the case study approach with the explorative form of a case study. Differently from the descriptive and explanatory forms of case study design, in an explorative form, the researcher explores a phenomenon without assumptions to be tested but using flexible research questions (Yin, 2003). In this study, the research questions were developed by the researcher, but these were kept broad enough to allow high flexibility that characterised the explorative research process (Bryman & Bell, 2011). The purpose of an explorative case study is therefore to understand an emerging phenomenon and propose new theoretical insights (Mills et al., 2010). Hence, the advantage of an explorative case study lies primarily in the flexibility it offers to the researcher.

Such an approach gained even further pertinence in this study that seeks to intersect a CE and SIDs, a topic largely unexplored to this day, thus making it difficult to develop specific assumptions. Moreover, the researcher adopted an explorative case study approach because it assigned to the individuals' shared experience and its interpretation, the control in bringing the researcher and the research to new themes and topics that have not been considered by the researcher before the field work.

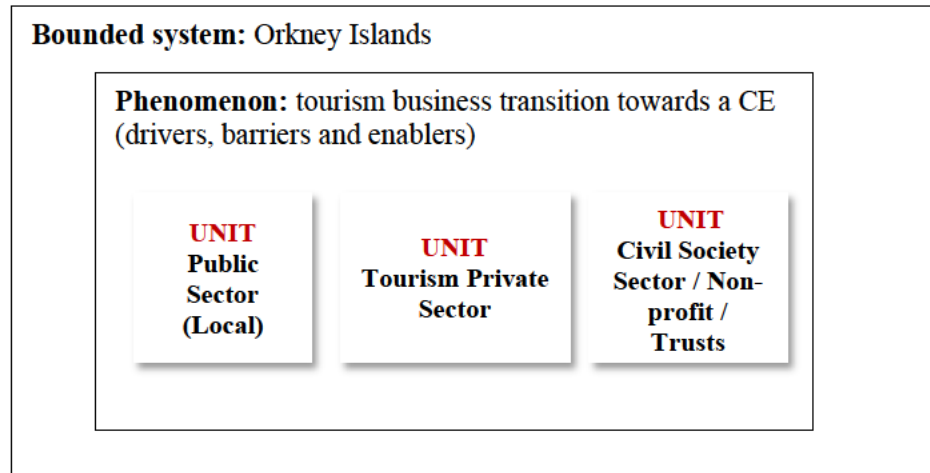
In the present study, the case can be identified as “the transition process of tourism businesses towards a CE and the drivers, barriers and enablers they face/faced”. To study this case, the researcher considers different units of analysis. These included several primary stakeholders belonging to the private, public and civil society sectors. A unit of analysis is the subject of the study selected to study the case or phenomenon (Lewis-Beck et al., 2004). Such an approach to case study research – which considers different units of analysis to the study of one case within a specific context – is defined by a number of authors as an embedded case study (e.g., Yin, 2003; Bass et al., 2018), as explained in section 3.3.2.1.

#### 3.3.2.1.Embedded Case Study

By applying the embedded case study framework, Figure 3.5. illustrates how the different elements of the framework adapt in the OI context. The observed single case (phenomenon) refers to the drivers, barriers and enablers of a CE faced by tourism businesses, and the bounded system is the OI.

The units of analysis are:

- a) The tourism private sector (tourism businesses).
- b) The local/regional public sector.
- c) The third sector, including NGOs, Civil Society, and Development Agencies.



**Figure 3.5.** Embedded Case Study Applied in the Orkney Islands

**Source:** Own elaboration

Different factors have driven the researcher to select the different units of analysis. As explained in later sections, there was a need for data triangulation in the study to work towards the quality criteria of the research. Within this process, the private sector was selected to gain a “first-hand experience” of the phenomenon in the OI. The third and public sectors were selected to gather other perspectives on the same issue as part of the triangulation effort and to ensure a more comprehensive account of the phenomenon.

For sectors other than the private, the only selection criterion is the extent to which the sector’s actor is actively involved in the promotion and implementation of a CE in the OI. For this reason, the researcher prioritised local- or micro-level stakeholders that were likely to be more aware of local issues. In the OI, it was crucial to include the civil society and non-profit sector because they are actively involved in the CE scene of the islands. In practice, as better explained in later sections, the researcher has selected each participant based on their expected contribution to the study. That is a judgmental selection method, thus based on the researcher’s judgment on how each stakeholder retained the necessary experience to contribute to the study more than others (Yadav et al., 2019).

Similarly, and still in line with the judgemental sampling method, the participants from the private sector were selected based on the extent to which the businesses are seeking to adopt a CE and, therefore, being able to reflect on their own experience

of encountered barriers and enablers. The three broad sectors ultimately contributed to a detailed and reinforced picture of the contextual phenomenon under investigation. Having introduced the case study strategy, the subsequent section articulates the analytical framework of the study.

### 3.3.3. Analytical Framework

Following the research process and design described above, section 3.3.3. communicates the analytical framework applied by the researcher. The study was characterised by qualitative research methodologies which value the subjective experience, flexibility, interaction with participants and a subsequent interpretation process (Lindlof, 2008), in line with the interpretive paradigm adopted by the researcher (Burrell & Gareth, 1979). Qualitative research generates conclusions that are not arrived from statistical models, meaning that it integrates multiple realities (Maxwell, 2012; Rahman, 2017), a notion that aligns with the researcher's relativist ontological belief (Moon & Blackman, 2014). Moreover, qualitative methodologies allow a thick description of experiences (Denzin and Lincoln, 2005; Stake, 2006) and opinions that describes the context (Mills et al., 2010), allowing a better understanding by an outsider. In this study, such an approach was vital to unfold the complexity of the studied phenomenon.

To mitigate the qualitative methodological weaknesses in validity, the researcher applied data triangulation. Data triangulation uses different sources of data collection on the same topic to increase the validity of the study and may involve different types of samples (Carter et al., 2014). The researcher sought to triangulate data by involving different units of analysis on the same topic as well as different sources (interviews and documents). Although data triangulation is often employed to cross-validate findings (Salkind, 2010), in this study – and in line with Lambert and Loisel (2008) –, triangulation was primarily applied to capture different perspectives on the phenomenon. Such an approach, as suggested by Decrop (1999), has facilitated a comprehensive understanding of the phenomenon and increased the richness, validity and confidence in the findings. Yet, it must be noted that triangulation was not employed to claim universal generalisation but for an improved contextual understanding. Yin (1984) argues that a case needs to be studied

holistically using a wide range of data sources to ensure that miss-statements are offset by others (cross-validation) and for data richness.

In contrast to sequential data triangulation techniques (Creswell & Clark, 2004), given the nature of the study, the triangulation was achieved without a predetermined sequence to ensure research flexibility, meaning that the involvement of each study unit was decided by the researcher as the study progressed. Moreover, the researcher applied a mono-method triangulation (Gerring, 2007), where only qualitative data was collected through interviews and documentary analysis.

Data collection was conducted in mutually complementing phases. As detailed in Table 3.1., four data collection phases have characterised the study. Phase (1) helped develop a stakeholder’s map; phase (2) involved a short self-completing questionnaire as an integral part of the semi-structured interviews of phase (3). Semi-structured interviews were the primary data collection method; however, these were supported in phase (4) by documentary analysis.

**Table 3.1.** Data Collection Phases

	<b>Activity</b>	<b>Scope</b>
<b>Phase 1</b>	<b>Desk stakeholder mapping</b>	Essential to map the relevant stakeholders and projects within the case study. This has provided the researcher with a list of stakeholders to engage in the research based on their involvement in the tourism sector’s transition to a CE in the case study.
<b>Phase 2</b>	<b>Pre-interview self-completing questionnaire</b>	As an integral part of Phase (3), the questionnaires were sent to the participants to gain a preliminary overview of their experience and speed up the process by adapting the interview forms and prompting questions.
<b>Phase 3</b>	<b>Semi-structured interviews</b>	Interviews were a primary data collection method in the study and were conducted with different regional stakeholders from different sectors. Participants were selected based on the stakeholder mapping (phase 1) and adapted to the outcome of the self-completing questionnaire.



<b>Phase 4</b>	<b>Documentary analysis</b>	Several relevant documents were identified for documentary analysis to support the outcome of the semi-structured interviews. The documentary analysis further strengthened the findings from the study.
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The COVID-19 pandemic had an impact on collecting data through interviews and questionnaires. In fact, before the COVID-19 pandemic, the researcher planned to conduct data collection in loco. Yet, in line with university regulations – which instructed the researcher to conduct all data collection remotely –, interviews and questionnaires were conducted online through Skype and Teams interviews. Thus, the COVID-19 pandemic has changed the way data was collected but not the overall research design, which remained the same.

#### 3.3.3.1. Stakeholder Mapping

In Phase (1) of the data collection, a stakeholder mapping was conducted by the researcher to identify key stakeholders in OI that are related to CE and tourism. Stakeholder mapping is a particularly useful practical exercise before researching because it helps the researcher to better understand the study context and adapt following research actions (Coghlan & Brydon-Miller, 2014). Freeman (1984) defines a stakeholder as “any group or individual who can affect, or is affected by, the achievement of a corporation’s purpose” (vi). By conducting a stakeholder mapping using desk resources, the researcher gained a detailed overview of the main stakeholders that needed to be involved in the study and the reasons why this was the case.

The mapping – which is not disclosed in the study to retain anonymity – allowed the researcher to identify relevant actors, project/s, partnerships and other key information concerning the studied case of the present research. In other words, by visualising the map, the researcher gained an understanding of the actors, their involvement in the CE transition of the Orkney Islands’ tourism sector and how they are interconnected. In this study, only primary stakeholders were considered, which are those strictly related to the tourism business transition towards a CE and that were able to provide first-hand experience-related accounts.

### 3.3.3.2.Sampling

It was essential for the researcher to decide how to select the participants among those identified in the stakeholder mapping for the self-completing questionnaires and follow-up interviews. Flyvbjerg (2011) suggests that the way participants are selected fully depends on the purpose of the study, and the judgemental sampling techniques were deemed necessary by the researcher to select participants based on their potential contribution. In fact, while sampling can occur randomly, it can also follow an information-oriented selection. The researcher found it more beneficial to select the participants based on the information that was expected to be shared to maximise the utility of data from a small sample (information-based selection) (Flyvbjerg, 2011). This typology of sampling is also called the non-probability sampling method, where subjective methods are used to decide which elements are included in the sample (Lavrakas, 2008). Within the explorative study approach, the judgmental sampling method adopted by the researcher allowed further flexibility in selecting participants based on how the research progressed.

### 3.3.3.3.Self-Completing Questionnaire

In Phase (2) of the data collection process, the researcher used a short self-completing questionnaire. The questionnaire can be seen as a unique data collection instrument together with the follow-up semi-structured interviews. A questionnaire is defined by Lavrakas (2008a) as a set of standardised questions which follow a fixed scheme to collect individual data about one or more specific topics. The main advantages of using the pre-interview questionnaire were to speed up the process and to support the researcher in adapting the follow-up interviews. Moreover, the instrument was also useful to allow the participants to familiarise themselves with the topic before taking part in the interview.

Given the fact that the research – due to triangulation reasons – sought to involve different sectors, the questionnaire was designed slightly differently for the private sector, even though the case of the investigation remained the same. As can be observed, the questionnaire for the private sector was developed with more direct questions towards the CE compared to the other version. Questions sought to

investigate the respondents' characteristics (type of organisation, location, involvement in the local CE transition etc.), CE practices, and barriers and enablers. Appendix 6 presents the questionnaire sent to the private sector with seven questions, and the questionnaire sent to the other involved sectors with five questions.

The mixed approach (closed and open-ended questions) of the questionnaire opted by the researcher allowed the needed balance between freedom of response and guidance. In fact, as Lavrakas (2008a) states, the respondent is asked an open-ended question to respond with their own words, giving a certain degree of freedom. The close-ended questions, instead, provide the respondent with a fixed number of responses (a guidance) from which to choose an answer (Lavrakas, 2008a). Therefore, the questionnaire was designed with flexibility and guidance in mind.

Moreover, to allow enough time between the questionnaire and the follow-up interview, the researcher provided a two-week gap between the two steps. The participants of the questionnaire were selected based on the outcome of the stakeholder mapping. The questionnaire complemented the following steps by providing some initial responses that were further explored during the follow-up interviews. The researcher ensured the questionnaire was two-page length to encourage its completion. However, despite sending to all 15 participants before each interview only five were returned completed, thus, it only informed five of the 15 follow-up interviews. Yet, this did not affect the findings because the researcher ensured that the interviews were flexible enough to explore and narrow down the discussion to specific issues.

#### 3.3.3.4. Semi-Structured Interviews

In Phase (3) of the data collection, the researcher conducted 15 semi-structured interviews with the private, public and civil society sectors of the OI. All stakeholders operate directly in the region and on various islands, and, drawing upon the initial stakeholder mapping, they are all strictly linked to the CE transition of the local tourism sector. Semi-structured interviews are defined as a “qualitative data collection strategy in which the researcher has more control over the topics of the interview than in unstructured interviews, but in contrast to structured interviews or

questionnaires that use closed questions, there is no fixed range of responses to each question” (Ayres, 2008, p. 2).

Therefore, semi-structured interviews helped the researcher retain flexibility – in line with the research interpretive paradigm – during data collection and allowed the interviewer-interviewee interaction sought by the researcher for the co-construction of knowledge. To conduct the semi-structured interviews, flexible interview protocols supplemented by follow-up questions, probes and comments were developed by the researcher, as suggested by DeJonckheere and Vaughn (2019) and based on the research questions and the tentative conceptual framework (Chapter 2) of the phenomenon that underlined the research (Ayres, 2008). The interview protocol was developed based on the literature review and the conceptual framework that to a certain extent did serve as guidance for the study. To this extent, the identified themes in the initial conceptual framework – which was presented in Chapter 2, section 2.6.1. - reflected in the interview protocol, such as in relation to the institutional framework, logistics, access to knowledge for a CE as well as access to technologies and social aspects including trust and collaboration. The building of a conceptual framework was, therefore, essential to the layout of the protocol.

Moreover, the interview protocols were slightly adapted by the researcher to participants based on their belonging sector. The protocols have evolved as the research progressed because the researcher felt that some insights needed to be taken forward and further explored in a process where a proceeding interview has informed a subsequent one. To this extent, Appendix 7 displays: a) the initial interview protocols for the private sector, b) the evolved protocol for the private sector, c) the initial protocol for the public and civil society sector, and d) the evolved protocol for the public and civil society sector. The evolving character of the interview protocol reflects the cycling nature of the methodology, in line with the Hermeneutic (Grondin, 2016), where all stages of the research tend to inform the next.

Conducting semi-structured interviews brought to the research some advantages. Firstly, the personal experience of each individual (independent thoughts) was documented, that is, how they experienced the phenomenon and how this phenomenon is experienced by the different stakeholders (units of analysis) (Adams,

2015). For the researcher, this was vital in the present research, whereby the personal experience of tourism businesses needed to be documented, but also complemented with the participation of public and civil society stakeholders that are directly involved in the promotion of a circular tourism economy. Secondly, the one-to-one interviews allowed the participants to share insights they may have been uncomfortable sharing during, for instance, group interviews or a focus group (Adams, 2015). Thirdly, as the researcher explored a relatively uncharted territory, it was beneficial to opt for a flexible interview approach that would allow the researcher to spot interesting leads and, where appropriate, pursue them in line with the explorative research approach (as shown in the evolution of the interview protocols) that the researcher adopted to facilitate a rich picture arising from following unexpected avenues.

While the participants are kept anonymous, Table 3.3. reports a breakdown of the participants that clarifies their relationship to the tourism sector and the CE in the OI. This breakdown is provided to communicate the importance of involving the selected participants. Yet, the roles and sector of the participants are not disclosed in Table 3.3. to ensure their anonymity. A summary taxonomy of the participants' sector is, instead, provided in Table 3.2.

**Table 3.2.** Breakdown of the Research Participants by Sector

<b>Sector</b>	<b>Number of participants</b>
Public sector	3 participants
Third sector	7 participants
Private sector	5 participants

Therefore, the geographical working focus of the participants is omitted by the researcher due to the relatively small size of the region which may make participants easily recognisable if their geographical working location is disclosed. Table 3.3., only aims to providing a brief overview of each participant and their significance for the research.

**Table 3.3.** Relevance of the Participants Involvement in the Research

<b>Participant</b>	<b>Relation to tourism and circular economy of the Orkney Islands</b>
1	The participant is involved in the sustainable development of the region, particularly focusing on tourism and entrepreneurial innovation. The participant brought to the research insights from the innovation perspective, and specifically on the implementation of CE in tourism across the region.
2	The participant is involved in the sustainable development of the OI, including the waste perspective concerning the CE, including tourism. The participant's participation in the study was relevant to bring a specific regional perspective on the tourism transition to a CE and significant knowledge on the topic.
3	The participant is involved in the sustainable development of the OI, including the CE, particularly tourism businesses across the OI region. The participant's contribution to the research was significant by bringing specific knowledge and experience of the issues surrounding the tourism transition to a CE.
4	The participant is specifically involved in the sustainable development of the OI. The participant brought to the research insights regarding issues that are faced by tourism businesses, including the non-linked islands when seeking to adopt CE practices. Key issues raised by the participant were about access to technologies and inter-island linkages.
5	The participant is specifically involved in the sustainable development of one of the non-linked islands of the region. The participant brought to the research insights regarding issues that are faced by tourism businesses in this island when seeking to adopt CE practices. Key issues raised by the participant were about collaboration for a CE and access to knowledge.
6	The participant is involved in the sustainable development of the OI from the economic development perspective. The participant was selected for its engagement with issues around CE and the regional tourism sector to develop more sustainably within the framework of the tourism strategy.
7	The participant's contribution was particularly significant for the research to bring a food-waste-related perspective in the discussion. An issue that is relevant to the tourism sector of the OI and beyond.
8	The participant is involved in the sustainable economic recovery of the OI post-COVID-19. Their participation was prioritised by the expected contribution on issues around COVID-19, and its impact on the tourism sector transition to a CE in the OI. Moreover, the participant is significantly involved in a variety of

	regional innovative activities, involving a wide range of economic sectors and different communities across the OI.
9	The participant is particularly involved at the regional level on issues around linkages to innovation. The contribution to the research was significant on issues related to access to knowledge for a CE by the local tourism sector and broadly, access to innovation. Yet, the participant contributed to shedding light to many other aspects of the tourism sector transition to a CE, well beyond knowledge and innovation.
10	The participant owns a small tourism business in one of the non-linked islands. Their participation was significant for the research to bring insight, on the CE, from a tourism business. It was essential to select participants operating on different islands of the region (linked and non-linked).
11	The participant owns a small tourism business in one of the non-linked islands. Their participation – same as for participant 10 – was significant to bring insights, on the CE, from a tourism business operating in the non-linked islands of the region.
12	The participant owns a small tourism business in a linked island of the region. Their participation was significant to bring insights, into the CE, from a tourism business operating on a linked island. Respondents 10-11 and 12 were all selected based on their current implementation of circular practices as well as their intention to engage in additional CE activities.
13	The participant is directly involved in the tourism sector of the OI focusing also on issues related to tourism development and sustainability. Participant 13, therefore, brought some key insights to the study.
14	The participant’s work specifically focuses on the sustainability of the OI, including the tourism sector. The participant’s contribution to the research was significant and about different aspects of the tourism sector transition to a CE, from geographical to socio-cultural, financial and institutional factors.
15	The participant is largely involved in projects and discussions within the OI that are specific to tourism innovation, sustainability and the CE. The participant’s contribution to the study was significant on issues around island innovation, smart development and the CE.

As explained in the above sections, the 15 participants were selected after the researcher conducted a desk stakeholders mapping exercise. Through stakeholder mapping, the researcher was able to identify the relevant organisations and subsequently the relevant individual to contact and invite to take part in the study.

Such selection was based on the expected contribution to the study, the projects they are involved in, their professional role as well as their geographical focus.

#### 3.3.3.4.1. Pilot Interviews

A pilot study is “a small-scale version of a planned study conducted with a small group of participants similar to those to be recruited later in the larger-scale study” (Doody & Doody, 2015, p. 1074). Pilot studies are conducted to allow researchers to practice and assess the effectiveness of their planned data collection and analysis techniques. They can detect anticipated problems with research methods so changes can be made before the larger-scale study is undertaken (ibidem). This ensures that methods work in practice. Consequently, a pilot study enhances the credibility of a study (Padgett, 2008).

Van Teijlingen et al. (2001) argue that two types of pilot study exist: a) feasibility study and b) pre-testing or trying out a pilot study. The researcher applied the latter, which means that he tested each data collection instrument, identified any problems associated with them and delivered any modifications. Yet, data collection during the pilot test – which was conducted in the research case study and not elsewhere – was utilised in the research because of the circumstances during the COVID-19 pandemic and the resulting challenges encountered in stakeholders’ engagement. These challenges have “forced” the researcher to consider the data from the pilot study rather than “wasting it”. Yet, this has not caused any limitation; instead, it provided the researcher with initial valuable data.

Four initial interviews helped the researcher to adjust the interview questions as well as add questions to the interview protocols based on shared relevant issues that emerged from the pilot and were deemed relevant to be further explored. If the pilot study was conducted elsewhere rather than the case study, it would have had limitations in suggesting additional avenues to be included in the subsequent interviews, as it would have been limited in testing the instrument. The researcher found it pertinent, therefore, to consider the first few interviews conducted in the



case study as a pilot rather than officially launching a pilot stage which would have increased the risk of losing data.

#### 3.3.3.5.Documentary Analysis

Phase (4) of data collection involved documentary analysis. Documentary analysis is defined as “a form of qualitative research that uses a systematic procedure to analyse documentary evidence and answer specific research questions” (Frey, 2018, p. 2). In line with Bowen (2009), in this study, documentary resources were not only used to help answer the research questions as part of the data triangulation effort but also to better understand the context through a thick description of the case study, a task that is line with the interpretive nature of this study (Burrell & Gareth, 1979). Furthermore, the researcher used secondary data sources, i.e., documents created to share the interpretation of primary data sources (Frey, 2018). For this study, such documents included community consultations, island development plans, regional tourism strategy and demographic reports.

Moreover, inclusion and exclusion criteria should guide the collection of documents, which, following Frey (2018), should pay particular attention to the age of the documents, their geographical representation, focus and methodology. To this extent, the researcher selected documents published since 2017 to ensure the time relevance of their contents. Moreover, documents were chosen when their focus was the OI region and/or the individual islands. All documents that had a national focus and did not refer to the case study were excluded after careful review by the researcher. Also, documents resulting from extensive community consultations in the region were strongly prioritised given that consultations and interviews are preferred methodologies by the researcher. Moreover, documents were selected based on key areas of analysis driving the study (Wach & Ward, 2013) and these were identified based on the conceptual framework and gap guiding the study as well as building upon the interviews’ outcomes.

Yet, it must be noted that documentary analysis is not free from weaknesses mainly rooted in the fact that often documents are produced for other purposes and lack sufficient detail to answer the question (Frey, 2018). However, the researcher

mitigated such issues by treating the documentary analysis only as a supporting method to the semi-structured interviews. Additionally, in line with Bowen (2009), documentary analysis has provided a less time-consuming supporting methodology than, for instance, focus groups and allowed the valorisation of available documents developed following extensive consultations. Appendix 8 lists the documents used and how they are used in the study. In the following sections, the researcher details how these documents underwent a process of thematic interpretation.

#### 3.3.3.6. Data Analysis

Gerring (2007) suggests four stages involved in qualitative data analysis: 1) description, 2) interpretation, 3) conclusion and 4) theorisation. This process can involve various qualitative data analysis techniques (e.g., narrative, content analysis) that are selected by researchers upon the objective of the study (Bryman & Bell, 2011). Yet, despite the chosen technique, the role of the qualitative researcher is to develop a thick and rich account of the phenomenon under investigation, which becomes the essential aim of the process of qualitative data analysis (Gerring, 2007). In this process, the researcher found it essential to acknowledge his role in the research through a reflective process (Attia & Edge, 2017).

The researcher adopted a form of narrative analysis. As Allen (2017b) states, narrative analysis is “a genre of analytic frames whereby researchers interpret stories that are told within the context of research and/or are shared in everyday life” (p. 2). Techniques that are positioned under the umbrella of narrative analysis recognise that individual experience is just one of the many possibilities. In fact:

ontologically, a given narrative is understood to present one version of reality among many other possibilities. Therefore, narrative underscores the fragmented, yet malleable and inherently social process of meaning-making and reality construction, thus making narrative analysis an excellent choice for examining how people make sense of events and change. (McAllum et al., 2019, p. 365)

Thus, narrative methodologies are in line with the ontological and epistemological position of the researcher. One specific narrative data analysis technique was adopted by the researcher that transcends the philosophical positions, research

paradigm, research aims, objectives and questions. The selected methodology was thematic analysis. Thematic analysis is “a method for identifying, analysing and reporting patterns (themes) within data” (Vaismoradi et al., 2013, p. 400). A theme is an “attribute, descriptor, element or concept” (Vaismoradi et al., 2016, p. 101), a strand of meanings uncovered at the interpretative level – and each theme can have subthemes that reveal a more in-depth understanding of the data (Vaismoradi et al., 2016). The thematic analysis allowed the researcher to analyse, organise and describe the themes found within the data set emerging from interviews and documentary analysis.

Therefore, in line with Gerring (2007), the thematic analysis involved identifying common threads in an interview or across a set of interviews, or documents (*ibidem*). As Gerring (2007, p. 131) writes, in this process, themes are “identified by the frequency with which the same issue or concept or term (or synonym) arises in the narrative description”. This agrees with the ontological position adopted by the researcher where common threads within subgroups should be captured to identify a possible shared reality within a bounded system. This is the main reason why thematic analysis is preferred over content analysis, where a more descriptive approach is emphasised (Cavanagh, 1997).

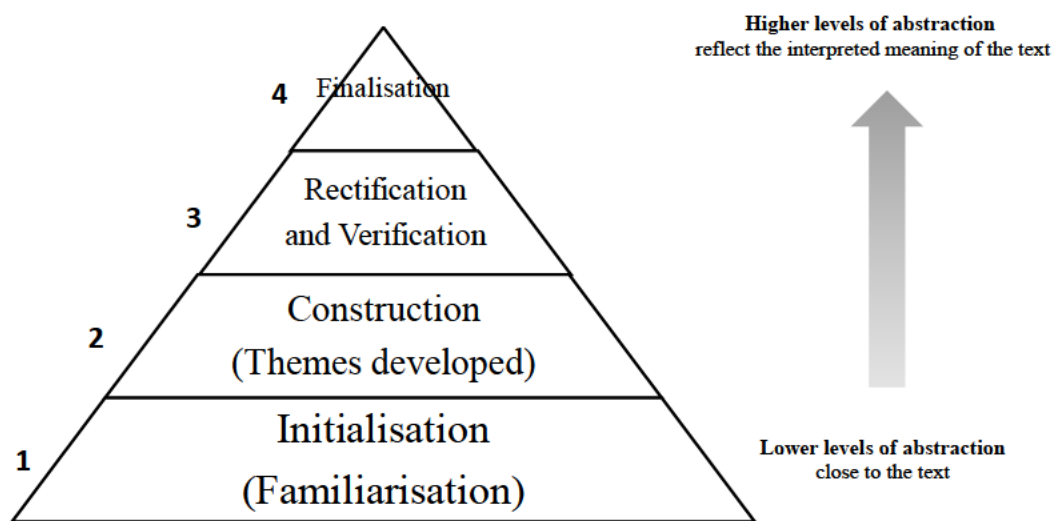
Moreover, thematic analysis can help the researcher “provide a purely qualitative, detailed, and nuanced account of the data that could potentially identify similarities across the data set and extract deeper meanings” (Vaismoradi et al., 2013, p. 400). To further justify the use of thematic analysis, it is believed that such methodology is in line with case study research (Gerring, 2007).

Thematic analysis was conducted based on recognised methodological phases, including familiarisation with the data, coding, searching for themes, reviewing themes, defining, and naming themes, and writing-up (Clarke & Braun, 2013; Vaismoradi et al., 2016). Additionally, the researcher agrees with Denzin and Lincoln (2000) that thematic analysis provides a highly flexible approach and – in the context of this study – it was very useful for analysing the different perspectives, similarities and differences of each participant. Moreover, as the researcher sought a well-structured analytical approach in the analysis of the data that is in line with his

philosophical positions, the thematic analysis provided this structure for handling data and producing a clear and organised final report (Maguire & Delahunt, 2017). Some authors criticise thematic analysis for its inability to claim language use (Nowel et al., 2017). Yet, such an aspect was beyond the researcher’s study objectives.

### 3.3.3.6.1. Thematic Analysis Framework

To specify the thematic procedure adopted by the researcher, a framework was adopted to ensure a systematic approach – based on the broader steps introduced above – to data analysis. The framework, shown in Figure 3.6., is based on the work of Vaismoradi et al. (2016) and has guided the researcher to approach the thematic analysis through four interconnected stages, from a lower to a higher level of abstractions of findings and themes.



**Figure 3.6.** Thematic Analysis Stages  
**Source:** Own elaboration adapted from Vaismoradi et al. (2016)

Thematic analysis can be conducted manually or with the help of computer software. The researcher used NVivo software as well as manual coding. The initial stage of coding was conducted using NVivo, but as the study was characterised by a constant interpretation process, manual coding followed during the writing up. The researcher position is in line with Zamawe (2015) and Dollah et al. (2017) pointing out that some of the key advantages of using NVivo include allowing easier management of

data as well as saving time and energy for data classification. Yet, the researcher values both manual and electronic qualitative data analysis and management, thus remaining open and selecting the appropriate method pragmatically by making use of the advantages of each method (Welsh, 2002).

In line with Vaismoradi et al. (2016), during the initialisation phase, the researcher transcribed interviews, coded qualitative data and wrote reflective notes. By directly transcribing the interviews, the researcher – as suggested by Thompson et al. (2004) and Gale et al. (2013) – listed relevant, frequent and opposing ideas and issues during the preliminary phase and ensured a high degree of closeness to the data. Moreover, to avoid being overinfluenced by his position (Braun, 2013; Clarke, 2012), the researcher remained closed and focused on the data (Vaismoradi et al., 2016).

Still in the initialisation phase, the coding process was a fundamental part of the qualitative analysis to organise and make sense of textual data (Basit, 2003; Elliot, 2018). Allen (2017c) defines coding as “the process of transforming collected information or observations to a set of meaningful, cohesive categories” (p. 2). To this extent and in line with Vaismoradi et al. (2013), the researcher conducted coding throughout the analytical process, from more concrete to more abstract levels, where the latter represents a higher level of generality and relevance to the research questions. The researcher followed the principles of coding discussed by Polit and Beck (2010), suggesting that coding leads to the conversion of large masses of data into smaller and manageable segments and into codes to facilitate further steps that examine similarities and differences across accounts. Yet, during the coding process, the researcher was also aware that coding is cyclic – as in line with the hermeneutic cycle –, thus without a finite interpretation (Polit & Beck, 2010). It was the researcher’s decision to determine the level of coding abstraction reached throughout the study.

In practice, this initial coding exercise was conducted by reading each transcript line by line and applying a code to describe what was interpreted in a given passage of the transcript (Gale et al., 2013). Following the hermeneutic cycle, the researcher embarked on the coding process as soon as a few interviews were conducted to identify initial emerging themes and help construct a first landscape of the whole to

build a closer examination of the single parts in a second coding phase, conducted when all data was collected and with a more in-depth procedure.

This stage highlighted a general view of drivers, barriers and enablers. In this inductive study, the coding stage can be defined as open coding, where the researcher coded anything that was considered relevant from as many perspectives as possible (Gale et al., 2013). This coding phase, therefore, led to a classification of the data that was then systematically compared to further coded interviews (ibidem). Moreover, in the context of this explorative study, the initial coding phase aided the researcher to shape future interviews, highlighting priorities and focusing on interesting leads, a flexibility that was allowed by the semi-structured nature of the interviews.

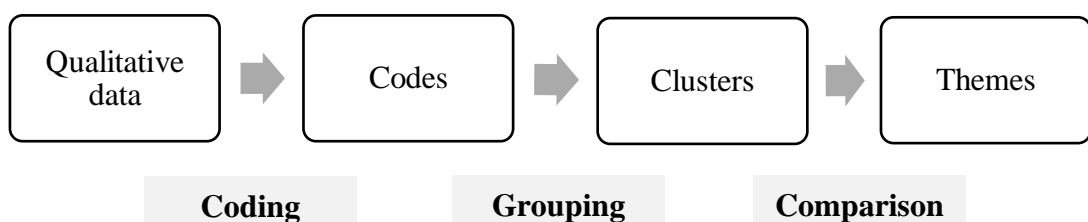
During the interview transcription and coding in the initialisation phase of thematic analysis, the researcher wrote contextual and reflective notes (Gale et al., 2013). In line with Vaismoradi et al. (2016), the self-reflecting notes of the researcher were important to uncovering his perspective in the whole research process. Contextually, notes helped the researcher to respect participants' perspectives and accounts and improve the validity of theme development (ibidem). During this process, the researcher clarified perspectives and decisions that guided the data analysis process and interpretation of the findings as well as conclusions of the research (Attia & Edge, 2017).

In the construction phase, the researcher sought to organise the codes by assigning them to a cluster and comparing them to find similarities and differences across interviews. To facilitate the process, a label was assigned to each cluster containing similar codes. The construction phase included classifying, labelling and comparing code and clusters, and then defining and describing these clusters (Vaismoradi et al., 2016).

Vaismoradi et al. (2016) argue that the basic principle of classifying codes is "typification". In this process, the researcher groups a "large number of codes under a "typical" similarity that generalised to them all despite their variety of details and subtleties" (Vaismoradi et al., 2016, p. 105). For Pierce (2008), the researcher's creativity plays a role in the organisation of codes, as a common meaning needs to

be given to a group of codes with a variety of characteristics. According to the rule of mutual exclusiveness, if a code had attributes of more than one classification group, it was positioned by the researcher within the group that best fits (Vaismoradi et al., 2016). As stated by Vaismoradi et al. (2016), the theme at this stage becomes a recurrent and unifying idea that characterises the participants' experience.

Furthermore, the comparing phase allowed the researcher to revise and potentially connect the codes that were clustered and repeated in a patterned way and in multiple situations (Vaismoradi et al., 2016). This comparing exercise had the capacity to reveal the link between codes (relationships) and nominate potential themes using the researcher's judgment (*ibidem*). The more a code occurred in a text, the more likely it would become a theme. Yet, it must be noted that some of the themes created in this study have emerged from a small number of accounts, such as one or two interviews because they were considered relevant given the context of the study. As an outcome of this phase, the researcher has scrutinised the data more deeply and moved from clusters of codes to actual themes representing a potential final contribution to the study. It is useful to summarise in Figure 3.7. the process from the initialisation and construction phases.



**Figure 3.7.** Thematic Analysis: Themes Construction Process  
**Source:** Own elaboration based on Vaismoradi et al. (2016) framework

Yet, the analysis was taken a step forward, beyond the development of themes. A more detailed analysis was conducted by exploring the differences within the island group, which was needed to provide a more insightful interpretation of the findings and further inform the development of place-based planning strategies.

Following the construction of the themes, the researcher went through a rectification phase. After a full immersion in the data, the researcher needed to take distance from

it for a period of time in order to increase “his sensitivity and reduce premature and incomplete data analysis” (Vaismoradi et al., 2016, p. 106). This phase also worked as a verification phase. In fact, here the researcher checked and ensured certainty about the developed themes (Vaismoradi et al., 2016). The rectification phase consisted of three stages: a) immersion and distancing, b) relating themes to established knowledge and c) stabilising. The researcher agrees with Vaismoradi et al. (2016) about the need of distancing from the data as well as immersing in it. Distancing from data allowed the researcher to assess the accuracy of the coding process. In fact, while closeness to the data is required for a valid representation of participants’ views, lack of distancing may prevent the researcher from taking a critical approach towards data analysis and hinder his ability to be rigorous (ibidem). Therefore, this helped the researcher to maintain a degree of self-criticism of the analysis process by looking at the phenomenon from a new angle.

The next step in the rectification phase is about relating themes to the established knowledge. The researcher followed Vaismoradi et al. (2016)’s advice to keep the literature in abeyance to conduct inductive analysis and develop themes. Prior theorising may affect the potential of the researcher to innovatively develop themes (Vaismoradi et al., 2016), so the researcher kept the literature review flexible and ready to review in-depth issues in accordance with the themes to aid the development of a storyline. Furthermore, to enhance transparency and truthfulness and facilitate the transferability of findings to readers, during the description of themes, attention was given to data saturation, description of the original context of data and provision of material for reflection on data analysis (Vaismoradi et al., 2016).

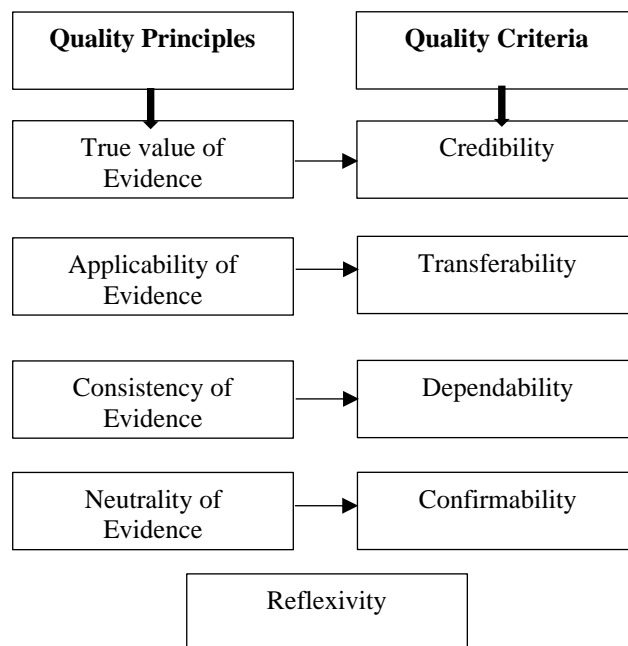
In the last phase of the thematic analysis, the researcher developed a narrative describing and connecting the various themes and answering the research questions. This is a storyline that gives a holistic view of the study phenomenon. While the process of themes development in qualitative research is hardly finite (Polit & Beck, 2010), the storyline is a helpful tool to convince both researchers and readers about the possible theoretical data saturation as the conventional principle of finalising data collection and analysis (Vaismoradi et al., 2016). Moreover, creating a storyline provided an opportunity for the researcher to review the whole process of data analysis and promote further ideas. Here, the researcher sought to propose a coherent story in which themes are described and connected. The researcher ultimately linked



the story to the literature on the topic to show how the study of the phenomenon advanced.

### 3.4. Research Quality and Validation

Having described in previous sections the research design and the aligned methodological approach, section 3.4. seeks to communicate how this study aimed to meet the qualitative research quality and validation criteria. As Bryman and Bell (2011) suggest, the researcher should be aware of and fully embrace research quality criteria throughout the research process. While in quantitative research, quality criteria correspond to internal validity, generalisability, reliability and objectivity (Swanborn, 1996), in qualitative research, the researcher should consider the criterion of trustworthiness. As Korstjens and Moser (2018) write, trustworthiness “simply poses the question ‘Can the findings be trusted?’” (p. 121), and Guba and Lincoln (1982) articulate four criteria to be met to achieve trustworthiness: a) dependability; b) credibility; c) confirmability; d) transferability. To these, Korstjens and Moser (2018) add reflexivity. Figure 3.8. illustrates the relation between quality principles and quality criteria in qualitative research.



**Figure 3.8.** Quality Principles and Criteria in Qualitative Research  
**Source:** Own elaboration based on Guba and Lincoln (1982) and Korstjens and Moser (2018)

Credibility “is the confidence that can be placed in the truth of research findings. Credibility establishes whether the research findings represent plausible information drawn from the participants’ original data and is a correct interpretation of the participants’ original views” (Korstjens & Moser, 2018, p. 121). This criterion can be demonstrated through the adoption of appropriate and well-recognised research methods (Farquhar, 2013). To this extent, the researcher sought to establish credibility through four strategies in line with what was recommended by Korstjens and Moser (2018) and as summarised in Table 3.4.

**Table 3.4.** Establishing Credibility in the Study

Criteria	Strategy	Researcher’s approach
<b>CREDIBILITY</b>	<b>Prolonged engagement</b>	<p><b>The research ensured a long-lasting presence with participants</b> – although challenged by the COVID-19 pandemic restricting field research, the researcher sought to establish a prolonged presence through regular remote contact with participants.</p> <p><b>Investing sufficient time to become familiar with the setting and context to build trust and to get to know the data</b> – the researcher ensured initial familiarisation with the context through stakeholder mapping, followed by the interviews data collection technique to familiarise with each participant’s experience and their specific context.</p>
	<b>Persistent observation</b>	<p><b>The researcher sought to identify characteristics and elements that are most relevant to the problem on which the researcher focused in detail</b> – this was facilitated by the explorative and flexible research approach adopted by the researcher.</p>
	<b>Triangulation</b>	<p><b>Data triangulation was adopted by the researcher through multi-data sources</b> by involving a variety of relevant stakeholders from various sectors and by utilising documentary analysis to support data from interviews.</p>
	<b>Member check</b>	<p><b>Feeding back data, interpretation and conclusions to participants.</b> Following the interpretation of the data, the researcher developed a finding summary and feedback form and shared it with participants to gain feedback. (Appendix 9 presents a sample of feedback received).</p>

**Source:** Own elaboration based on Guba and Lincoln (1982) and Korstjens and Moser (2018)

According to Guba and Lincoln (1982) and Korstjens and Moser (2018), a second criterion to be considered to establish trustworthiness is transferability. Transferability refers to “the degree to which the results of qualitative research can be transferred to other contexts or settings with other respondents [...] the researcher facilitates the transferability judgement by a potential user through thick description” (p. 121). The researcher focused on the required thick descriptions by providing an extensive contextual description of the case study (Chapter 4), which, according to Farquhar (2013), would allow the reader to make their comparisons. That is, the researcher sought to describe not only the experience and behaviour but also the context so that the behaviour and experience became meaningful to an outsider (Korstjens & Moser, 2018). This was even more relevant in this study where the context (island and islandness) played a crucial role in the interpretation of data.

Moreover, it is expected that the qualitative researcher establishes trustworthiness through dependability and confirmability (Guba and Lincoln, 1982). Dependability involves considering factors of instability and designed-induced changes throughout the research (Farquhar, 2013). This means that the researcher may need to make changes in the way the research is conducted, as it is an evolving process. As the researcher acquires new insights about the studied phenomenon, these may influence follow-up questions and/or narrow down the focus of observation (Farquhar, 2013). Thus, the researcher in this study followed what was advised by Shenton (2004) and defined by Korstjens & Moser (2018) as an Audit Trail in order to ensure dependability and contribute to the trustworthiness of the study by recording any changes in the study methodology and justifying them as the research progressed. Moreover, the researcher sought to pursue confirmability through data triangulation, as explained in earlier sections.

Furthermore, in value-bound research, the researcher should be explicit and acknowledge how the study and development of knowledge are influenced by the researcher and participants’ values, beliefs and context (Jootun et al., 2009). The reflexivity process is a critical self-reflection about oneself as a researcher (own biases, preferences, preconceptions), the researcher’s relationship with the respondents and how the relationship may affect participants’ answers to questions (Korstjens & Moser, 2018). Moreover, throughout the reflexivity process, the

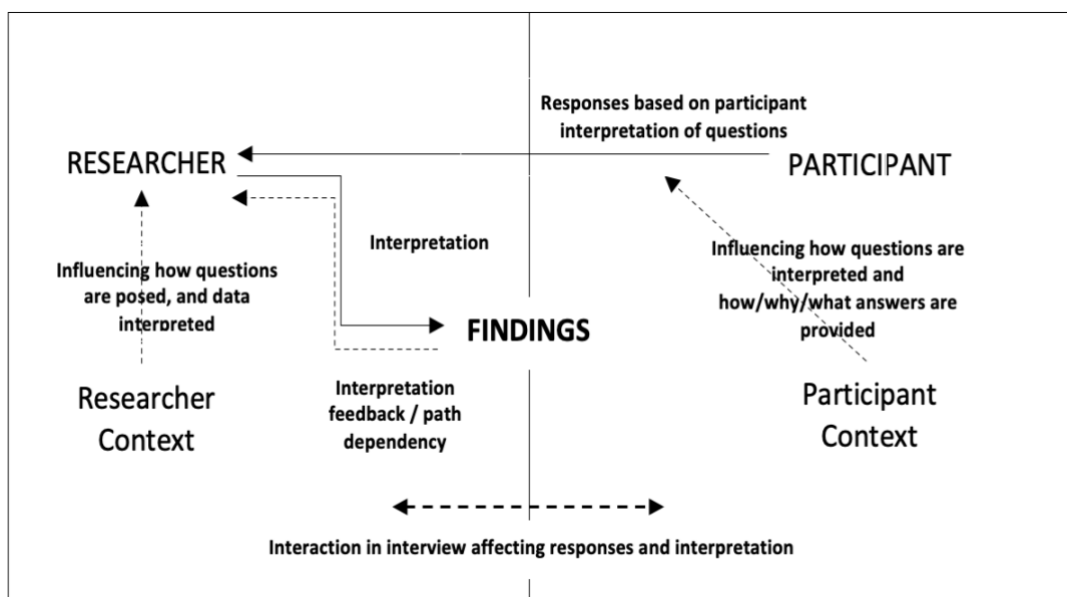
researcher seeks to recognise how a participant's context may affect the answer and position on the studied topic (Mauthner & Doucet, 2003). Reflexivity was conducted by the researcher in this study through self-reflection notes during the research process. It is part of the wider audit trail built to contextualise knowledge development while recognising the role of the researcher and the context of the study from a thickly descriptive standpoint. In line with the literature on how to conduct reflexivity (e.g., Mauthner & Doucet, 2003; Palaganas et al., 2017), the first step in the researcher's reflective process was identifying the researcher and participants' contexts.

This is visible, for instance, in extracts of what was noted down by the researcher during the study to contextualise the knowledge development. For example, the researcher noted when developing themes of barriers that *“based on his (the researcher's) past experience, innovation is needed even in the more rural areas where sustainable traditions are present, and this belief motivated the researcher to understand low accessibility to innovation as a key barrier to the CE”* (noted by the researcher during data analysis). Moreover, other notes tried to contextualise the respondent's context. For instance, *“the respondent here is mainly in charge of the business support to sustainability transition. The respondent does therefore liaise with the different businesses and can provide a more technical perspective. The researcher considered this statement significant as it shows that while there are traditional circular practices in the region, sometimes the translation of these into businesses practices may be challenging due to the long-lasting business practices that may prioritise other aspects than resources valorisation”* (note from the researcher during data analysis).

Furthermore, *“multiple respondents have pointed out a CE for local financial circularity. Yet, their responses may have been very much influenced by the economic impact of the COVID-19 pandemic and the realisation of the need to be more resilient in the local economy”* (note from the researcher during data analysis). Also, *“the [name of respondent omitted by the researcher] main objective is to improve the local economy and seeing the CE as a financial tool may be the result of the organisation's aim and objectives – a potential bias that is recognised by the researcher”* (note from the researcher during data analysis).

The researcher, therefore, appreciated internal reflexivity where the researcher looked inward to his previous experience, objectives that he has established and his philosophical position (Schurink, 2009) that have shaped not only the research design but also the interpretation of findings. During this internal reflexivity, the researcher has also recognised that his interpretation may have been influenced by previous interpretative patterns within the study, whereby the interpretation was also path-dependent. The researcher needed to understand, in a prospective manner, how he has influenced the study and, in a retrospective manner, how the study influenced the researcher in his interpretation process. This is a bilateral relationship between the researcher and the researched that forms a key aspect of qualitative research.

From the external perspective, the interpretation process conducted by the researcher also took into consideration the respondents' contexts and how this may have influenced the responses (e.g., organisational values, individual/organisational perception of CE, projects, initiatives of the individual/organisation towards a CE in tourism and geographical operational area) (Patnaik, 2013). The researcher was aware of the need to consider what the CE means to the respondents and how they value it. This was essential to better contextualise the research. The reflective activity occurred throughout the data analysis process is illustrated in Figure 3.9.



**Figure 3.9.** Reflexivity in Data Analysis

Source: Own elaboration

In Figure 3.9., it is recognised that both the researcher's and participants' contexts are likely to influence the researcher's interpretation of data. First, in reflexivity, the researcher sought to recognise how the participant's context may have influenced the responses provided to the researcher. The responses may have also been influenced by the participants' interpretation of the interview questions. Secondly, the researcher recognises that the interaction between himself and the participants may have influenced both the responses provided by the participant, and their subsequent interpretation by the researcher, for instance, by considering the attitude of the respondent during the interview. Examples from the researcher's notes include *"the respondent during the interview showed a highly critical attitude towards the local public sector, which has certainly emphasised the institutional barriers on governance centralisation"* (note from the researcher during data analysis). As Figure 3.9. shows, the researcher recognised that the interpretation process itself may have been path-dependent upon previous interpretation, as the researcher cannot detach from previously interpreted data. Although Figure 3.9. presents the process of reflexivity as quite structured, it was far from being linear.

This reflexive process allowed the researcher to have a more critical data interpretation and recognition that the researcher cannot be separated from the research itself and the process of interpretation that followed. Therefore, through a process of reflexivity, the researcher needed to recognise his influence on the interpretation process and, ultimately, the findings. To this extent, the researcher acknowledges that it was unavoidable for his background to affect the research, from selecting the topic – although this was mainly driven by the gap in the literature – to how data was interpreted.

### **3.5. Research Ethics**

Ethical behaviour protects individuals, communities and the environment (Israel & Hay, 2006). The same logic applies to research. In line with Bryman and Bell (2011) in research, ethical issues rotate around two main concerns: a) How should we treat the people on whom we conduct research? and b) What are the activities in which we should or should not engage them? Bryman and Bell (2011) develop this further by breaking down four main issues to be considered: 1) whatever there is harm to

participants; 2) whatever there is a lack of informed consent; 3) whatever there is an invasion of privacy; and 4) whatever deception is involved. To ensure that the researcher prevented any negative outcomes from the research activities, a full Research Integrity application was submitted and approved by the researcher's institution (Edinburgh Napier University). The Research Integrity application has been compiled fully in line with the researcher's institution's Code of Practices (Edinburgh Napier University, 2020).

During the Research Integrity application process, the research design and tools were reviewed by an appropriate committee, potential risks were assessed, and interview questions were reviewed. The researcher's compliance with the Edinburgh Napier University's Code of Practices ensured that any potential risks were mitigated before the fieldwork. Yet, in the present research, the potential of harm to participants was very low. Moreover, given the COVID-19 pandemic, all data collection activities were conducted remotely to minimise any potential risks and to comply with the University's regulations. An information and consent form (Appendix 10) was provided to each participant prior to conducting data collection activities.

The forms gave an overview of the research project and how the data would be recorded and treated by the researcher. The consent form needed to be signed by the potential participant before taking part in any research activity. Moreover, a well-designed research procedure and approval from the university's research committee ensured that there was no invasion of privacy through interview questions or any other risk that could arise from the research activities. Finally, participants remained anonymous during the whole research process. Data was also stored securely and only accessible by the researcher, ensuring anonymity for the participants in the reporting of findings. Anonymity was also kept in the summary of finding sent to the respondents for their feedback.

### **3.6. Research Limitations**

In terms of research design, the researcher faced certain challenges regarding stakeholders' participation, partially because of the COVID-19 pandemic. Methodologies such as focus groups which were considered as a confirmation of

study stage could not be applied. Yet, as mentioned in previous sections, this was partly mitigated using documentary analysis as a supporting methodological approach. Moreover, by providing a summary of the study's key findings and conclusions to participants, the researcher gave to the participants the opportunity to further reflect and comment on the study findings.

Moreover, the lack of extensive studies that merge tourism, CE and SIDs called for a broader approach to the study rather than having very narrow research questions. As a response to such limitation, it was essential to develop an initial comprehensive framework which can be further refined by future studies that can focus on one or more segments of the framework developed in this study. Following this approach, the researcher was able to provide researchers and planners with an initial framework including all relevant factors, rather than following a narrow approach which would have failed to provide the needed insight to accelerate the transition to a CE in SIDs.

Furthermore, although beyond the scope of this study, the research is fully contextual, meaning that the application of findings to other SIDs should be carefully considered and emerge from a process of empirical adaptation rather than taking for granted the applicability of the findings to other contexts. Although universal generalisation was beyond the scope of this study, this may represent a limitation in certain instances, so a degree of caution is advised if attempting to implement the findings in different island contexts.

### **3.7. Conclusion**

Chapter 3 provided a detailed description of the research approach. The chapter commenced with a critical positioning of the researcher within the interpretive paradigm as a result of his ontological and epistemological position. The researcher also clarified how the interpretive paradigm affected the analytical framework of the research, thus data collection and analysis techniques, including semi-structured interviews and documentary and thematic analysis. Moreover, given the COVID-19 pandemic, the researcher highlighted how the pandemic has affected data collection activities. In the last sections of the chapter, it was pertinent to underline the research quality criteria and how these were pursued. To conclude, the researcher described his experience as a researcher and how the study has enriched his personal



development and appreciation of island contexts. As explained in Chapter 3, the interpretive research paradigm asks the researcher to fully understand the studied context and let the reader gain a clear picture of it before presenting the findings. Therefore, Chapter 4 introduces the Orkney Islands context.

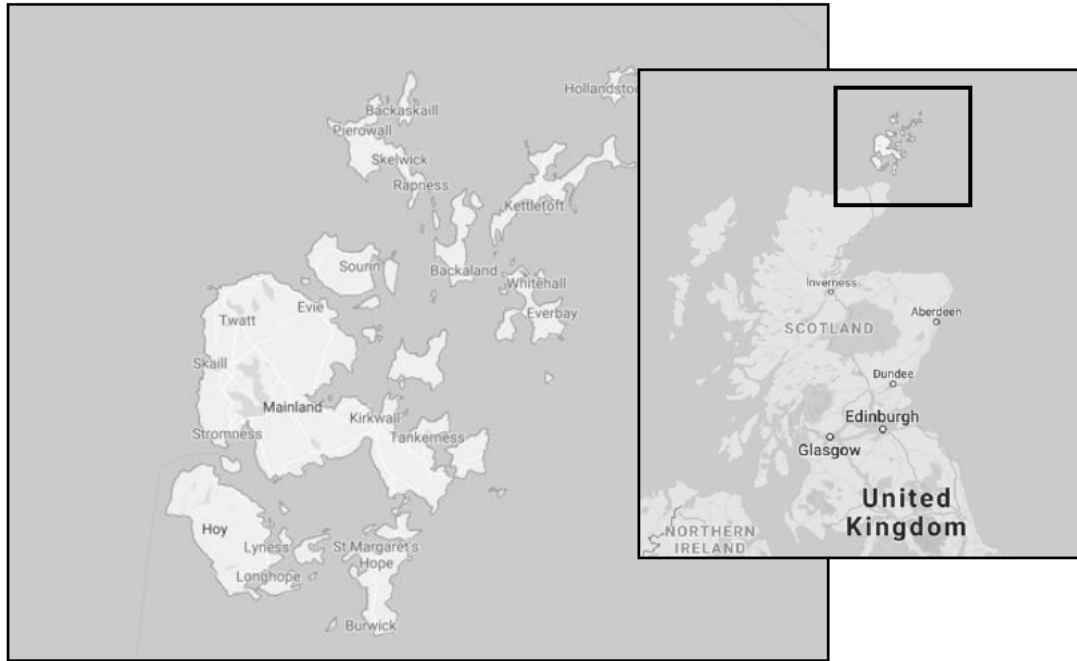
## **Chapter 4 – The Orkney Islands Context**

### **4.1. Introduction**

Chapter 4 contextualises the Orkney Islands (OI) to ensure that the ensuing chapters of Findings and Discussion can be placed within a thick description of the context. Chapter 4 builds upon primary data emerging from interviews and relevant documentary resources. It firstly provides a brief geographical background of the OI and introduces the regional tourism sector. Then the concept of islandness is applied to the OI context to further analyse the characteristics of the OI and how these affect the implementation of CE models. Furthermore, because of the global COVID-19 pandemic, the COVID-19-related measures that were implemented in the region and the macro impacts of those on the OI are briefly described as these coincided with the data collection period. The contextualisation of COVID-19's measures and impacts are essential because – as will be shown in Chapter 5 – these have been instrumental in the transition towards a circular tourism economy in the OI.

### **4.2. Locating the Orkney Islands**

Located in the northeast of Scotland, the OI comprise more than 70 islands and islets, with 17 inhabited islands. Most people live in the main towns of Kirkwall and Stromness, located in Mainland Orkney, the main and biggest island of the region. The OI are located about 20 miles (32 km) north of the Scottish mainland, across Pentland Firth Strait and constitute a council belonging to the Historic County of Orkney. They have a population of 22,270 (Highlights and Islands Enterprise, 2019) and a long history of 5000 years (Orkney.com, 2020). The OI's historical sites and natural landscapes make tourism one of their most significant economic activities. Figure 4.1. shows a map of the OI located within Scotland.



**Figure 4.1.** Map of the Orkney Islands

**Source:** Google Maps (2020)

In line with the conceptualisation of Taglioni (2011), Baldacchino (2013) and the Conference of Peripheral Maritime Regions of Europe (2002) on insularity levels, the OI are characterised by two insularity levels. Hyperinsularity or first insularity refers to the main island within an archipelago integrated into an industrialised country (Mainland Orkney), and insularity or dual insularity refers to the secondary islands within an archipelago integrated into an industrialised country, all the islands except Mainland Orkney based on the application of Taglioni (2011) and Baldacchino (2013)'s notion to the OI.

While other scholars and organisations propose more than two levels of insularity within an archipelago (e.g., EU, 2016), in the OI, stakeholders have created a categorisation composed of two insularity levels based on the extent to which an island is connected to the core island (Mainland Orkney) by a bridge. The OI are subdivided into linked and non-linked islands, and a map of this categorisation is provided below (The Orkney Partnership, 2018).



**Figure 4.2.** Linked and Non-Linked Orkney Islands

**Source:** The Orkney Partnership (2018)

Figure 4.2. shows that islands are categorised as non-linked (in grey on the map) when they are not connected to another island by bridges, and as linked (in white on the map) when they are connected to another island by a bridge. This classification is adopted in the Findings and Discussion chapter.

### **4.3. The Regional Tourism Sector**

Tourism contributes to around 5% of Scotland’s GDP, it employs 207,000 people across Scotland and 1 of 12 registered businesses are directly linked to the tourism sector (The Scottish Government, 2018). Within this context, tourism is also a key economic sector in the OI. Data suggest, for example, that only in the year 2017, the OI attracted approximately 304,000 visitors. This figure translates into approximately £50m spending per annum. Moreover, a recent survey showed that visitor spending in the OI increased to £67.1m in 2019 with an average spend per

person in 2019 of £351 (Visit Scotland, 2020). These economic figures not only show that tourism represents a relevant sector for the OI, but also show the constant expansion of this industry in the region (despite the setback caused by the COVID-19 pandemic that caused a 62.8% decrease in the economic impact of the tourism sector) (Orkney Islands Council, 2020). Moreover, the OI are a mature cruise destination (ekosgen, 2020). In fact, as reported by the Orkney Islands Council (2020) in the Orkney Economic Review 2020, the number of cruise vessels visiting the OI doubled between 2010 and 2019. Most overnight visitors are from the UK, specifically from Scotland (Orkney.gov, 2019) and represent most visitors in 2019 (87%) when compared to the day visitors (Visit Scotland, 2020). Therefore, most visitors stay at least one night when visiting the OI. Yet, visitors in the OI tend to have the permanence of one week or less with an average number of nights of five (Visit Scotland, 2020).

Moreover, visitors visit the OI for their wildlife, sceneries and culture. As reported in the Orkney Tourism Strategy 2020-2025 (2019), 64% of visitors are attracted by the sceneries and landscapes of the region, and 62% by the region's history and culture, with archeology being the main motivator (ibidem). In fact, the OI's main attractions are the St Magnus Cathedral, Skara Brae & Skail House, Maeshowe Chambered Cairn, Italian Chapel, museums and heritage centres across the region, and Bishop's and Earl's Palaces (Visit Scotland, 2020). This reflects on the most visited areas of the OI which include Kirkwall, Stromness, and elsewhere on Mainland Orkney and the islands of Burray, South Ronaldsay, Hoy, Graemsay and Flotta (Visit Scotland, 2020).

According to the tourism strategy (Orkney Tourism Strategy 2020-2025, 2020), while annual visitors were steadily increasing before the COVID-19 pandemic, the number of accommodation providers also increased and can be found across the region. The OI tourism sector, in fact, is characterised by a widespread distribution of tourism businesses throughout the archipelago, showing the different degrees of tourism development. Moreover, the business base of the OI is predominantly formed by small-scale businesses. The latest data (not specific to tourism) suggest that just over 90% of the total businesses in the OI have less than 10 employees, showing the small business dominance of the economy of the OI (University of

Strathclyde, 2020). Tourism accommodations in the OI include hotels, self-catering facilities, B&Bs, guest houses, and campervan parks among others. In 2019 it was registered that most overnight visitors stayed in hotels and self-catering facilities (Visit Scotland, 2020). Clearly, tourism in the OI is gradually expanding as well as becoming a relevant economy for small and medium-sized tourism enterprises. Yet, while it is important to support the long-term contribution of the tourism sector in the OI, tourism activities can, directly and indirectly, contribute to existing and potential new environmental and social pressures. Hence, their sustainability is crucial.

#### 4.3.1. Existing Pressures on the Orkney Islands

In line with an active and growing tourism economy in the OI, as the Orkney Islands Council (2022) clearly stated, the region is not immune to the impacts of climate change. Hyslop (2019) finds it relevant to emphasise, during the 10<sup>th</sup> Séminaire de la Chaire UNESCO et du Réseau UNIWIN-UNESCO «Culture, Tourisme, Développement» 2019, that climate change is already having a physical impact on the OI, for example, on the region's heritage sites through increased in heavy rainfall and coastal erosion and stressed that the high visitors number, when combined to extreme weather events, can further enhance the effects of climate change.

This not only means the importance of the island communities and the tourism sector to adapt to future changes, but also the significance for the tourism sector to minimise its impacts and contribute to the building of a more sustainable lifestyle in the region. In general, the OI suffer from physical pressures which can be further enhanced by large-scale tourism activities such as erosion, coastal water quality and marine litter (Orkney Islands Council, 2022). Moreover, tourism-specific pressures include wildlife disturbance, erosion due to footfall, and increased pressure on historical sites, infrastructures, and maintenance services (Orkney Islands Council, 2022). Moreover, the OI produce approximately 18,000 tonnes of waste every year, and the Orkney Islands Council is seeking to achieve a 70% recycling target by 2025 (Energy of Orkney, 2017) and it was not until recently that the OI were equipped with on-site waste incinerator, avoiding the need to export waste to the Shetlands to an already functioning incinerator (Cope, 2021). Moreover, recent studies are supporting the OI to identify the most suitable Anaerobic Digesters for the region to help mitigate

waste management challenges faced by the OI related to islands' size and location and to mitigate the carbon emission from exporting waste elsewhere (University Scotland, 2022; Reynolds et al., 2022). Other plans to reduce waste export and maximise on-site waste management activities include a proposed integrated waste facility in Kirkwall (Stewart, 2021). Yet, waste management challenges in the OI, by being related to degrees of isolation in the region, give rise to community grassroots waste management initiatives such as the Transition North Ronaldsay (Calor, 2022). Such initiatives shed light on the geographical challenges faced by the island communities in the region in terms of waste management and the CE solutions that are being promoted. Therefore, it is not only the quantity of waste generated, but it is also a matter of making waste management services available across the entire region, which may become unfeasible due to geographical conditions (e.g., costs). This indicates the need to promote and understand better how a CE can also be activated within the individual islands.

On a similar note, following a detailed spatial and quantitative analysis of microplastic contamination of intertidal sediments, Blumenröder et al. (2017) not only exposed the problem of microplastic presence in the OI but also that their distribution is related to populated areas and proximity to wastewater affluents and industrial sites. Buckingham et al. (2020), categorised and identified the sourcing of macro-debris in the OI, stating that while most macro-debris are likely to be generated by the fishing sector, living and leisure activities are also the sources of macro-debris found on the coastline of the OI. Therefore, studies suggest that waste dispersal is an issue for the OI, and tourism activities are also one of the causes. Moreover, there are also reports of tourism activities challenging the life of residents (The Press and Journal, 2017).

The CE plays a key role in achieving waste reduction targets in the region by the adoption of new technologies and generating economic value from materials through innovative waste management solutions (Energy of Orkney, 2017). The CE can also allow the tourism sector to become more environmentally, economically and socially sustainable for the region. Therefore, the tourism sector, while bringing significant economic benefits to the region, it also carries concerns about the negative impacts it can directly generate and the impact it can indirectly enhance, and a CE approach

can lead the way to a less impactful and beneficial tourism sector whilst contributing to regional sustainability targets.

In response to these concerns, the OI have developed a strategic sustainable vision for the regional tourism sector highlighted in the following quotation from the tourism strategy:

*“By 2025, Orkney will be a world-class sustainable destination enriching the lives of its people and visitors.”* (Orkney Tourism Strategy 2020-2025, 2020, p. 5)

The tourism strategy, was developed by six organisations: Destination Orkney (Ltd), (representing members of the tourism industry); Orkney Islands Council; VisitScotland; Highlands and Islands Enterprise; Historic Environment Scotland and Scotting Natural Enterprise (Orkney Tourism Strategy, 2020) posits the following objectives:

- Increase the economic prosperity of the islands.
- Extend the visitor season and increase visitor spending.
- Sustainably manage visitor numbers to protect the quality of experience, the key sites and routes of the sites, for visitors and residents.
- Disperse the benefits of tourism throughout the whole of Orkney.
- Conserve and enhance the islands’ natural and cultural heritage.

These objectives indicate the willingness of the local stakeholders to promote the sustainable development of the regional tourism sector. Moreover, it has been documented that throughout the pandemic, the Orkney communities were particularly concerned about the future of the tourism sector, and they expressed a positive attitude towards the need for general changes in the sector (Heddle et al., 2021). To this extent, the CE is gaining ground in the OI, meaning that there is a great effort by the local tourism businesses and local stakeholders towards the promotion of a CE in the region. This for instance reflects on the local adaptation of policies and plans (Orkney Islands Council, 2022).



As such, the next section presents quotes that highlight the CE practices that have been implemented or are in the process of implementation.

#### **4.4. Circular Economy Practices**

This section builds upon primary data from the semi-structured interviews to uncover current CE practices in the tourism sector to better frame the discussion of drivers, barriers and enablers in Chapter 5. According to the interviewed stakeholders, the tourism sector in the OI is employing the CE in a variety of ways and through different initiatives. Yet, as for other tourist destinations, in the OI, CE practices are still being explored for their application in the tourism sector as well as by linking the tourism sector to other economic activities. Respondent 9, for example, stated that the food & drink sector has been involved in the circulation of by-products such as crustaceous shells to create different goods and evidenced this practice when stating that *“they have [food & drink sector] set crustaceous shells and things like that, that will be then re-circulated and used as a different product”* [Respondent 9]. This shows the effort of a tourism sub-sector to be involved in the valorisation of organic materials at their end of life by actively collaborating with other actors/industries.

While Respondent 9 pointed out the tourism sector’s effort in the extraction of organic materials from crustaceous shells, Respondent 6 highlighted that the tourism sector of the OI is strongly involved in recycling initiatives: *“there are some companies in the tourism sector [...] that would do recycling and would measure against certain common criteria”* [Respondent 6]. Yet, as shown in Chapter 2, recycling, while promoting circularity, still represents the least favourable option when seeking to capture value from materials. The emphasis on the recycling side of the CE was further emphasised by Respondent 6 when stated that *“accommodation providers, some of them may already be using some sustainable practices, making sure that there is waste removed from their offer”* [Respondent 6]. This notion was also supported by Respondent 13 when suggesting that the private sector is *“doing the proper things in terms of recycling, energy usage in the properties”* [Respondent 13].

These statements show that the CE is perceived mostly as a concept related to recycling. However, reusing is also a common practice across the OI.

Respondent 6 argued that:

*“There is a scheme that is not specific to tourism [to which tourism takes part]; there is an organisation called Zero Waste Orkney which in effect is keen to promote reuse, recycling and there is also an organisation called Employability Orkney which is a social enterprise that reuse, not so much repurpose, reuse reusable waste, something that otherwise goes to landfill, gets back into use.”*  
[Respondent 6]

The centre of this reusing program is in Mainland Orkney, and an effort towards all re-purposing sides of the CE within which the tourism sector takes part either directly and/or indirectly is evident. Yet, the extent of tourism inclusion in this program given its centralised operation within a region is unknown.

Across the OI there are also efforts to localise the supply chain for financial circularity and towards closing the cycle of food waste through composts and animal feeds. This is shown by Respondent 10, who owns a tourism accommodation business in one of the non-linked islands and provided a first-hand account of actions that tourism businesses are taking towards a CE. Respondent 10 argued that:

*“We try to buy local as much as possible. We don’t have food waste, we got two goats, so all the remaining goes to them or compost. And a lot of people got their own chickens, goats, and things like that. So, it is good, anything like that they love it, they get all the potato peeling. They would have that and the rest we would compost anyway. We get very little food waste here. We are very careful not to overstock. Very little waste food product here from our point of view.”* [Respondent 10]

Thus, the statement underlines practices such as waste minimisation and recirculation through composting and animal feeds. These seem to be small-scale practices by the businesses and conducted at the individual level, which is significant in driving the transition to a CE.

Furthermore, Respondent 12 stated that recycling and food redistribution are key practices in the OI and business operations through collaboration with local food banks. To this extent, Respondent 12 confirmed that:

*“We recycle and that’s a lot of work, people leave a lot of glass bottles, cans and we must take them in the recycling centre once a week and we got a whole trunk full of stuff [...] We have a food bank and I ask people that stay with me if they have food left, leave it and I donate it to the food bank.”* [Respondent 12]

Some tourism businesses are repairing, reusing and repurposing materials. For example:

*“Whenever possible, I tend to repair things or re-use items, store them until I need them, and I carry a minimum of stock of whatever is possible to reduce the need for additional freights. Sometimes if it is a cheap item, I buy a second one just to reduce transport costs and try to make use of things and I have the ability to repair all sorts of stuff that a lot of people dump down. I try to repurpose!”* [Respondent 11]

Moreover, Respondent 11 highlighted the effort towards resource-sharing: *“what we do is share resources and knowledge between the various accommodations”* [Respondent 11], which indicates an existing flow of tangible and intangible resources in a CE.

To conclude, it can be stated that the current application of circular practices across the OI’s tourism sector is concerned with a variety of resources. In fact, practices such as food redistribution, use of green energy as well as material repurposing are valorised by the local tourism sector, showing an active commitment towards a CE. However, some of the CE solutions that are highlighted are more technology-based, such as the involvement of the food & drink sector in the reprocessing of the crustaceous shells (Respondent 9), and some practices tend to be low-tech, such as food redistribution to food banks (Respondent 12) and home repairing practices (Respondent 11). It was significant to include these practices that are being practised by the tourism sector to portray the current understanding and practical implementation of the CE within the context of the OI.

## **4.5. The Islandness of the Orkney Islands**

There is no common agreement on how to measure the degree of isolation of an island. It is believed that the degree of island isolation not only concerns the topographical distance of an island to other lands but also the social, cultural, political and economic distances in each context (Ratter, 2018, p. 12). Thus, the researcher – considering his ontological belief that isolation is contextual to the individual (as discussed in the methodological chapter) – does not intend to measure the degree of isolation of each of the OI through numerical terms, but, instead, he appreciates the expression of an island’s isolation based on participants’ perception of the extent to which they feel isolated within the context and the studied phenomenon of the circular tourism transition. Therefore, isolation – as an expression of islandness – is considered contextual to the individual perspective (as linked to the researcher’s philosophical position) and regarding the CE transition of the tourism sector. Consequently, this section cannot describe the degree of isolation of the OI as a region within the Scotland/UK context or the isolation of the individual islands within the OI region.

### **4.5.1. Broad Consequences of Islandness**

In line with the study objectives, it is worth noting the ways islandness manifests in the OI. The regional fragmentation of the OI tends to generate socio-demographic issues affecting the region. In fact, islandness seems to express through demographic trends such as depopulation from the different islands due to difficulties in commuting for work and access to education. As such, despite a recent estimation of the population by the National Record of Scotland (2020) that shows a slight population growth between 2018 and 2019, past trends have usually demarcated population decline and loss of the young population among the 16 to 24 age group (ibidem). The report highlights that the main causes of out-migration are related to the low employment and economic opportunities available throughout the OI and – especially within the outer islands – housing availability, affordability and transport costs. Depopulation is a significant issue for the OI, as will be discussed in Chapter 5.

Interestingly, the semi-structured interviews conducted by the researcher show that there is also an issue of population centralisation. This refers to people tending to move towards urban centres of Mainland Orkney (Stromness and Kirkwall), where there is a higher concentration of resources, services and jobs. The interviews highlight how the ability to travel to and from work has been a key factor in drifting the population towards Kirkwall and Stromness. Such demographic factors are rooted in the region's fragmentation leading to population decline and centralisation, especially amongst the working population.

Several quotations document the issue of out-migration and population centralisation. For instance, Respondent 3 provided evidence on how depopulation trends are rooted in the regional fragmentation by stating that:

*“Most of the small islands are under threat of depopulation, so even though islands are only about two hundred people, they own their development trust, and what that organisation seeks to do is to create jobs and wealth for the islands.”*

[Respondent 3]

The statement shows how active is the effort of local stakeholders towards the creation of jobs to retain and increase the population on the islands. Moreover, the fragmentation of the region seems to provoke key differences among the region's islands. In fact, as mentioned by Respondent 14, *“Each island is different. We are not able exactly to pin how each island is different, but it just is”* [Respondent 14], and they tend to be *“competing with each other in some ways”* [Respondent 5].

Moreover, the fragmented nature of the region tends to also have repercussions on the islands' waste management system. Several quotes from community consultation documents display this concern. During the consultations conducted as part of the development of the Locality Plan for the non-linked islands (2017), the community and different stakeholders of Graemsay Island stated that it is usual to see *“Large items of rubbish build up on the island due to their being only 2 collections per year”* [Locality Plan, 2017 – Graemsay Island, p. 10].

On the island of Hoy, the island stakeholders shared that *“rubbish is left to rot”* [Locality Plan, Hoy, p. 13], and in North Ronaldsay, where the residents must pay to recycle waste by shipping it off the island, *“there is nowhere to put rubbish so*

*therefore it starts to collect and pile up around the island*” [Locality Plan, 2017, North Ronaldsay, p. 15]. Moreover, in Papa Westray, still during the same consultation programme, the island stakeholders were concerned with the environmental impact of waste dispersal when stating that *“There is a significant amount of marine litter on the shores, which is unsightly, and will be affecting the marine environment adversely”* [Locality Plan, 2017, Papa Westray, p. 18]. Clearly, waste management is a main concern for the OI.

As seen, regional fragmentation and other islandness dimensions characterising the OI tend to be generating issues around transport, socio-demographics and waste management. In fact, the effects of regional fragmentation are accentuated by the natural boundedness and smallness of the islands (smallness that limits the creation of opportunities within the individual islands), which magnify the effect of physical distance from other islands and Mainland Orkney and from the OI and mainland Scotland. Moreover, there is a diversity of islandness and its effects across the OI which reflect what was argued by Grydehøj (2015) in his effort to clarify that islandness is highly sensitive to contextual factors. The following section discusses how the COVID-19 pandemic affected the OI concerning connectivity and the implementation of CE practices in the tourism sector.

#### **4.6. Orkney Islands and COVID-19**

Limited transport connectivity has definitely impacted tourism business activity, with 50% of businesses declaring – in a survey conducted by the Highlands and Islands Enterprises in 2020 (Highlands and Islands Enterprise, 2020) – that they were operating at half capacity compared to pre-COVID-19 time. This indicates the dramatic impact of the pandemic in the region at the time of conducting the interviews. The COVID-19’s impact on the community and tourism sector was highlighted in a recent report where it is documented that due to the COVID-19 pandemic the number of visitors arriving by ferries declined by 71% in the 2020 season (Heddle et al., 2022).

Respondents indicated different perspectives on the impact of the COVID-19 pandemic on the islands. In fact, Respondent 15 argued that *“Orkney has had a fairly*

*low impact, it has been hardly impacted by COVID-19, the number of cases remains very low*” [Respondent 15], whereas Respondent 2 stated that *“as a result of COVID-19, the tourism industry in Orkney is significantly impacted”* [Respondent 2], and Respondent 11 more specifically mentioned that *“we have probably lost 40% of all the accommodation because of COVID-19”*. Such statements show that while the number of cases of COVID-19 was relatively low, as mentioned by Respondent 15, Respondent 2 pointed out that the connectivity-related measures have led to a significant decrease in accommodation bookings, as specified by Respondent 11.

Respondent 9 suggested that *“there are challenges about survival and so from an individual business perspective, the priorities are ensuring that they have an income to look after their families and look after their employees”* [Respondent 9].

The challenge of survival seems to have motivated local efforts to diversify business activities. In this line, Respondent 15 mentioned that *“a lot of businesses [...] they either diversified away from tourism by finding something else to do during this period or they are fractured, and they just go* [Respondent 15], but *“the biggest challenge I guess is that people are financially drained out as a result of COVID-19 and to instigate any changes right now is going to be very difficult for most people”* [Respondent 15]. Therefore, the COVID-19 pandemic has dramatically reduced the financial capability of businesses to invest in changes in their operations and “forced” some businesses to diversify their economic activities to ultimately become more resilient.

On the level of access to resources, COVID-19’s connectivity measures have largely impacted the flow of goods and waste, indicating that – in addition to the reduction of tourism income and financial capability to diversify and innovate activities – the community was significantly impacted by other terms. Due to limited transport connectivity with mainland Scotland, Respondent 14 stated that the communities in the OI *“were unable to get a lot of things for a very long time; not being able to access things from the outside”* and that also *“some of the services on the islands were more limited [...] recycling didn’t happen for the longest time and it still... it is getting on differently, rather than collecting waste at the same time, they take like 2 types every two weeks”* [Respondent 14].

Respondent 4 further emphasised the waste collection side of the impacts by arguing that during the COVID-19 pandemic:

*“recycling collection of [non-linked island – name of the island omitted by the researcher] completely stopped, the council did stop it, they only did general waste, and the community was really good tough, they kept storing and everyone was sharing photographs of garden sheds full of plastic bottles because they were determined they were gonna be recycled rather than going into general waste”*  
[Respondent 4].

This statement shows how waste accumulated on the islands and the community’s reaction and persistence to recycle the plastic waste. Respondent 5 supported that there were differences in the ways the *linked* and *non-linked* islands responded to the pandemic:

*“the outer isles have managed to survive and done more during COVID than Mainland. Mainland has been asking us how we did what we did during COVID because the islands needed very much to be self-sufficient and the view was that if we don’t do it nobody else is”* [Respondent 5].

Such a statement shows that islandness and the degree and nature of resilience can be different among islands of the same archipelago. This can be the result of the isolation some islands suffered which may force them to develop coping strategies to be as self-sufficient as possible. As stated by Respondent 14, recovery has two parts:

*“There is the immediate response “let’s get these businesses and help them to survive”, and that’s ongoing, and there is also building that foundation that can be more resilient and more agile if something else comes along they will be able to mitigate it more”* [Respondent 14].

As part of the recovery plan, there are wishes to become more resilient and sustainable through the elaboration of coping and resilient strategies for the tourism sector. In the short term or to survive the pandemic, diversification appeared to be a key strategy. As Respondent 15 argued:

*“the biggest response that people have made is diversification, finding different ways to maintain an income throughout COVID-19. They have left tourism on the*



*shelf, and they have run other things, they have used their vehicles to run other things and resources and places and offices for other things” [Respondent 15].*

Whilst on the long path to recovery and resilience-building, Respondent 14 argued that – within the context of the COVID-19 pandemic - the developed tourism strategy is not fully in line with the new challenges caused by the recovery:

*“We have a strategy, and my opinion is that is not enough, especially given COVID-19. I believe it needs to be reviewed, I don’t think is on the wrong track, but I don’t think is strong enough and detailed in terms of sustainability, what it means and what the practicalities are of it, and I also think that there is sort of things in that strategy that because of COVID-19 need to be taken forward as priority. So, I think that needs to be looked at.” [Respondent 14]*

Such statements suggest that there is a degree of concern towards the current strategic approach to tourism development that does not take fully into consideration the consequences and implications of the COVID-19 pandemic. This may be because the strategy was drafted prior to the pandemic. Nevertheless, Respondent 9 claimed that the COVID-19 pandemic has motivated OI’s public sector *“to be looking more closely at that green recovery”* and that, therefore, *“the government priorities have changed, which means that there may be greater resources and support that allows people to come together and actually do things”* [Respondent 9].

In fact, as also mentioned by Respondent 6:

*“Almost from day one there were approaches in the council to say we got this COVID situation and can we build back better, and there is certainly a ground enthusiasm and take the crisis to really try look forward a more sustainable future for Orkney” [Respondent 6].*

In this regard, Respondent 14 added that:

*“The council priorities, I mean... I think there are certain things that are moving quickly because it has to and it’s in relation to economic recovery and I see this everywhere “economic, economic...” that prioritises our social and environmental considerations” [Respondent 14].*

These statements indicate that, because of the challenges derived from the COVID-19 pandemic, there is a strong motivation to move beyond strategies that solely help the imminent recovery to those that also build a more resilient and sustainable tourism sector for the OI. Thus, while the section – drawing upon the inputs of the respondents – suggests that the OI need to change, it also indicates that the local stakeholders see circular and resilient growth driving such changes.

#### **4.7. Conclusion**

Chapter 4 has described the OI context. The chapter has highlighted the general characteristics of the OI and applied the concept of islandness to the OI context. Islandness rooted in the spatial-geographical characteristics of the OI mainly manifest through issues such as depopulation and transport challenges among islands and between the OI and mainland Scotland. Moreover, the effects of islandness appear to be different between the linked and non-linked islands; therefore, barriers and enablers of a circular tourism economy may also be different within the region. This chapter not only highlighted how islandness translates in the OI but also evidenced the differences that exist within the same archipelago. By uncovering these differences, a more critical outlook on the drivers, barriers and enablers can be adopted by the researcher. Moreover, COVID-19's impact on the OI has accentuated certain aspects of islandness, especially impacts on supply chains and limited transportation services, and changed entrepreneurs' vision towards more sustainable and resilient future development.

## Chapter 5 – Findings

### 5.1. Introduction

Chapter 5 presents the findings of the study. Section 5.2 concerns the drivers to the circular tourism economy transition in the OI, and sections 5.3. and 5.4. cover the barriers and enablers that have emerged from the study. Interview findings are firstly presented, followed by a report of the documentary analysis.

### 5.2. Drivers to a Circular Tourism Economy

Drivers to a circular tourism economy in the OI were categorised by the researcher as *social*, *economic* and *environmental* driving factors. Each of these factors represents a cluster of drivers, as reported in the following sections.

#### 5.2.1. Social Drivers to a Circular Tourism Economy

Two social drivers of a circular tourism economy have emerged from the study's interviews. On one hand, a circular tourism economy is promoted to build island self-sufficiency and, on the other, to create jobs and mitigate depopulation. Table 5.1. shows the number of respondents that have mentioned each of the drivers, the geographical concern within the region and which islandness dimension tends to generate the driver.

**Table 5.1.** Social Drivers to a Circular Tourism Economy

Theme	Respondents	Geographical relevance	Islandness
Promote island self-sufficiency	3	Linked and non-linked islands	Regional fragmentation
Create jobs and stop depopulation	5	Linked and non-linked islands	Regional fragmentation

#### 5.2.1.1. *A Circular Economy for Island Self-Sufficiency*

As reported in Table 5.1., three respondents pointed out that a CE is promoted to develop a higher degree of self-sufficiency on the islands. This is particularly emphasised by the respondents to alleviate and mitigate the challenges posed by the regional fragmentation, such as access to resources due to issues including transportation, supply chain disruptions and the peripheral and non-linked nature of islands. As contextualised in Chapter 4, “*Orkney is remote from other centres of population, and they had to be self-sufficient*” [Respondent 2]. Respondent 4 also agreed that “*For us, the circular economy is about be[ing] more self-sufficient [...] and the main drive of that is the isolation of the island*”. Here, Respondent 4 refers to the CE as a way decrease the need for new products and materials.

Self-sufficiency seems to be also rooted in the isolation – and absence of mitigating strategies – of the individual islands within the archipelago. As Respondent 1 felt relevant to highlight: “*you have that interdependency, but you can’t really rely on it [inter-island connections], so you have to think quite differently how you do things*”, suggesting the need to be self-reliant in the face of isolation within the OI region itself. Respondent 4 added that “*we have been thinking for a while to be self-sufficient, not just Orkney as a whole but within the north isles as well. If we can reduce our dependency on these life-line services that’s a better thing to do*”. Here, thus, self-sufficiency is a must for the non-linked islands to decrease their reliance on external resources and entities and the Scottish mainland. As shown in Table 5.1., respondents also shared that the circular tourism economy in the OI has been promoted to create jobs and mitigate depopulation.

#### 5.2.1.2. *A Circular Economy to Create Jobs and Stop Depopulation*

Depopulation and population centralisation are seen as social problems for the OI for several respondents (e.g., Respondents 3-12), and are mainly driven by the fragmentation of the region and the low ability to mitigate related challenges (e.g., transport). Five respondents mentioned that a CE in the OI’s tourism sector is implemented to create job opportunities and stop depopulation across the whole region: linked and non-linked islands.

Respondent 3 made the link between the current depopulation trends and the CE as part of the mitigating response by arguing that:

*“Most of the small islands are under threat of depopulation so even though islands are only about two hundred people have their own development trust [...] to create jobs and wealth for the islands [...] circular economy is one the things that have looked into it quite a lot.”* [Respondent 3]

Yet, while Respondent 3 did not specify how the CE in tourism helps to stop depopulation, Respondent 9 suggested that it is an opportunity to “*activate activities around the circular economy and creative opportunities for employment*”. These opportunities for new employment may arise from creating new products and services from the implementation of circular practices in the regional tourism sector. Respondent 8 suggested that “*if we establish a local need for a service or capacity [through a CE], it can be an employment for somebody, which therefore means there is a retention of people on the island*”. For Respondent 8, therefore, a CE means localising the provision of services which would ultimately lead to local financial and social benefits. Finally, Respondent 15 shared: “[in a CE] *there is scope for work, there is scope for immigration into the island*”. Therefore, for the respondents, a CE in tourism can lead to job creation and, consequently, attract and retain people on the islands, mitigating the issues of depopulation experienced throughout the region. On this line, respondents have pointed out the economic drivers to a circular tourism economy.

### 5.2.2. Economic Drivers to a Circular Tourism Economy

Four economic drivers to a circular tourism economy emerged from the interviews. These – as shown in Table 5.2. – are: a) promote local financial circularity; b) decrease waste-related operational costs; c) decrease import-related operational costs; and d) create additional income for tourism businesses.

**Table 5.2.** Economic Drivers to a Circular Tourism Economy

Theme	Respondents	Geographical relevance	Islandness
Promote local financial circularity	9	Linked and non-linked islands	Boundedness, regional fragmentation, smallness
Decrease business waste operational costs	3	Linked and non-linked islands	Regional fragmentation
Decrease imports operational costs	2	Linked and non-linked islands	Regional fragmentation
Create additional income for tourism businesses	3	Linked and non-linked islands	Smallness

#### 5.2.2.1. *A Circular Economy to Promote Local Financial Circularity*

According to nine respondents, the CE in the OI is sought to promote local financial circularity. This is a necessity that seems to emerge from the islandness of the region, whereby the CE can reinforce and boost the local economy, which is narrow and insular. Such necessity was further accentuated by the COVID-19 pandemic which has uncovered a lack of economic resilience in the OI.

Respondent 4 – from a non-linked island – stated that:

*“having a circular economy [in tourism] in waste, we hope will translate a circular economy financially as well. So, if we are able to have more businesses interacting with each other, supporting each other in these ways, keeping funds in the island, that’s always a benefit to keep the community thriving.”* [Respondent 4]

Accordingly, the CE is a key driving element to diversifying local financial streams where economic diversification may be hampered by the smallness and limited economies of scale (Bahers et al., 2017). Similarly, Respondent 9 argued that *“in financial terms as well in an island context, the benefit of a circular economy is that*

*you are basing the local economy on you*”, thus prioritising local produce and suppliers. Moreover, it appeared that the necessity to localise the economy through a CE in tourism has become more acute during the COVID-19 pandemic. While discussing the CE implementation in the OI’s tourism sector, Respondent 8 stated that *“people are suddenly realising that the locality, the fact that there are local shops it is really important. I think it has [the CE] a lot to do with further support to these shops”*. In fact, as Respondent 9 argued, within the discussion of a CE, the COVID-19 pandemic *“is reinforcing the importance of the local economy, the value of local economies”*.

The CE is appreciated to promote local production and consumption and ultimately boost the local financial circularity in the OI, a need that became apparent during the COVID-19 pandemic, which reinforced the downsides of relying on external markets and financial inputs. Appendix 11 reports additional quotes from the respondents supporting the role of a circular tourism economy to promote local financial circularity.

#### 5.2.2.2. *A Circular Economy to Decrease Business Waste Operational Costs*

Still in line with the economic drivers of a circular tourism economy, respondents have argued that a CE is also sought to decrease business operational costs. As contextualised in Chapter 4, tourism businesses in the OI tend to face additional costs when it comes to getting rid of end-of-life materials – especially large items – for which the shipment costs are not always covered by the council. Moreover, these costs are mainly accentuated by the significant distances of businesses from processing and disposal infrastructure. Therefore, the CE is regarded as a tool to avoid such costs by valorising and finding ways to reuse and repurpose items. Three respondents supported this theme. Respondent 9 evidenced that the CE is an important financial tool to reduce the operational costs of tourism businesses when they must pay for shipping end-of-life materials off the island: *“the circular economy is important in financial contexts [...] it reduces the cost to these local authorities and businesses having to transport their residual waste and recycling to be processed”*. Thus, a direct link exists between the CE and the reduction of waste management operational costs.

This issue appeared to be particularly relevant for the non-linked islands. To this extent, Respondent 2 highlighted the urgency for these islands to find solutions to keep materials in use to mitigate the high operational costs caused by waste logistics: *“The outer isles try to keep materials for as long as possible because once it becomes a waste, for instance, getting everything out of the island is also complicated, that is something else that you just have to deal with”*. Materials are kept through circular practices, often low tech, involving activities such as repairing, sharing, and repurposing. This statement links to the higher degree of isolation experienced by the non-linked islands and the financial repercussions on their business operating costs. Yet, this remains a broad regional issue affecting the non-linked and linked islands, and the circular tourism economy is a mitigating response to these waste operational costs.

As Respondent 6 argued, *“from a practical point of view, the fact that waste has to come off by ferry and therefore has costs, it means there is more currency of the idea of the circular economy for the islands”*. Respondent 6 referred to the ferry costs as a “double” barrier when looking only at the regional level, where the non-linked islands need to ship off waste to Mainland Orkney by ferry.

#### 5.2.2.3. *A Circular Economy to Decrease Business Import Operational Costs*

Two respondents claimed that the circular tourism economy in the OI is also promoted to decrease import-related operational costs that tend to be accentuated by the isolation and distances of the OI from the mainland and the resulting additional freight costs. A CE is therefore seen to reduce these costs by minimising the need to import through the valorisation of existing materials on the island. Respondent 7 argued that – in the context of food – *“because of the logistics of food imported to the island and the process that they have to go through, by adopting a circular economy will help reduce food waste and become more sustainable in terms of saving food and saving money”*. Here, saving money by importing less represents a key reason for implementing CE practices in the OI. Similarly, Respondent 1 stated that these higher costs faced by businesses to import goods force the islanders to think differently about the lifespan of materials and what goes in and out of the



island, indicating the CE as one of these different ways of thinking. To this extent, Respondent 1 affirmed that *“you have to think differently about anything that is coming in and going out and finding alternative solutions and you have to be reusing things a lot more because the cost of getting something new is higher”*. Other respondents clarified that the circular tourism economy in the OI is also applied to create additional income for tourism businesses.

#### 5.2.2.4. *A Circular Economy to Create Additional Income for Tourism Businesses*

The smallness of the OI tends to limit the revenue streams of tourism businesses. This is especially an issue for the outer isles, as they receive fewer tourists than Mainland Orkney. Consequently, two respondents have highlighted that the circular tourism economy in the OI is promoted to potentially create new economic opportunities. In fact, as Respondent 3 highlighted, *“we look at where are the best places to market because the circular economy could also be another strand of income for them [for tourism businesses] [...] so is something that is considered as part of the whole business support package”*. The circular tourism economy is integrated into business support efforts across the OI to create new economic streams. In the view of Respondent 9, there is the opportunity through a circular tourism economy to *“maximise the opportunities for re-scaling and upscaling and create new innovative opportunities for businesses across the region”*. These opportunities, which are believed to emerge under a CE scenario, can, therefore, provide additional income for tourism businesses and may include e.g., profit-based sharing of food by-products or other materials, creating of new circular tourism experiences allowing entrepreneurs tapping into new markets.

Having presented the social and economic drivers of a circular tourism economy, the researcher reports on the only environmental driver that has emerged from the study.

#### 5.2.3. Environmental Drivers to Circular Tourism Economy

One environmental driver to a circular tourism economy has emerged from the interviews: preventing waste in tourism through a CE. As contextualised in Chapter 4, effective waste management represents an issue in the OI due to their fragmented

nature and related challenges in providing effective and regular collection services. The circular tourism economy was regarded by five respondents as a tool for preventing waste at the source and mitigating waste-related challenges accentuated by regional fragmentation. Respondent 6 argued that the *“Reduction of waste is absolutely a huge aspect”* of the circular tourism economy implementation and Respondent 13 stated that the circular tourism economy in the OI is about *“the efficient use of raw materials for our products and services”*, efficient use to minimise waste generation on the islands. On the same note, the circular tourism economy is seen by stakeholders as an *“approach about reducing waste, designing waste out of products and production processes”* [Respondent 8] and that the CE includes *“that aspect of waste prevention”* [Respondent 7]. As Respondents argued above, the CE has the main purpose of preventing waste by encouraging businesses to keep materials in function for as long as possible.

#### 5.2.4. Documentary Support to Drivers to a Circular Tourism Economy

Several documentary resources were identified as relevant to provide further empirical support to the social, economic, and environmental drivers that emerged from the semi-structured interviews. The documentary contribution to each of the above themes is reported in Table 5.3. For conciseness, additional documentary quotes are presented in Appendices 12.

**Table 5.3.** Documentary Resources: Drivers to a Circular Tourism Economy

Cluster	Driver	Document	Evidence
SOCIAL	Create jobs and stop depopulation (more in Appendix 15)	Shapinsay Community Action Plan: Research Report 2020-2025 (2020)	Respondents point out the lack of job opportunities and resulting decline in population (p. 20).
		Kirkwall and Stromness (2019) – Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)	Community shared that one of the challenges faced by Mainland Orkney is depopulation, calling for mitigating strategies.
		North Ronaldsay Report (2019) – Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)	Consulted stakeholders call for “options for on-island recycling to contribute to cleaner environments, create jobs and generate income for the local community” (p. 5)
ECONOMIC	Promote local financial circularity	Shapinsay Community Action Plan: Research Report 2020-2025 (2020)	The document highlights the need for a “thriving and vibrant economy” (p. 21).
		Hoy and Walls Report (2019) – Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)	Community calls for an investigation of possible “funding schemes to encourage the development of small, local businesses on the island” (p. 4).
		Locality Consultations: Orkney Non-Linked Island Summary (2017)	Sanday: One of the main developments concerns of the island’s stakeholders is the “lack of local trades on the island” (p. 27).
	Decrease business waste operational costs	Locality Consultations: Orkney Non-Linked Island Summary (2017)	North Ronaldsay: “Residents have to pay to recycle, there is nowhere to put rubbish so therefore it starts to collect and pile up around the island” (p. 15).
Papa Westray: “Difficult to get rid of scraps – no incentive to get rid of old vehicles as costs of removal are so high” (p. 19).			
ENVIRONMENTAL	Prevent waste (more in Appendix 15)	Orkney Islands Council Plan 2018-2023 (2018)	Emphasised the need to “explore ways to reduce the volume, and cost of handling, of the county’s waste” and “eliminate single use/disposable plastic items within the Council where possible, and support others” (pp. 15-16).
		Locality Consultations: Orkney Non-Linked Island Summary (2017)	Graemsay: “We don’t have recycling facilities on the Island” and “No storage for refuse/no removal of large items” (p. 10).
		Sanday Island Report (2019) – Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)	Stakeholders called for “Development of an on-island recycling facility/scheme that promotes circular economy” and “the need for [...] promoting on island recycling as a good practice from a circular economy” (p. 5).

### 5.2.5. Summary of Drivers to a Circular Tourism Economy

A total of three clusters of drivers have emerged from the analysis of interviews and documentary resources. These are:

- I. **Social drivers** to a circular tourism economy in the OI. This cluster includes a) promoting self-sufficiency and b) creating jobs and mitigating depopulation. Although the two drivers appeared to have higher relevance for the non-linked islands, they tend to be driving the circular tourism economy transition in the whole region.
- II. **Economic drivers** to a circular tourism economy in the OI. This cluster includes a) promoting local financial circularity, b) decreasing waste-related business operational costs, c) decreasing import-related operational costs and d) creating additional income for tourism businesses.

All economic drivers concern both the non-linked and linked islands. Yet, the drivers referring to decreasing operational costs are inevitably more significant for the outer and non-linked islands.

- III. **Environmental driver** to a circular tourism economy in the OI. This cluster includes only one driver: a circular tourism economy to prevent waste. While the driver seems to be relevant for the entire region, the islands lacking waste infrastructure and/or are geographically distant from these infrastructures may feel more pressured towards the adoption of CE solutions.

The following section reports the barriers that have emerged from the interviews and documentary analysis.

## 5.3. Barriers to a Circular Tourism Economy

Barriers to a circular tourism economy in the OI were associated by the researcher with a number of categories: technical, social, economic and institutional/governance barriers. A total of 14 technical barriers were identified in the study. These are summarised in Table 5.4. along with their geographical focus and related islandness-related factors.

**Table 5.4.** Technical Barriers to a Circular Tourism Economy

Theme	Respondents	Geographical Focus	Islandness
Insufficient inter-island links	10	Linked and non-linked islands	Regional fragmentation
Insufficient island-mainland links	5	Linked and non-linked islands	Regional fragmentation
High distance to markets	2	Linked and non-linked islands	Regional fragmentation
Collaborative redistribution challenges	3	Linked and non-linked islands	Regional fragmentation
Limited/unreliable digital connectivity	5	Linked and non-linked islands	Regional fragmentation
Challenging access to innovation centres and schemes	4	Linked and non-linked islands	Regional fragmentation
Highly competitive environment	3	Linked and non-linked islands	Regional fragmentation, smallness
Limited access to circular skills within / from outside the islands	8	Linked and non-linked islands	Regional fragmentation, smallness
Waste collection challenges	2	Linked and non-linked islands	Regional fragmentation
Limited local goods production	2	Linked and non-linked islands	Smallness
Limited access to small scale technologies	3	Linked and non-linked islands	Smallness
Seasonal high tourism demand	1	Linked and non-linked islands	Smallness
Seasonal fluctuation of waste Streams	1	Linked and non-linked islands	Smallness
Limited land for circular infrastructures	1	Non-linked islands	Smallness

### 5.3.1. Insufficient Inter-Islands Links

The OI are part of a fragmented region, which is not free from transport complexities. Respondents highlighted insufficient inter-islands links for a circular tourism economy. Ten of them have mentioned the theme supporting the fact that more spatially effective/regular links among the islands appear to be essential to activate a circular tourism economy in the region.

For Respondent 1, a circular tourism economy cannot rely on the status of territorial linkages in the OI: “*inter-island connections [...] you can’t really rely on it*”. Moreover, while referring to the importance of making the value of materials flow across the region through a circular tourism economy and the limitations posed by the territorial linkages, Respondent 15 affirmed the challenges faced in activating a regional CE that requires inter-island linkages:

*“one of the biggest challenges is making sure that value flows all the way around Orkney [through effective inter-island links], it is quite easy to imagine working in Mainland [Mainland Orkney] and working on a smaller scale on each of the smaller islands but that means the value stays where it is [within one island rather than flowing regionally] and it really needs to be an improved flow around the entirety [the region].”* [Respondent 15]

Similarly, Respondent 9 argued that “*island-island connections... is a bit of a barrier to be honest*’ [to a circular tourism economy], a statement further supported by Respondent 6, who claimed that the challenge is about the “*connectivity between the inter-isles*”. Moreover, Respondent 5 confirmed that:

*“the biggest problem we got there is that everything is between here and Kirkwall, so I can see three other islands from here, but you can’t go directly to them, you got to go to Kirkwall and back out again, so that makes things very difficult.”* [Respondent 5]

Respondent 5 highlighted that the non-linked and outer OI tend to lack connection among them, with everything going through the core island (Mainland Orkney). This was more specifically evidenced by Respondent 4 when stating that:

*“between [the non-linked island of the respondent] and [another non-linked island] we have spoken to work together a bit more and being able to connect our islands together so that we can work together, but we just have a passenger ferry [...] once a week, so if you wanted to move large items from [...] you can only do once a week, otherwise you have to go to Kirkwall [...] we are so closed to each other, but we just don’t have logistical, transport connection to be able to connect each other”* [Respondent 4]

Clearly, the lack of logistical support is a barrier to the circular tourism economy even in geographically proximate islands. Thus, while the insufficient inter-islands links are a challenge concerning the whole region, it is more significant for the non-linked islands when

seeking to collaborate for the circular tourism economy in a timely and cost-effective manner. Appendix 13 supports the theme by providing additional statements from respondents. In addition to inter-island links, respondents have also shared that the status of island-mainland links tends to impede the circular tourism economy.

### 5.3.2. Insufficient Island-Mainland Links

Five respondents have argued that the circular tourism economy in the OI is hampered by the current state of island-mainland (Scotland) links, which are challenged by the regional fragmentation of the OI and the resulting physical distances to mainland Scotland. On this line, Respondent 13 stated “*that stretch between us and the mainland can sometimes be tricky*”. Yet, the island-mainland links seem to be a challenge particularly felt by the non-linked islands. Respondent 10, from a non-linked island, affirmed:

*“If I need to get some building materials, I have to get that not even from Orkney Mainland, but probably from mainland England, get send up here and it gets longer [...] having to wait a bit longer for things. A project that should only take a few weeks, it can take months because you are waiting for materials to come.”* [Respondent 10]

Putting this statement in the broad circular tourism economy’s perspective, moving anything between the OI – and especially the non-linked islands – and mainland Scotland can be challenging and time-consuming. Respondent 10 also added that “*it is the logistic of it [...] you learn that there is nothing you can do about it, so you just get on with it*”. Respondent 5 shared a similar view by arguing that “*island-mainland connections are limited*”, and fragmentation causes levels of isolation towards mainland Scotland, with the non-linked islands being two islands away from the mainland:

*“I think just by the very nature that we are on an island, things that everybody else takes for granted anywhere else is transport not being amazing, so we are not just an island away from the mainland, but two islands away from the mainland.”* [Respondent 5]

Similarly, Respondent 4 asserted: “*I think from a waste-side of things, from a recycling perspective, we don’t always have the facilities in Orkney, and things need to get shipped further south [mainland UK], so logistics does create a problem on that as well*”.

Whilst Respondent 11 tells that:

*“If you got bulky stuff and require a ferry, it is very, very difficult [...] we are so dependent on those lifeline links and, basically, they have got zero back-up. [...] In July I ordered wood for construction work to do some modification for someone to set up a self-catering and that took six months to turn out.” [Respondent 11]*

As the respondents above pointed out, there are issues in relation to linking the islands with mainland Scotland when it comes to the flow of materials for a circular tourism economy. Moreover, these challenges are further accentuated for the non-linked islands located more than one island away from mainland Scotland. Distance from markets appears to be also a barrier to the circular tourism economy in the OI.

### 5.3.3. High Distance to Markets

A circular tourism economy needs access to market/s for circularly produced products of which the production is allowed through material inputs from the tourism sector. Yet, the physical distance existing between the islands and the markets – to make circular processes financially feasible – challenges access to markets. Two respondents have pointed out that the regional fragmentation of the OI tends to give rise to high distances from potential CE markets located on other islands and/or mainland Scotland that could receive end-of-life, surplus materials or even circularly produced products from the tourism sector.

To this extent, Respondent 9 argued that the circular tourism economy is challenged in taking products/materials to markets by stating that the distance from:

*“urban centres... that’s gonna be always a huge problem for an island community and especially Orkney that is 500 miles away from middle England, not so much from mainland Scotland, Inverness is not that far, Edinburgh just not much further [...] taking a product [circularly made products] to market gonna be a barrier.” [Respondent 9]*

Similarly, Respondent 6, when arguing that *“one of the challenges of an island economy is the distance to new and existing markets”* [referring to market access for a CE], certainly confirms what was stated by Respondent 9, which can be a direct and/or indirect barrier to a circular tourism economy in the OI, along with collaborative redistribution challenges.



#### 5.3.4. Collaborative Redistribution Challenges

Respondent 1 argued that the “*distance between businesses... the further away they are and the hardest is to collaborate and to share and to work together*”. Moreover, Respondent 2 further supported the existence of barriers to collaborations needed for material flows by stating that “*there are challenges just with the regard to taking any kind of goods or services into the islands, and regard to a circular economy that’s particularly interesting because is about how you move materials around*”, referring to regional material flows.

A more specific perspective was provided by Respondent 4, from a non-linked island, when arguing that “*distance... when it comes to anywhere outside to [the non-linked island] is an issue and again that’s coming back to the logistics of travel and how do you get to these other businesses*”. Here, getting to other businesses for the redistribution of materials is a challenge, according to Respondent 4. The collaborative redistribution challenges that businesses face tend to affect their motivation to implement more effective circular strategies. As Respondent 7 explained, “*a lot of the barriers for redistribution, I know from conversations, it is going to be too much hassle, so they just send it to recycling at best or end up to landfill*”. This statement shows how businesses may lose motivation given the challenges to redistribute materials by collaborating with other businesses. Respondent 7 added that “*for the hospitality sector, it is much more difficult to redistribute food [...] You really need to have a hyperlocal network of people who would come and collect it [...] to my experience on the island, transport can be an issue*”. The need for a focused network (hyperlocal network) effort as well as a more regular and efficient transportation network is emphasised to mitigate the collaborative challenges by providing the support needed by businesses. The transcribed statements indicate that the physical distances existing between two or more businesses that wish to collaborate to redistribute materials challenge the regional dimension of the circular tourism economy. The following section concerns digital connectivity as a barrier to CE for some tourism businesses.

#### 5.3.5. Limited/Unreliable Digital Connectivity

Digital connectivity emerged as one of the barriers to a circular tourism economy in the OI according to six respondents. The regional fragmentation and the resulting higher remoteness of some of the islands have left areas in the region with low and/or unreliable digital

connections. Respondent 12 stated that “*A lot of people have issues on digital connection especially in the outer isles*” [while discussing the circular tourism economy]. Respondent 5 affirmed that “*it [digital connectivity] is just not reliable and as fast as in the Mainland [Mainland Orkney]*”, and Respondent 13 argued that “*Connectivity can be an issue, definitely for the outer isles*”.

The extra digital challenge faced by the outer and non-linked islands was shared by Respondent 4, from a non-linked island, when stating that:

*“Our broadband is an issue as well, outside the village you are looking at about 10 megabytes of speed and if you are lucky... and that can be a big issue [...] on the ability for people to gather knowledge, let them be part of conversations, develop new skills. The broadband is an issue that affects their [business] ability to partnership as well”.*  
[Respondent 4].

For Respondent 4, the status of digital connectivity affects the flow of tangible and intangible resources for a circular tourism economy.

#### 5.3.6. Challenging Access to Innovation Centres and Schemes

Another technical barrier, mentioned by four respondents, concerns access to innovation centres and schemes. This barrier appears to be rooted in the fragmentation of the OI and the resulting physical distances between businesses and the centres of innovation. Respondent 2 stated: “*in the Orkney Islands [...] we don’t tend to benefit as much from the schemes and programs that are run from the Central Belt [in mainland Scotland]*”. Respondent 2 expanded the discussion by affirming that:

*“Challenges related to interfirm collaboration are about having access to centres of expertise. If you are an Edinburgh business or a business in the central belt and are looking for new ways of doing things, you want to understand what the latest technologies are and what is innovative in your area you can reach out quite easily to local universities and other research organisations.”* [Respondent 2]

Respondent 2 pointed out the challenges that the OI’s tourism sector faces when accessing innovative in-person events occurring in mainland Scotland that require physical presence. Similarly, Respondent 7 stated: “*there is a feeling that they [the tourism businesses] are not*

*accessing the information, feel perhaps excluded [...] I guess when you are far away from the centre of business". Yet, this is also an issue when seeking to access innovative technologies, as according to Respondent 2 "Access to technologies and other infrastructures as we don't have that easy access where the centre of innovation seems to be".*

Similarly, Respondent 4, from a non-linked island, argued: *"Sometimes you need these technologies to be able to reuse things and give things a second life, you know... take an item and re-make it something different require certain technologies that we don't necessarily have"* [referring to the challenge in accessing these needed technologies if distant from innovation centres]. Thus, the documented low access to innovation centres and schemes influences the businesses' access to knowledge as well as technologies needed for a circular tourism economy.

#### 5.3.7. Highly Competitive Environment

An additional technical barrier that was mentioned by three respondents concerns the highly competitive environment in the OI. This seems to be rooted in the smallness and fragmented nature of the region, where a small number of businesses stimulate competition, and a low degree of tourism flows in some of the islands. Respondent 15 stated that that *"the venues are all competing against the venues, hotels competing against hotels, the tour providers compete against tour providers"*. Respondent 5 evidenced this in practice when saying:

*"there was a tourism group many years ago but that failed apart because of politics and people disagreed with each other and considered each other to be in competition [...] so, you are competing, the islands are competing with each other in some ways". [Respondent 5]*

Thus, it seems that the competitive environment tends to limit open innovation for a CE. In fact, as Respondent 5 added:

*"the tourism group fell apart previously because of lack of cooperation and actually people thinking... why am I gonna be part of something that might give somebody else the information of my business or give them the opportunity to do something that takes away from my business? So again, on the small island, competition is much more personal". [Respondent 5]*

This last statement indicates that in the OI's highly competitive environment, some of the tourism businesses failed to act collectively to allow open innovation and knowledge sharing for a circular tourism economy and beyond.

#### 5.3.8. Limited Access to Circular Skills from Within / Outside the Islands

Access to circular skills appeared to be a key barrier to the circular tourism economy in the OI. The respondents mentioned two main issues concerning circular skills: a) access to circular skills from outside the island, and b) access to circular skills from within the island.

The first theme – limited access to circular skills from outside the islands – seems to be mainly rooted in the fragmentation of the region. In fact, it is difficult to benefit from circular services in some of the most remote islands. Respondent 14 claimed this when arguing that:

*“the provision of services [circular services], or someone wants something repaired and for someone to go out there [across the islands] and collect it, taken away, how that happen? It wouldn't happen in a timely manner I think, as it could be done down south”*. [Respondent 14]

The second theme - limited access to circular skills from within the island – seems to be rooted in the smallness of the islands as well as the regional fragmentation that leads to depopulation. Respondent 9 argued that:

*“In the more rural areas, one of the challenges is accessing expertise and innovation in the place [...] some of them [skills] are well set in an island community [...] but the knowledge related to technologies often sets within larger businesses or the university that are not present within the region or within our more rural and island communities”*. [Respondent 9]

Moreover, for Respondent 9:

*“Having that skill set whatever is technologist, research expertise to know how to take a new product or developing new research that's key for the businesses and to be able to do that and build these relationships, that's really critical to have access to appropriate facilities, appropriate tech to test things and try within that rural area.”* [Respondent 9]

Additionally, Respondent 9 stated that *“one of the biggest challenges is around access to scale and the expertise based in the community and get that support to work not in silo but create collaboratively.”* For Respondent 2, the issue relates back to the smallness of the population when stating that *“available skills are a challenge. It is inevitable when you are a small population, so you don’t have access”*. In fact, for Respondent 2:

*“if you live in the central belt, you have access to a much larger population which inevitably will have a much larger range of skills, so we are limited here [...] So there is inevitably a shortage of particularly specialist skills, given what the circular economy is”*. [Respondent 2]

This goes in line with Respondent 11, who affirmed that *“people here are mostly retired or elderly or have lived here and grown here and you don’t necessarily get people with skills that you may look at”*. As Respondent 5 contended:

*“skills have been a problem in the past [...]. It is very difficult to get people here of an age that can bring these skills quickly [...] having a small population, particularly when it is retired, elderly, that is kind of taken away from businesses and opportunities”*. [Respondent 5]

For the respondents, therefore, accessing circular skills to support the tourism businesses in the transition to a circular tourism economy is not problem-free. The significance of this barrier is further supported by additional respondents’ contributions reported in Appendix 13.

### 5.3.9. Waste Collection Challenges

Waste collection – as contextualised in Chapter 4 – appears to be hindered in the OI as collection activities are challenged by the regional fragmentation. Yet, an effective waste collection system is key to a circular tourism economy in the OI to move end-of-life materials throughout the region and especially to allow recycling practices when those are the only possible option for some materials. Two respondents have mentioned the theme.

Respondent 12, from Mainland Orkney, when referring to recycling stated that:

*“Technically [barriers] is getting rid of the recycling. We have to store it ourselves until the next collection and then accumulate it because the collection is only once a month now. So, we run out of space to store it in order to give it over to the council for disposal”*. [Respondent 12]

Clearly, it is felt that waste collection services are not enough, even for the core island. In fact, Respondent 12 calls for more support and services by arguing that:

*“More recycling initiatives [are needed] right now, we get for instance glass and plastic picked up once a month and we get cans and papers picked up once a month, it needs to be more often. People don’t have room to store stuff like that”.* [Respondent 12]

Respondent 4, instead, pointed out that this is a particular challenge for the non-linked islands when arguing that:

*“There are definitely more services available on Mainland Orkney, especially when it comes to waste management than there are in the outer isles [...] In the outer isles, you have to bring it over in the ferry yourself or pay for it to be brought and that’s a big barrier to solving things responsibly”.* [Respondent 4]

For Respondent 4, therefore, the non-linked islands are much behind in terms of waste management, with waste disposal costs having to be covered by communities and businesses. This indicates the challenge for the entire sector – but specifically for these businesses in the more remote and non-linked islands – to be actively and cost-effectively part of a recycling system.

#### 5.3.10. Limited Local Goods Productions

In section 5.2., it was highlighted that the respondents mentioned that a circular tourism economy in the OI is promoted to localise the supply chain; yet being on a small island poses limitations on what can be produced locally. Consequently, limited local production not only limits the achievement of what is currently wished locally to localise supply chains, but it impedes the whole circular tourism economy transition by keeping a degree of reliance on external suppliers and, as a result, no control over these external productions.

The limit in local production is mainly rooted in the islands’ smallness, in addition to other factors such as weather. This was argued by Respondent 1:

*“because they are quite small islands and because there is a limit to what resources they have on these islands, and you will always gonna need to be bringing things and [...] there is a cost to that in terms of a limit on the circular economy because to do that you have to rely on things that are local.” [Respondent 1]*

And those barriers are about:

*“resource availability [...] for instance in terms of food production, if your resource is poor quality land, there is a limit of what you can produce locally and therefore, you have to bring more in and so these resources obviously have an impact on what you can do at the local level.” [Respondent 1]*

For Respondent 1, thus, limited land is equal to limited production, which forces the sector and the community to rely on imports that tend to pose a barrier to a circular tourism economy, which should be based as much as possible on local productions.

Respondent 11 made a clear link between territorial size and local productions, but from the perspective of technical materials by suggesting that:

*“the size of urban centres makes it difficult because that narrows down the choice [...] It is a horrible lack of choice, [...] you get someone to repair the heat pump, but a lot of items have to be imported because they just can't be carried within the island structure as a whole [...] Reusing and repairing is critical and being able to buy from local suppliers is absolutely desperate to keep the money within the isles”. [Respondent 11]*

For Respondent 11, therefore, the issue also concerns the technical materials that flow throughout the tourism sector in addition to biological materials such as food.

### 5.3.11. Limited Access to Small Scale Technologies

According to three respondents, the smallness of waste streams characterising the OI challenges the application of mainstream technologies for a CE by making it less cost-effective, time-consuming and often unfeasible to be operated. Respondent 3 highlighted this issue by stating that *“a lot of that material is absolutely not at scale in a small area like Orkney to recycle them, it is just not durable, there are no machineries, the machineries would only be on once a year”*. Respondent 3 continued by stating that the lack of technologies at scale

represents “a challenge on an island to do circular economy... full stop! Regardless of the industry. Promotion of small-scale technologies to do recycling is just not out there, the technology is there but the commercial viability is not there”. Respondent 3, therefore, was convinced that the lack of technologies is a key barrier to the implementation of a circular tourism economy in the OI.

Respondent 2 also mentioned that “there is technology available, it is just whatever makes business sense. That’s the key thing and a part of making business sense is about whatever they have time to do it, it goes back to scale I think”. According to Respondents 3 and 2, technologies may not make business sense in some of the OI where waste streams are typically small. Moreover, speaking from a non-linked island, Respondent 4 argued that:

*“a lot of the circular economy is looking at a big amount of waste projects and it is not necessarily looking at the small-scale islands of 600 people [...] even like composting machines are huge and we don’t really need that, we just need a little one. So, to be able to find that [small technologies] [...] there are some efforts in our community to re-make things with cardboards, but the cost of getting that machine...”*. [Respondent 4]

Respondent 4 brought forward the specific challenges of operationalising composting activities and other re-make practices due to difficulties in finding scalable machinery.

### 5.3.12. Seasonal High Tourism Demand

Tourism seasonality in the OI can be a barrier to a circular tourism economy by generating peaks in service/produce demands. For Respondent 1, these peaks of demand – considering the smallness of the community and the available local resources – limit the overall provision of circular services and/or products that are circular or can be circulated. To this extent, Respondent 1 stated:

*“it can be harder to service and to serve these people who are coming through tourism and in a circular economically way because the demands that they have, and the small communities mean that it does not take that many people coming in to actually tip the balance of numbers and so on”*. [Respondent 1]



The statement identifies the difficulties of the OI to deal with peaks of tourists in a circular tourism economy. Thus, because of the OI's geographical characteristics, it takes only a small number of tourists and their demands to reach the carrying capacity of the islands – and these are often not able to provide services in a circular manner. Furthermore, seasonality generates fluctuation in waste streams that appear to hamper the circular tourism economy.

#### 5.3.13. Seasonal Fluctuation of Waste Streams

Seasonal variations of waste streams appear to be a barrier to a circular tourism economy in the OI. This is because, as Respondent 2 argued, variations affect the needed regular flows of waste streams. These regular flows are necessary to ensure a regular output and/or input of materials to guarantee to two or more parties – establishing partnerships – a feasible CE that is cost-effective and satisfies the final market/receiver of the repurposed or remanufactured materials/products. To this extent, Respondent 3 argued that:

*“if you have fewer businesses, that brings less certainty in terms of waste streams [...] you have the challenges of the market you are selling to but also the market for the waste stream as well [and] you could invest in a nice machine to do some elements of processing for a circular economy and suddenly you lose your waste stream or part of it”.* [Respondent 3]

Therefore, for Respondent 3, *“there are two elements, there is input and there is output, so in a small area, the risk of losing one of these, or that one becomes less viable because the marketplace drops it is more challenging”*. Although not directly mentioned by Respondent 3, seasonality may be the root of dramatic fluctuation in end-of-life materials potentially jeopardising the ongoing feasibility of partnerships.

#### 5.3.14. Limited Land for Circular Infrastructures

The smallness of the islands is equal to the smallness of available land for circular infrastructure, according to Respondent 4, who stated that *“there is just not that availability on the island, and where would you put this [the infrastructure], we don't have spare land, it has to be something new, you have to buy a field”*. Despite being the only statement, the respondent raised a relevant issue in relation to when a relatively large infrastructure is needed to support a circular tourism economy in the OI.

In addition to the technical barriers, the respondents identified two social barriers. Accordingly, the circular tourism economy in the OI is challenged by the existence of conventional linear business practices and of solo working practices. These two social barriers – summarised in Table 5.5. – are not only the consequence of a highly competitive environment, as evidenced in the previous sections, but appear to be rooted in the regional territorial condition.

**Table 5.5.** Social Barriers to a Circular Tourism Economy

Theme	Respondents	Geographical Focus	Islandness
Conventional linear business practices	2	Linked and non-linked islands	Boundedness
Solo working practices	9	Linked and non-linked islands	Regional fragmentation, boundedness, smallness

### 5.3.15. Conventional Linear Business Practices

For the two respondents, conventional linear business practices within the OI often represent a status quo challenging the shift towards a circular tourism economy. Yet, the finding, whilst being relevant, partly contrast other findings that are discussed later which point at traditional circular business practices developed over time out of necessity that today represent an enabler to the transition to a circular tourism economy. Respondent 9 argued that the circular tourism economy is about:

*“challenging these traditional perceptions and using this expertise and knowledge we have today and look at what the traditional processes were and disrupting these, we could re-imagine that in a different way [...] extracting high-value chemicals that we can then create products and sell on for higher value than for outing for dog food”.* [Respondent 9]

Respondent 9 continued by arguing that *“it is a lot about challenging the norm and looking at new ways of doing things to maximise the opportunities at the local level”*. There are, therefore, conventional practices that need to be challenged and disrupted to innovate for a circular tourism economy in the OI. Respondent 4 confirmed the need to disrupt the predominant linear models that still characterise the OI’s tourism sector when arguing that *“we are used to this*

*linear approach, use once and waste, and businesses have grown up around that model, so to make that change it would be good for them*". Moreover, a factor that seems to be slowing down the transition is the solo working practices that tend to characterise the OI's tourism landscape.

### 5.3.16. Solo Working Practices

While a CE needs collective actions, nine respondents argued that the predominant solo working practices in the regional tourism sector impede the circular tourism economy in the OI. These – clustered by the researcher as a social barrier – are believed to be rooted in all islandness dimensions. Solo working practices have emerged because of a small number of businesses (which limits collaborative avenues), the fragmentation of the region (making collaboration challenging) and the islands' boundedness (creating a sense of isolation from businesses located on other islands). From a non-linked island, Respondent 10 stated that:

*“on this small island, most of us just do their own things [...] we just get on doing our own things. I do have a look and see what is going on, for example, if someone said I found a really good composter, I go researching that type of thing. But we tend to do all by ourselves, to be honest”*. [Respondent 10]

Respondent 7 enhanced the theme by saying that in her experience, *“when it comes to a waste prevention initiative, and certainly redistribution is often very much at the individual level”*. Respondent 7, therefore, outlined the uncollaborative environment that characterises the regional tourism sector towards a CE. Respondent 6 further supported the existence of this issue by affirming that the current circular tourism economy practices happen *“more at the individual level”*, and Respondent 13 confirmed that *“I would probably say more individually”*. Respondent 6 suggested that collective initiatives to a circular tourism economy are rare: *“at the moment, is probably more individually”* [referring to circular tourism economy], and Respondent 15 affirmed that businesses *“are traditionally not particularly collaborative”* in the OI, which was confirmed by Respondent 14: *“there is more solo working to certain respect”*. Respondent 3 added that:

*“Zero Waste [Zero Waste Scotland] went actually down that road to try to encourage business-to-business collaboration as that was a specific programme and find it difficult in islands, they have a number of matching events and just didn't work because there is not the*

*right march [...] there have been at least three intensive consultations in Orkney on some of these areas of the circular economy. We had whisky, beer and fish study. That march that everybody thought to be there just to be fund is not there” [the collective march].*  
 [Respondent 3]

Clearly, collective working attitudes appear to be limited, and solo working practices seem to be widespread in the OI. Having presented the social barriers faced by the OI’s tourism sector, the following section reports the economic barriers that were indicated by the respondents.

Table 5.6. summarises five types of economic barriers.

**Table 5.6.** Economic Barriers to a Circular Tourism Economy

<b>Theme</b>	<b>Respondents</b>	<b>Geographical Focus</b>	<b>Islandness</b>
High disposal and redistribution costs	5	Linked and non-linked islands	Regional fragmentation
Challenging access to finance	7	Linked and non-linked islands	Smallness
Limited economies of scale for market accessibility	1	Linked and non-linked islands	Smallness
Limited economies of scale for circular services	1	Non-linked islands	Smallness, regional fragmentation
Limited economies of scale re-processing materials	2	Linked and non-linked islands	Regional fragmentation, boundedness

### 5.3.17. High Disposal and Redistribution Costs

The high disposal and redistribution cost of material flows represents a main economic barrier to a circular tourism economy in the OI. In fact, five respondents have mentioned the theme concerning the ability of tourism businesses to contribute cost-effectively to regional material flow activities.

This barrier seems to be rooted in the regional fragmentation of the OI, which creates degrees of physical isolation and great distances among businesses. To this extent, Respondent 3 stated

that “*you have got that extra cost for transport, so the margins are tight, is not that they are not willing [to be part of a circular tourism economy], they just have these costs*”.

Moreover, according to Respondent 12, from the private sector,

*“They are now charging us to take the recycling to their centre. So, they are not really encouraging us by any means. We are getting extra charges” [...] “We are a small island and there is no place where to send them, it’s too costly.” [Respondent 12]*

For Respondent 12, thus, these disposal and redistribution costs discourage the tourism businesses from participating and supporting circular solutions. On the same line, Respondent 15 discussed that:

*“There would be a cost to it as well. That’s part of the reason because you want to re-use it because the actual disposal of it [but also to reuse them on other islands] [...] you would have to pay for it to be taken to be disposed and that encourages reduce and circularity [within the islands but may hamper regional approach].” [Respondent 15]*

These high disposal and redistribution costs encourage on-island circular practices (to avoid these costs) but are also a barrier to regional-level material redistribution. In fact, as Respondent 6 further confirmed, “*it doesn’t make sense to transport, the cost to transporting it [materials] across the sea*”, pointing out the costs provoked by the fragmented nature of the region.

Responded 15 supported such a view:

*“I think there is an issue with cost to run it [circular practices] [...] in any of the islands other than the mainland there is an economic cost, and that impacts the bottom line, it can be a substantial sum to just bring stuff across.” [Respondent 15]*

Those costs “*have an immediate impact on everything on the islands. For the RESTART project, these smaller islands are much less likely to use it and you try to get rid of it [materials] within the island*” [Respondent 15]. The costs to bring materials across the sea and redistribute them can be significant – and they represent an issue especially for the non-linked islands. Furthermore, Respondent 15 highlighted the economic challenges of tourism businesses residing in the non-linked islands to be part of the RESTART project, which aims to receive,

reuse and repurpose used furniture. In fact, as Respondent 4 argued:

*“In Mainland Orkney, there is a project called RESTART Orkney and they take old furniture, fix them up and then sell them on the charities, but in any other isles [apart of Mainland Orkney] you don’t have access to that [...] to take a vehicle on the ferry is 40 pounds return, just for a normal size car, it doesn’t sound a lot, but it is a barrier for people for doing that”.*  
[Respondent 4]

Clearly, these high transport costs are a main barrier to the circular tourism economy in the OI, especially for the outer and non-linked islands.

### 5.3.18. Challenging Access to Finance

Access to finance appeared to be a barrier to the circular tourism economy in the OI. In fact, seven respondents suggested that the current funding structure is not adapted to small businesses. Respondent 9 argued that *“there are challenges across rural areas about access to expertise and financial support around innovation”*, and Respondent 10 argued that:

*“Every time I came across something, I was sent a form to fill out to apply for a grant and it was totally not adapted for B&B but for hotels, and I said don’t you have another form because this is irrelevant? So, we give up at the end and we just used our own savings.”*  
[Respondent 10]

Funding streams are not adapted to small B&Bs but to larger businesses such as hotels. Respondent 14 reinforced the above by stating that *“it’s on the availability and the administration of funding [referring to the business adoption of CE practices] [...] also there is funding out there that is government funding, but it is specifically targeted, they don’t realise that it is only applicable to urban locations”*, and contending that:

*“it is not a recognition at the government level [government bodies do not recognise] [...] that recognise the special requirements of islands [...] I don’t know that many examples of island proofing [funding] and so, I really think that island proofing is what needs to happen really not just when legislation is done, but also when creating these funds because in our circumstances we can’t comply with the criteria that an urban area could.”* [Respondent 14]

On this note, Respondent 14 continued by stating that *“if Orkney would be able to access some of the existing funds that are out there to have them island-proofed”*, calling for the adaptation of existing funds to the island conditions.

The discussion was extended by Respondent 2 when affirming that:

*“We often talk about different business models where investments are calculated differently, I would say that there is generally access to finance issues everywhere but is again amplified here because we are far from anywhere and the turnover is likely to be much smaller, quantity of materials are smaller, [...] we are talking about micro businesses a lot of the times, which again causes issues for standard funding mechanisms.”* [Respondent 2]

The statement of Respondent 2 highlighted how the regional fragmentation, remoteness and smallness of these territories amplify the inappropriateness of existing funding schemes.

Respondent 5 further confirmed that *“certainly, people struggle to get access to funding [...] because of the fact that you are remote, you are on an island, you don’t have transport links”*.

Respondent 4 proposed a practical example that evidences the issue:

*“There was one grant recently that was specifically for island shops for them to change to, you know, container style shops where you can refill rather than taking plastic bags [...] it wasn’t actually appropriate for islands businesses because it was too much bigger scale especially for the smaller islands. If you got larger businesses in Mainland, where you got a population of thousands, it becomes more cost-effective to do that.”* [Respondent 4]

Respondent 4 added: *“businesses have limited access to the funding available out there, it is far smaller than what is available to the third sector”*, thus *“it’s an issue for them to access to capitals to make bigger changes, that investment needed to change to circular”*. For Respondent 4, therefore, *“it is really not all joining up together, you have all that training and skills knowledge, but they don’t really match up with the funding availability”*.

Respondent 11 further argued that funding mechanisms are not adapted to the smallness and characteristics of the islands and their tourism businesses, hampering their adoption of a circular tourism economy:

*“our B&B because it is so small, it is covered under the normal local authority rate, but because of that, we can’t get any grants. That’s how 90% of businesses work up here. It is just a small part of a house or something [...] the national government makes it very difficult to apply. But everyone is complaining that they have been turned down”*. [Respondent 11]

### 5.3.19. Limited Economies of Scale of Material Reprocessing

Material reprocessing activities are expected to be cost-effective in a CE. Yet, according to two respondents, the smallness of waste streams affects the ability of the OI to process end-of-life materials to activate a circular tourism economy cost-effectively. For instance, according to Respondent 6:

*“The building here they use plastic board, there is a lot of waste from plastic board and is imminently recyclable, but you need to process it and you need quite a large volume and so for small construction firms producing a relatively small amount of plastic board waste there is not enough critical mass to invest in reprocessing and to be done collectively you need warehouses to create enough volume. [...] there isn’t enough scale for a lot of the recycling practices that could be done elsewhere.” [Respondent 6]*

Respondent 4, talking about Stronsay Island, stated:

*“In Stronsay they made that work [recycling] because they balanced it out because there are more cardboards available for recycling, but last time I spoke to them, the cardboards processing it couldn’t stand on its own [...] we are talking about economies of scale, how can we offer that service when you got such a small population? In [the non-linked island of the respondent], we have the largest population in the north with 600 people but Sanday and Stronsay... you already talking 300 population size, Papa Westray has about 80 people that live on it, but yes it can be a barrier for some circular models, you know... it has to be economically feasible.” [Respondent 4]*

Clearly, there is a limit on what can be circularly processed, as the waste streams are small and hampering the feasibility of processing materials without having financial loss. Respondent 4 concluded by stating that *“from a waste-side of things, there is a pretty low waste anyway and the only source of waste would be food waste”* and to *“make sure to have somebody to operate [...] to use that machine, it just didn’t work for the amount of cupboard that may be available in such small community”*. These statements bring forward a main barrier to the whole reprocessing activities, which is the actual scale of the waste streams that often make activities such as recycling not financially feasible.



### 5.3.20. Limited Economies of Scale for Circular Services

Barriers to a circular tourism economy concerning the economies of scale appear to hamper the transition from a circular service perspective. To this extent, Respondent 10 argued that:

*“you know... your washing machine breaks down and sometimes it costs you more to get it repaired than to get a new one. And so, especially with running a B&B which if something goes wrong needs to be fixed straight away, if the bedside lamp breaks, they [the guests] expect to have a bedside lamp”.* [Respondent 10]

Respondent 10, therefore, highlighted the fact that there are limited economies of scale for circular service providers to provide these services throughout the region, perhaps, a barrier accentuated by extra costs that may be faced by circular service providers such as transport costs.

### 5.3.21. Limited Economies of Scale for Market Accessibility

Access to the market for end-of-life materials and/or reprocessed materials appears to be hampered by their small scale. To this extent, Respondent 3 argued that *“a lot of it goes to the same landfill anyway because there is no market for it [...] they want to [apply CE practices], but it is incredibly hard to make these things make sense in an island economy”*, confirming that *“a lot of that material is absolutely not at scale [...] you have the challenges of the market you are selling to but also the market for the waste stream”*.

Respondent 3 further highlighted the problem by stating:

*“you probably would have the same mix of materials that you get in Edinburgh, but it can be very very tiny, so you got all these tiny waste streams, so if you are imaging a community of 200 people there is not going to be much opportunities [...] there will be all the things that people can do to make, do and mend but above and beyond that make, do and mend type stuff that people do feel passionate about this agenda may go and use the little bottle to build a greenhouse, you know they are all individual links that happen, but you can't do anything structurally, really, at that community level just because the materials aren't there in quantity enough to do anything worth”.* [Respondent 3]

The smallness of the waste stream hampers the transition to a circular tourism economy by challenging the access to markets for these waste streams – markets that may need larger quantities in line with their financial standard criteria.

Having presented the economic barriers, the following section introduces the institutional/governance barriers to a circular tourism economy E that were mentioned by the respondents as summarised in Table 5.7.

**Table 5.7.** Institutional/Governance Barriers to a Circular Tourism Economy

Theme	Respondents	Geographical Focus	Islandness
Institutional centralisation	7	Non-linked islands	Regional fragmentation
Governance centralisation	3	Non-linked islands	Regional fragmentation

### 5.3.22. Institutional Centralisation

This barrier appears to be of interest to the non-linked islands that feel institutionally isolated. A total of seven respondents have mentioned the theme. Institutional centralisation as a barrier to a circular tourism economy was highlighted by Respondent 10 when stating that:

*“they have not been the best [rereferring to the local council in providing support] [...] You gonna have to do stuff by yourself [...] Sometimes, you have to fight your own corner if you know what I mean... and I am in a group of B&B owners [...] so helping each other and sharing best practices [...]. “How did you manage to get the grants? Can you help me? Widen the net if you know what I mean.” [Respondent 10]*

Respondent 10 continued by stating that:

*“I keep getting the council text, but they won’t give us any help. If I weren’t part of that group, I would have been quite isolated, in my own trying to apply for grants, you know... the business grants and that type of things and as the months went by if one of us found the information we would share with the rest. I would say... ‘I found out if you did this you would get your grant quicker’ and that type of thing, it did mean to be part of a group to progress and trying and get help to be honest.” [Respondent 10]*

The challenges concerning institutional centralisation were confirmed by Respondent 3 who argued:

*“the functions here are very centralised, so I think we got highly innovative islands, farmers, for instance, they tend to be able to fix things, fix machinery, the practical skills are still there. But there is nothing on these islands that would encourage a circular economy in terms of waste collection and the council to support waste service”.* [Respondent 3]

Respondent 14 reinforced the issue by stating that *“I would say that they feel isolated [the non-linked islands] especially in terms of tourism [...] because of the transport barriers, the costs, the timing, so I think they do”* [referring to transport, timing and costs for institutional representatives to establish a regular presence on the outer isles]. Moreover, Respondent 15 argued that more could be done from the public perspective:

*“my feeling is that they [the public sector] could do a great deal more to promote it [the circular tourism economy] and actually community actions undriven by and certainly unguided by the local authorities [...] it’s the cult of the sector, the historic cult of the centre, you only have to overcome mindsets about that value stays in Mainland Orkney and that’s the thing”.* [Respondent 15]

Interestingly, Respondent 15 called for public changes to ensure that the CE values flow across the region by moving behind the conception that the centre of all is Mainland Orkney. This was also evidenced by Respondent 5 from a non-linked island when arguing that *“certainly, there is a feeling that the islands are, you know...where there are new incentives that happen in the mainland, but it doesn’t get out on the islands. So, we have less opportunities for certain facilities”.*

Respondent 5 continued by stating:

*“there is certainly the feeling around that [feeling of institutional isolation] [...] in my role I get very well supported by the council, but there is certainly the feeling that if there is something to do, they do a tick box exercise ... we do on the mainland [mainland Orkney] so we don’t need to do somewhere else... so yes, there is the feeling that the islands don’t get the same amount of the services and the fact that you are at the other end of the ferry is the reason why it can’t happen which to a lot of people it doesn’t make sense”.* [Respondent 5]

On this line, Respondent 5 concluded by questioning “*you still gotta transport links, so why can't we have recycling here, why can't we have other services here?*”.

According to Respondent 4, from a non-linked island:

*“If you had a local councillor that makes more of a difference. We have three councillors that represent the whole of the north isles, so you don't necessarily have a councillor based on your island. And it did make a big difference when we did have a councillor that was [based on our island] because they were able to push for our community, we had a larger voice in the council than what we do now.”* [Respondent 4]

Respondent 4 continued relating islandness and institutional centralisation affirming that:

*“It is just so difficult to travel between the different north isles, if you are based in North Ronaldsay is not easy to pop on [our island] to check how the community is doing. It is like two, three days trip because you have to travel to Kirkwall and then travel to [our island] and then back again and definitely is gonna be one overnight stay in that process just because of the times of the ferry or the airplane to be able to do that [...] we don't have that strong relationship with the local council to really be on the loop”.* [Respondent 4]

Time and transport issues are hampering a more institutional presence in the more remote parts of the OI.

### 5.3.23. Governance Centralisation

In addition to institutional centralisation, the respondents have mentioned issues related to the centralisation of the broader governance, which appears to be hampering the circular tourism economy in the OI by lacking strategies at scale. To this extent, Respondent 10, from a non-linked island, shared one experience highlighting the lack of strategy at scale because of the too centralised governance approach:

*“I went to Kirkwall; I was invited along for the Scottish Food and Drinks; they did a presentation. It just didn't apply to us; it was interesting to see because there were people that I know who own the restaurants in Orkney, they do quite large numbers and they had this vision of make it different and make it better [...] It's too big for us that sort of thing, doesn't really apply to us.”* [Respondent 10]

And continued by stating that:

*“We are not in that lean. That is one of the things I do find it is that a lot of these things [circular support] are for big businesses like hotels, they don’t narrow it down to small businesses like us, can’t adopt it, and I have come across this a lot of times and I actually said ‘that form that you gave me to fill out certainly doesn’t apply to us, we haven’t got any staff, can you have a form that is adaptable’, because many small B&B like us with 3 bedrooms or 4 top, so make it down so that we can adapt things like that. It’s almost like they are not interested in us, they only want the big stuff, which is a bit silly because we are the actual economy.” [Respondent 10]*

The respondent has emphasised the lack of support for small businesses because strategies may be too centralised, without an understanding of small-scale dynamics. This was again evidenced by Respondent 10 when criticising the lack of support at scale also from a national perspective:

*“they don’t understand that something that applies in Edinburgh will not apply here, it is a totally different logistic [...] they need to come to us and ask us what are the problems that we are experiencing and how can we help you rather than put us in with everybody else. If my sink break and I live in mainland Orkney I can go and fix it. Here is different; Mainland Orkney is still an island, but it got far more facilities than we have here”. [Respondent 10]*

On the same note, Respondent 9 argued that:

*“everything is harder to do, and it needs to be done in a different way because the needs of the islands and rural areas are different. So, you can’t just take an approach that works in a city and apply that to the individual or a SME that is trying to diversify because the amount of investment that they would need to put in just won’t be possible because of the size of the organisation and ability”. [Respondent 9]*

Moreover, for Respondent 14, this is evident in the work of the regional Destination Management Organisation: *“the DMP group [...] I don’t really know where they are at the moment because I heard that they were working on a COVID recovery plan, but it’s really the process is not becoming inclusive anymore with that group, it is really quite insular”*, indicating the potential centralised role of the DMP. The statement highlights the insular decision-making activities of the local DMO, which may be to a certain extent related to the fragmented nature of the region and a barrier to the circular tourism economy. Another

statement that highlights the overall issues of governance centralisation was provided from a non-linked island by Respondent 10:

*“they may send you information, but never give you a phone call. So no, I don’t feel supported by them. I had a few different experiences with [name of organisation omitted by the researcher], and I really feel that you just have to get on and do it yourself. But don’t help small businesses, that’s how I feel anyway. You should have some support, but I don’t think they do, and I don’t think [name of organisation omitted by the researcher] does [...]. They don’t understand that something that applies in Edinburgh will not apply here, it is a totally different logistic”. [Respondent 10]*

Following the issue of institutional centralisation, this section has highlighted how development organisations’ activities seem to be centralised, lacking – according to the respondents – an understanding of the smaller-scale realities of the region and the appropriate support needed. The following section supports the developed themes presented above by reporting the outcome of the documentary analysis. This is followed by a summary section with key outtakes of the barriers to the circular tourism economy in the OI.

#### 5.3.24. Documentary Support to Barriers to a Circular Tourism Economy

Several documentary resources were identified as relevant to provide empirical support to each of the barriers that have emerged from the semi-structured interviews. The contribution to each of the above themes is reported in Table 5.8. For conciseness, additional documentary quotes are reported in Appendix 14. The next section summarises the barriers to a circular tourism economy in the OI.

**Table 5.8.** Documentary Resources: Barriers to a Circular Tourism Economy

Cluster	Barrier	Document	Evidence
<b>TECHNICAL</b>	Insufficient inter-island links ( <b>more in Appendix 19</b> )	Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<b>Stronsay:</b> “Takes five hours each time to get to Kirkwall let alone Aberdeen (three days)” (p. 31) and “Very hard to get between islands” (p. 31).
		<b>Orkney</b> Report (2019) – Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)	<b>Orkney:</b> At page 4, the community called for a “review and reform of the transport policy in line with island communities’ interests and priorities (ferry, air and bus)”, and at page 5: “need for integrated transport policy and timetable, as transport for island communities is not just a service (it’s a lifeline, it’s a right)”.
	Limited/unreliable digital connectivity ( <b>more in Appendix 20</b> )	Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<b>Flotta:</b> “Mobile phone reception is very variable and thus unreliable” (p. 9) and “Broadband patchy and a battle to get connected, poor repair issues” (p. 9).  <b>Graemsay:</b> “mobile phone coverage patchy and big problems with internet at the moment as BT keep switching people to a new system which our island link can’t support, taking them about 2 months to switch people back on” (p. 10).
		Limited access to circular skills from within/outside the islands ( <b>more in Appendix 21</b> )	<b>Hoy and Walls</b> Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)
	Waste collection challenges	Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<b>Hoy:</b> “Depopulation and centralisation to Kirkwall, therefore, need to encourage those working on Hoy to live on Hoy” (p. 14).
		<b>Sanday</b> Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)	The community called for the “Development of an on-island recycling facility/scheme that promotes circular economy” (p. 4) and “recognising the need for evidence based recycle policy and promoting on island recycling as a good practice from a circular economy perspective (recycle not just seen as an environmental issue but as an economic opportunity)” (p. 4).
	<b>North Ronaldsay</b> Report (2019) Strathclyde Centre for Environmental	The community called for: “consider options for on-island recycling to contribute to cleaner environments, create jobs and generate income for the community” (p. 5).	

		Law and Governance (SCELG) and Scottish Islands Federation (SIF)	
		Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<p><b>Graemsay:</b> “Large items of rubbish build up on the island due to their being only 2 collections per year” (p. 10).</p> <p><b>Rousay, Egilsay and Wyre:</b> “We (Wyre) have to travel to Rousay with our rubbish” (p. 22).</p> <p><b>Shapinsay:</b> “Recycling provision needs to be increased” (p. 29).</p>
<b>INSTITUTIONAL / GOVERNANCE</b>	Institutional centralisation (more in Appendix 22)	Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<p><b>Eday:</b> “Don’t feel listened to – council and Trusts” (p. 5).</p> <p><b>Flotta:</b> “I don’t think people generally feel they are listened to, a forgotten island” (p. 9) and “Difficulty raising concerns at community council meetings” (p. 9).</p> <p><b>Graemsay:</b> “We are a very positive community but sometimes get overlooked by OIC (Orkney Island Council)” (p. 9).</p>
<b>ECONOMIC</b>	High disposal and redistribution costs (more in Appendix 23)	Orkney Tourism Strategy 2020-2025	The SWOT analysis highlights “costs of inter-island travel” as a weakness of the region to sustainable tourism development.
		Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<b>Eday:</b> “High costs of getting things/materials to the island” (p. 5) and “Difficult to start a sustainable small business on island and ferry costs” (p. 6).
	Limited economies of scale for circular services	Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<p><b>Eday:</b> “Very difficult to get trades people. If you need a plumber – then you need them to come out from Kirkwall – so you end up paying for someone for 12 hours – as they’re travelling” (p. 5) and “Number of people on Eday make it difficult to make jobs” (p. 6).</p> <p><b>Sanday:</b> “Challenges of attracting young people to the island to be economically active” (p. 27), “Lack of support for business start-up” (p. 27) and “Lack of local trades on the island” (p. 27).</p>



### 5.3.25. Summary of Barriers to a Circular Tourism Economy

Section 5.3 of Chapter 5 aimed at presenting the barriers to a circular tourism economy that have been identified in the OI. Here, the researcher summarises what was presented in the previous sections. A total of four clusters of barriers have emerged from the analysis of interviews and documentary resources.

- I. **Technical barriers** to a circular tourism economy in the OI. This cluster includes a significant number of barriers to a circular tourism economy. These are related to inter-island links, access to circular skills, access to technologies at scale, distances from markets as well as collaborative redistribution challenges, among other hampering factors. The technical barriers mostly apply to the whole region, but some of them, such as insufficient inter-island links, tend to be more relevant for the non-linked islands.
- II. **Social barriers** to a circular tourism economy in the OI. This cluster includes issues related to existing conventional business practices that are integrated into tourism businesses and solo working practices that appear to be widespread in the region. Social barriers are largely relevant for all the OI.
- III. **Economic barriers** to a circular tourism economy in the OI. This cluster includes issues such as high costs for material redistribution and access to finances as well as limited economies of scale for circular services, accessing markets and so on. Limited economies of scale are especially significant for the smaller islands and more remote islands.
- IV. **Institutional/governance barriers** to a circular tourism economy in the OI. This cluster includes two barriers: institutional centralisation and governance centralisation. Both concern the circular tourism economy transition in the secondary islands of the region as they tend to feel isolated from decisions taken in the core of the region and mainland Scotland.

Having presented the barriers to a circular tourism economy in the OI, the following section covers the enablers that have emerged from the study.

## 5.4. Enablers to a Circular Tourism Economy

This section presents the enablers to a circular tourism economy in the OI that were shared by the respondents. Enablers appeared to be of social and technical nature. The following section begins by reporting the social enablers that are also summarised in Table 5.9.

**Table 5.9.** Social Enablers to a Circular Tourism Economy

Theme		Respondents	Geographical Focus	Islandness
Traditional circularity		12	Linked and non-linked islands	Boundedness and regional fragmentation
Circular entrepreneurship		4	Linked and non-linked islands	Boundedness and regional fragmentation
Strong community cohesion		12	Linked and non-linked islands	Smallness, boundedness, and regional fragmentation
Strong pride and identity		2	Linked and non-linked islands	Boundedness
COVID-19	Improved awareness of locality	2	Linked and non-linked islands	Boundedness and regional fragmentation
	Improved awareness of waste prevention	2	Linked and non-linked islands	Boundedness and regional fragmentation
	Increased informal circularity	3	Linked and non-linked islands	Boundedness and regional fragmentation

### 5.4.1. Traditional Circularity

Among the social enablers to a circular tourism economy in the OI that were mentioned by the respondents, the presence of what was defined by the researcher as traditional circularity appears to be a main enabler to a circular tourism economy, with thirteen respondents mentioning the theme. Respondents pointed out that because of the islands' bounded nature and degrees of physical isolation resulting from the fragmented nature of the region, the islands

have developed forms of traditional circularity out of necessity to maximise resource valorisation. Respondent 10 from a non-linked island established a clear link between the territorial necessity arising from the bounded nature of the island and the traditional circularity that needed to be developed over time and is still present today:

*“We are on an island in Orkney and that has its challenges. If you think about it going back many years ago, they had what we called make, do and mend sort of actions, where you try and get things repaired... not always easy. We have that mindset ‘do I really need to throw this out? Can I be getting it repaired?’.”* [Respondent 10]

For Respondent 10, thus, forms of circularity have always been present because they were and still are a necessity. Respondent 10 also highlighted today’s practical representation of the traditional circularity when affirming that:

*“We swap things, exchange them and when we had a lot of building work done here, we ordered 10 woods and if you got any left most people would throw that out, but you wouldn’t here, you advertise them because someone may need that wood for a project. We swap stuff, sell for a reasonable price, so nothing goes to waste. If we were back where we used to be [mainland UK] that would probably go in the skip.”* [Respondent 10].

By referring to circular practices, Respondent 10 added: *“I have been doing it anyway, we are not wasting food”*, showing how the tourism business is practicing circularity by finding ways to repurpose food surpluses and minimising food waste. Respondent 3 further affirmed that some CE practices are already integrated into the islands’ communities, where people easily mobilise to repair and repurpose materials. In fact, Respondent 9 stated that *“Some of them [referring to circular practices such as repairing and repurposing] are well set in the islands’ community in terms of the people that can get on and do it [referring to the easy mobilisation of the islanders in applying circular practices]”*. Thus, for Respondent 9, the socially embedded traditional circularity can facilitate the transition to a circular tourism economy.

Respondent 12 extended the discussion by stating: *“I think people here used to be sustainable being isolated from the rest of the Scottish mainland; they used to survive on their own means”* by valorising what they have as a sustainable lifestyle is a necessity. Moreover, many tourism businesses, according to Respondent 14, *“are already applying certain circular practices and*

*they don't know that what they are doing is that [CE]" and "I know they recycle; I know that they do reuse and repair".*

Therefore, for Respondent 14, circularity is often applied by default. Respondent 6 interestingly continued by pointing out that there is a willingness to preserve forms of traditional circularity, which inevitably makes the enabler more relevant, as there is motivation to deploy it for a circular tourism economy. To this extent, Respondent 6 argued that *"there is a desire in small communities and rural communities as well, there is a desire to keep old traditions going"*. The importance of activating traditional circular knowledge was evidenced by Respondent 2 when claiming that:

*"some aspects of the circular economy are still emerging and the skills and expertise that are required to implement it are not necessarily mainstream [...] the advantage we do have is because Orkney is remote from other centres of population, they had to be self-sufficient"*.  
[Respondent 2]

The statement indicates the potential to capitalise upon traditional circularity recognising it as a key advantage of the OI over other contexts. Additional quotes are reported in Appendix 15.

#### 5.4.2. Circular Entrepreneurship

Circular entrepreneurship, as the researcher defines it, refers to profit-based circular innovation often driven by traditional circularity. Four respondents have highlighted its existence in the OI out of necessity because of their isolation. Respondent 5 – expanding on the previous theme of traditional circularity – argued that alternative circular solutions are driven by an entrepreneurial mindset: *"a lot of people look to repurpose things whether be scrap metal and small models and selling them in Kirkwall. There are a lot of things that are being used, that others would consider rubbish, so either repair or reuse it"*.

While Respondent 1 shared that circular solutions need to be implemented because *"there is a cost of shipping off, so much better to find it useful locally"* [useful solutions for materials locally] and *"think differently about anything that is coming in and going out and finding alternative solutions"*, for Respondent 2, nevertheless, in the OI, it is also *"about an entrepreneurial society [...] very interested in learning new things and identif[ying] new skills and techniques and look a different way of doing things"*. Practically, this was shown by

Respondent 4 when sharing the example from Stronsay Islands: “*they are doing a lot of work around recycling and waste management on the island because they don’t have the same services that we do in [the respondent’s non-linked island], they are recycling glass, they make cardboards for cats*”, indicating that the circular solutions are often profit-oriented in the OI. According to the quotes, circular entrepreneurship in the OI is seen not only through profit-based circular solutions but also through the willingness to learn and acquire knowledge to innovate circularly.

#### 5.4.3. Strong Community Cohesion

Several respondents pointed out how islandness and the size of communities in the OI stimulate strong community cohesion, which was considered a key enabler for the circular tourism economy. For instance, Respondent 1 affirmed that:

*“Community size, I think is a facilitator because of the community connections and the knowledge that everybody has and enables more local exchanges, and in a smaller community, these connections are there, which allow you to have a lot more of sharing of resources and services within the community.”* [Respondent 1]

Respondent 1 continued that:

*“If you look cases like Papa Westray, I think is 140 or 150 [inhabitants] [...] everybody knows who needs what or who has what, there is a lot of exchange within the community because they are isolated geographically [...] the smaller is the community and easier these things are to actually be facilitated.”* [Respondent 1]

The OI’s community is very cohesive because of the smallness of the islands and their small population. Respondent 2 reinforced this argument by stating that “*there is generally a more spirit of collaboration [...] I would imagine in relatively small communities you have to look inward for skills and expertise because you can’t look out where there is nowhere else to look*”. Moreover, according to Respondent 15:

*“one of the strengths of Orkney is the community and sense of community and the responsibility that people take for each other. I’m sure the same can be said for small rural areas, but islands are unique as it is easier for us to see our bounds”.* [Respondent 15]

The statements certainly show community cohesive engagement. In fact, as Respondent 6 supported, *“there is a community engagement that is very strong in Orkney compared to other places. I think the components for embracing something like a circular economy are there”*. As for Respondent 5, *“there is definitely a community spirit, there is definitely a spirit of community here, certainly much more than you would in mainland United Kingdom, because there is the view that, you know, you do feel much more things here”*. Furthermore, Respondent 6 claimed that the smaller islands in the OI are more cohesive than others due to their small communities and the higher necessity to collaborate:

*“North Orkney is far more collaborative than other areas. One of the examples would be the community trusts [...] they work together collectively and have done that for a quite number of years, predominantly to do things like investing in local wind turbines, so for any revenue generated you can do a number of things for the community, and so then they reinvest that money in things like recycling initiatives just to make the waste processes more efficient.”* [Respondent 6]

Respondent 6 continued that:

*“In terms of collaboration, I think it is a general principle that is quite strong in Orkney, particularly the renewables I mentioned; the whole reason for the success has been the collaboration between the public sector, private sector, the academic sector and the government; it is a success story.”* [Respondent 8]

All quotes represent a clear sense of community and mutual support existing in the OI emerging from the living context. Additional quotes in Appendix 15 further reinforce the theme.

#### 5.4.4. Strong Pride and Identity

Among the social enablers, respondents highlighted a strong pride and identity characterising the OI’s communities, which are believed to represent a key enabler to the circular tourism economy. In fact, pride and identity seem to motivate the community to keep practising traditional circular skills as well as promoting and prioritising local produces to localise the supply chain. Respondent 4 evidenced the strong pride and identity of the OI by arguing that:

*“Heritage is something that is really strong in Orkney, people are really closely connected to that history, even the living history. They are closely connected to their culture and heritage; it is something that they take pride of, and they want to preserve. And they still use traditional skills.”* [Respondent 4]

Such a statement highlights the local effort in preserving traditional practices – the living heritage –, which, as interpreted by the researcher, can support the devolvement of traditional circularity. Respondent 11 reinforced the above by stating that: *“Heritage is quite interesting and there is a lot to be learned from the previous history [...] a lot of people are very proud of being Orcadian and from [the respondent’s non-linked island] and that can be very useful [referring to the CE]”*. This statement indicates how pride motivates the community to capitalise on existing traditional and historical knowledge and how this attitude can be relevant to the circular tourism economy. Moreover, from a branding perspective, Respondent 1 stated that:

*“Orkney is very proud of its Orkney brand, so for instance tourism accommodation will always have Orkney produces in it and they make sure that all local products are promoted as it’s the whole kind of Orkney experience from everything, from food to Orkney chairs [...] so they keep those local businesses.”* [Respondent 1]

For Respondent 1, therefore, the Orkney brand is mostly prioritised by the tourism sector, and this attitude can facilitate the overall transition to a circular tourism economy by helping to narrow down the supply chain. This makes pride and identity an enabler from two perspectives: by localising the supply chains for a circular tourism economy and through the preservation of traditional circular skills to be applied in a CE.

#### 5.4.5. COVID-19 and Improved Awareness of Locality

The COVID-19 pandemic seems to have improved community awareness of supply chain localisation. This seems to be resulting of impacts from COVID-19’s measures that disrupted larger supply chains – impacts that were accentuated by the fragmented and bounded nature of the region. This tendency in prioritising the local supply chain during the COVID-19 pandemic was evidenced by Respondent 14, who stated that during lockdowns *“a lot of more people went to local businesses and tourism businesses”*, whilst Respondent 7 argued that *“people are increasingly feeling that it is important to buy local, to support the local food producers”*. Thus, there is an improved appreciation of local producers.

These statements link back to Chapter 4, which clarified that, as a result of the COVID-19 pandemic, the local communities and businesses are seeking to further localise the supply chain

and become more resilient. For the researcher, this represents an enabler of the circular tourism economy, where localisation of production and consumption can increase local control over resources as well as boost forms of financial circularity.

The COVID-19 pandemic appeared to be enabling the circular tourism economy in three main ways: a) by improving community awareness of locality; b) by improving community awareness of waste prevention; and c) by increasing informal circularity.

#### 5.4.6. COVID-19 and Improved Awareness of Waste Prevention

The COVID-19 pandemic has also led to an improved appreciation of the need to minimise waste on the islands. This is because lockdown measures limited waste collection services due to difficulties to keep in place a safe waste collection system during the pandemic. The constraints on waste collection were contextualised in Chapter 4. According to the respondents, the waste accumulated on the islands – because of limited services – improved community awareness of the need to reduce waste, with Respondent 6 confirming that *“as a result of COVID, there is more focus on the circular economy in general”*.

Respondent 14 added:

*“If you are storing all your waste [as it has happened during lockdown] and it is not being taken away on a regular basis, I would become very well acquainted with my consumption of bottles and plastic. Now I consume less than I did before. I took it as an opportunity to examine what my consumption was, but it is also a bit of my own journey of improvement. I always wanted to say: ‘There is a lot of that, how can I change that?’, ‘Can I use less? How can I reuse that?’. But it is actually quite fun.”* [Respondent 14]

As Respondents 6 and 14 evidenced, limited waste collection services have led to greater awareness of waste generation in the OI, which can be seen as a change in attitude towards a circular tourism economy. Yet, the COVID-19 pandemic has also stimulated the increase of informal circular practices.



#### 5.4.7. COVID-19 and Increased Informal Circularity

The COVID-19 pandemic seems to have increased forms of informal circularity already existing at the community level and that can support the transition to a circular tourism economy. These seem to have emerged out of necessity because of the impact on the supply chain caused by COVID-19 measures. Three respondents have mentioned this theme.

Respondent 1 stated that, “*I know that during COVID there were a lot of people kind of sharing food on a very informal basis, but it wasn’t formalised*”. Respondent 15 linked to the above by confirming that:

*“Back in the summer [during the major lockdown] people were much eager to say ‘I’ve got too many carrots and I would swap for some potatoes’, and there was a barter economy running around and that’s in all the islands I think during that time, not necessarily sharing, but swapping in a non-monetary way and it is interesting because when I worked for the development trust here some years ago, we tried to set up some sort of swap shop and it happened, people engaged with it, and there is no need for a formal approach and it just happens and that’s really one of the beautiful outcomes, that’s a real contribution to circularity and certainly that happened during the COVID-19 era.”* [Respondent 15]

What Respondent 15 explained certainly reinforced the theme, highlighting once again how informal practices were reinforced during the challenging time of the pandemic. Having presented the social enablers, the following section focuses on the technical enablers.

**Table 5.10.** Technical Enablers to a Circular Tourism Economy

Theme		Respondents	Geographical Focus	Islandness
Tight urban clusters		2	Linked and non-linked islands	Smallness
Strong tourism industry cohesion		5	Linked and non-linked islands	Smallness
Small waste streams		1	Linked and non-linked islands	Smallness
Manageable material flows		1	Linked and non-linked islands	Boundedness
COVID-19	Improved access to collaboration	6	Linked and non-linked islands	Boundedness and regional fragmentation

	Improved access to innovation	9	Linked and non-linked islands	Boundedness and regional fragmentation
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#### 5.4.8. Tight Urban Clusters

Tight urban clusters appear to facilitate the circular tourism economy in the OI. This was evidenced by two respondents. These urban clusters can be said to be tight due to the smallness of the islands, where short physical distances exist between actors and community members within the same island. To this extent, Respondent 4 pointed out the multi-sectoral cohesion:

*“They are all so close together [industrial actors, community, etc...] so it’s easy to do that [circular tourism economy]. The fisheries are a good example because the fisherman supplies fish to the fish morgen on the island and there are waste streams for them to use [...]. That is an example that works really well which is based on the relationship that they have to work with each other in a way that there is that loop so that there is no waste when it comes to using anything that is not used by the fish morgen”.* [Respondent 4]

Respondent 4 also added:

*“That works well; other businesses work similarly; they do share skills as well as items such as tools so that everyone doesn’t have to own the individual item because they can be shared between the different businesses in the community.”* [Respondent 4]

Respondent 4 highlighted that community and business actors easily collaborate for a CE given their close distances within an individual island, and this can enable the tourism sector to be part of a circular system. Respondent 11 reinforced the above by stating that *“there is one main village which is clustered towards the north end of the island and it’s not really difficult to get anywhere; you can pretty much drive anywhere in [respondent’s non-linked island] within 15 minutes. It makes it very easy to collaborate”*, indicating the ability to work together for a CE within the island even if actors are in different villages within the same island.

Respondent 11 added on a more practical level that:

*“there is a very good second-hand market on Facebook, for example, selling things that people got, before they throw things away. Most things got purchased but being able to move around very quickly is a very big advantage; you can get around very quickly and usually*

*most people are willing to help you and that does help build business massively”.*  
[Respondent 11]

This last statement provides a key example of a community circular initiative – of which tourism businesses are part – that is facilitated by short distances within the island. As a result of tight urban clusters and social capital, respondents have mentioned the existence of strong tourism industry cohesion which enables the circular tourism economy transition, as reported in the following section.

#### 5.4.9. Strong Tourism Industry Cohesion

Adding to the previous theme of tight urban clusters, several respondents have highlighted that the circular tourism economy transition is enabled by strong tourism industry cohesion which allows collaboration and collective targets. The theme – while partly contradicting the barriers posed by a highly competitive environment – is relevant from the researcher’s perspective, as it indicates strong tourism industry cohesion within the individual island. To this extent, Respondent 10 stated that:

*“I am in a group of B&Bs in Orkney, so we’re getting together in helping each other and sharing best practices and that type of things: ‘How did you manage to get the grant? Can you help me? Widen the net, if you know what I mean? If I weren’t part of that group, I would have been quite isolated in my own trying to apply for grants, you know, the business grants and that type of things.”* [Respondent 10]

Respondent 1, therefore, indicated how tourism businesses collaborate towards innovation as they tend to be cohesive, perhaps when not feeling pressured by a competitive market. Similarly, Respondent 2 pointed out the existence of tourism industry groups/sub-groups and how these tend to facilitate the circular tourism economy. Respondent 3 affirmed that:

*“We have a very strong food and drink group, we got a tourism group, they got industry groups that they got staff there that could help the businesses within their industry. So, you could maybe have a collaborative approach whereby all the waste streams from a number of different member businesses, let’s say six or so members all put whatever may be, the cardboards on one place and then that it’s taken off and do something with it.”* [Respondent 3]

Respondent 12 reinforced the above by stating that *“everybody here is pretty close together. Being on an island community you do talk amongst each other and share knowledge and ideas”* and Respondent 6 added, *“I think, in terms of collaboration, I think it is a general principle that is quite strong in Orkney”*.

Respondent 4, bringing the discussion further, affirmed that:

*“[Tourism businesses] are really supportive of each other as we are also tightly connected [linking to tight urban clusters] so that businesses do support each other [...] they recognise that the businesses and the economy are so interconnected here that they really need to support each other for the most to thrive.”* [Respondent 4]

Tourism businesses tend to support and share with each other when needed. Respondent 4 stated that:

*“When a tour came to Orkney, their bus broke and it’s the only bus, but then one of the hostels’ providers borrowed them a minibus, just because to help them out, so they are supportive to each other in that way that they would share tools and skills as well. It is informal that they would help each other out due to the small community [linking to community cohesion].”* [Respondent 4]

Respondent 11 further evidenced the tourism industry cohesion and the benefit of a circular tourism economy by arguing that:

*“Where possible, what we do is share resources and knowledge between the various accommodations”* and that *“most of the accommodation providers up here are self-contained. If I can’t do some work, I usually know somebody who does, to try to discourage bringing someone from outside Orkney”* [linking economy localisation]. [Respondent 11]

Therefore, a degree of industry cohesion clearly exists – which may be more accentuated in the smaller and more remote islands – and helps the transition to a circular tourism economy by facilitating collective actions and resource sharing.

#### 5.4.10. Small Waste Streams

One respondent stated that the transition towards a circular tourism economy is enabled by the smallness of waste streams, contrasting a previous theme where small waste streams were seen as a barrier to the transition.

Respondent 8 stated that *“one of the opportunities we got is that is comparatively small scale [the waste streams], it means it is doable; we are not Heineken, we are not trying to return all bottles from across Europe. There are these potential pockets, I don’t think they have been particularly exploited”*. For Respondent 8, therefore, small means more easily feasible.

#### 5.4.11. Manageable Material Flows

One respondent mentioned that the boundedness of the island enables the circular tourism economy by facilitating the monitoring of the incoming/outgoing material flows. To this extent, Respondent 2 mentioned that:

*“I think an island environment gives an opportunity to a circular economy more than other areas because is a clearly defined geography so you can have absolute control on everything that comes in and out of the island, so they provide some very interesting experimental areas because there are opportunities to trial things here in a way that is harder in other areas just because, as in the central belt, there is much more movement of materials and people, whereas here you can much more clearly define what goes where and how it is used. So, I do think that there are probably advantages to this kind of environment in regard to circular economy.”* [Respondent 2]

For Respondent 2, therefore, there are clear geographical advantages on the individual OI from a monitoring perspective by allowing the identification of material flows. Moreover, a number of respondents pointed out the role of the COVID-19 pandemic in facilitating the transition to a circular tourism economy, as reported in the following sections.

#### 5.4.12. COVID-19 and Improved Access to Collaboration

The COVID-19 pandemic appeared to have improved access to collaboration for tourism sector stakeholders, breaking geographical boundaries. The application of digital technologies – allowing virtual collaboration and helping to mitigate the impacts of COVID-19-related measures – helped the tourism sector to break boundaries and increase collaboration when compared to the pre-COVID-19 time.

Respondent 6 stated that:

*“I think it [COVID-19] has enabled communication on the subject [CE]. As an island, we are compromised in terms of travelling to meetings to the mainland and I think things changed dramatically but we will still have these involvements on issues of waste and renewable etc.”.*

[Respondent 6]

Respondent 8 added to the above by arguing that the COVID-19 pandemic has allowed “*some businesses to get together in a way that wasn’t the case. Some businesses have started to see how they can jointly deliver. When they were in lockdown, people valued the fact that they can get things delivered together*”. Moreover, Respondent 11 highlighted that the COVID-19 pandemic has stimulated “*things like Zoom, one of the best things that have come out from COVID-19*”.

The above quotes show how previous geographical challenges towards access to collaboration are being mitigated by virtual tools promoted during the COVID-19 pandemic. In support of the theme, Appendix 15 reports additional quotes.

#### 5.4.13. COVID-19 and Improved Access to Innovation

In addition to improved access to collaboration, the COVID-19 pandemic has improved businesses’ overall access to innovation. This was evidenced by Respondent 10 when stating that:

*“there is a thing called business gateway and I went to some of the training but obviously now is all done online by Zoom, so you can do a lot of training by Zoom. You can access it even more so now because everything is done on Zoom, there is nothing to stop you if you want to do training. Everything is done online”.* [Respondent 10]

Respondent 10 indicated how the COVID-19 pandemic has changed the degree of access to training and innovation by breaking geographical boundaries. Respondent 12 similarly stated that “*there are a lot of online training*” because of the COVID-19 pandemic and Respondent 14 added that:

*“I know that Visit Scotland had put some of their webinars, but I can’t comment on the individual businesses, but I know that there was a lot going on through Highlands and*

*Islands Enterprise, they have the Business Gateway that is operated by the council as well. Interestingly, these businesses, their offices have been closed but I know there are webinars.”*  
[Respondent 14]

Furthermore, Respondent 5 affirmed that:

*“I hope that after COVID we don’t go back to a situation where everything is impersonal, you know... we get invited to lots of things that will be very useful for us, but from my personal experience there are lots of things that you get invited to but are in Edinburgh, in Glasgow, and that’s a three days trip and it is impossible to do. So I like that things are run online and I hope that that continues to well beyond COVID because I think that needs to be a hybrid situation, you are disadvantaged because of the distance, because of your remoteness, because we need access to these things, we don’t want to lose out and we don’t also have to take a three-days trip and it’s a huge cost to go to these places for a couple of hours in the afternoon in Edinburgh.”* [Respondent 5]

For Respondent 5, therefore, online access helps mitigate disadvantages related to remoteness, isolation and travel/transportation costs when seeking to access innovation events. Respondent 5 continued by stating:

*“And you were mentioning about crafts and skills and one of the things I would like to say is that if we were able to be offered those online so people can get access to traditional skills [...] for us to be able to get people income that way because you connect people by learning their skills and crafts, the way of life. So definitely COVID has made certain things during lockdown more accessible than they ever were.”* [Respondent 5]

Respondent 5 supported that those online tools can help spread traditional skills and crafts to further facilitate the circular tourism economy by applying these skills in circular strategies.

Respondent 8 added that:

*“I think there are less problems than there were in the past because things now are going online. Everyone equally has better access to the ideas, whereas in the past the people in the central belt [of Scotland] got good access and they had no idea why they should bother putting stuff online. There were always like ‘oh you need to come to the meeting’. Yes, but if I come to the meeting it’s gonna cost me a thousand pounds to come to the meeting. Really, do you really want me to do that? That’s just not gonna happen. Put in online, or we can’t, we don’t know how to do.”* [Respondent 8]

For Respondent 8, therefore, while the centre of innovation tends to be the Scotland's Central Belt, online tools are allowing better access for tourism businesses in the OI to events, schemes and training. Respondent 8 complemented the above by stating that:

*“Hopefully they will remember that it is okay to do this way [online], recognising that it is not always good to do things face to face, it is a lot cheaper than a thousand pounds. The problem with this lack of digital thing was always on the central belt end, it was never our end, we were always able to get ready and go online, it was always the centre to understand that was what everybody else needed.” [Respondent 8]*

Respondent 8 indicated the lack of understanding from the Central Belt of the needs of the OI. On the same line, Respondent 7 also contended that:

*“Perhaps this is something that the pandemic changed to online events and conferences, maybe there is something that can help facilitate [the circular tourism economy], because you have much easier access to go and find information. Maybe you would never travel to go to trade conferences in Glasgow. But perhaps now you can access information.” [Respondent 7]*

Moreover, speaking from a non-linked island, Respondent 4 stated that *“the rising of using Zoom and online meetings has been hugely beneficial for island communities, because otherwise we had to travel, and it would be quite expensive for us to take part in conversations or conferences”* and continued by affirming that:

*“It is also about innovation, trying new things because the chances are if something is right in Westray, chances are that it will work on Sanday as well. You know people treat things differently and is interesting to see how people are taking ownership of different ideas in responding to the different issues because when sharing this information, you are coming up with new innovative ideas which are fantastic to see that happening.” [Respondent 4]*

Therefore, for Respondent 4, the online tools not only facilitate access to innovation resources residing in the Central Belt but also allow the flow of innovative ideas throughout the OI. Respondent 4 further reinforced the discussion by stating that access to innovation:

*“has been a little better with COVID because so much is going online and there is not that dependency on things that have to happen in person by face-to-face meetings and that is a big thing for the island community that we can have these communications [online]. There are many training courses that are online now which is fantastic. If you live in [respondent's non-linked island] and if you are lucky you don't have to travel to Kirkwall for the day to do a training course because we can only be there where the ferry can be there. But with things*



*going online we can access so much more in the remote isles and that's a big help. You got organisations such as Social Enterprise Scotland or Impact Hub Inverness, they are based in mainland Scotland, and we are able to access their services.” [Respondent 4]*

These online tools can break all previously faced barriers by the tourism sector when seeking access to innovation. This view was also shared by Respondent 11, from a non-linked island, arguing that:

*“the rapid increase of online training makes a big difference, people like the local authorities and business gateways also provide a lot of help to local businesses. You can get a lot of direction in improving your business pretty much free” and “it is not really impacting training or anything, but a lot of stuff has moved to online which is really good, I would like to see more of it online”. [Respondent 11]*

What stated by Respondent 11 indicated that the number of training may be the same, but access has been significantly improved for more equal accessibility and participation in a circular tourism economy in the OI. Having presented the social and technical enablers to a circular tourism economy in the OI, the following section supports the identified themes through relevant documentary resources.

#### 5.4.14. Documentary Support to Enablers to a Circular Tourism Economy

Several documentary resources were identified to provide empirical support to the strong community cohesion enabler that emerged from the semi-structured interviews.

**Table 5.11.** Documentary Resources: Enablers to a Circular Tourism Economy

Cluster	Enabler	Document	Evidence
SOCIAL	Strong community cohesion	<b>Stronsay</b> Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)	At page 2 of the report, the community clearly expressed that the community is a reason that makes living in the island of Stronsay great.
		<b>Hoy and Walls</b> Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)	At page 2 of the report, it is indicated that living in the islands of Hoy and Walls is great because of “ <i>sense of community</i> ”.
		<b>Sanday</b> Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)	The community called emphasised a strong “ <i>Sense of Community</i> ” (p. 2).
		<b>North Ronaldsay</b> Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)	A page 2, the community is seen as a key asset for the island.
		<b>Westray</b> Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)	At page 2 of the report, “ <i>sense of community</i> ” is regarded as one of the key assets of Westray Islands.
		Locality Consultations: <b>Orkney Non-Linked</b> Island Summary (2017)	<p><b>Flotta:</b> “<i>People feel reasonably connected, especially if Orcadian or as residents of long standing</i>” (p. 8)</p> <p><b>Graemsay:</b> “<i>the island community is strong and inclusive of everyone</i>” (p. 10)</p> <p><b>Hoy:</b> “<i>Welcoming and strong community feeling</i>” (p. 13) and “<i>Lots of vibrant community activities if people wish (or can get to or afford) to access them</i>” (p. 13)</p> <p><b>North Ronaldsay:</b> “<i>Strong feeling of community</i>” (p. 16) and “<i>Great community</i>” (p. 16)</p> <p><b>Papa Westray:</b> “<i>Generally speaking the sense of community is strong</i>” (p. 19)</p> <p><b>Sanday:</b> “<i>Strong sense of community</i>” (p. 26)</p>

#### 5.4.15. Summary of Enablers to a Circular Tourism Economy

Section 5.4. of Chapter 5 aimed at presenting the enablers to circular tourism economy that have been identified in the OI. Here, the researcher summarises what was presented in the previous subsections. A total of two clusters of enablers have emerged from the analysis of interviews and documentary resources. These are:

- I. **Social enablers** to a circular tourism economy in the OI. This cluster includes enablers such as the presence of traditional circularity, strong community cohesion, strong pride and identity as well as, interestingly, COVID-19-driven enablers, including improved awareness of locality and awareness of waste prevention.
  
- II. **Technical enablers** to a circular tourism economy in the OI. This cluster includes enablers such as the presence of tight urban clusters, strong tourism industry cohesion as well as COVID-19 technical enablers, including improved access to collaboration and innovation as a result of the increased usage of online platforms.

The following section summarises the relationships among the barriers and enablers that have emerged from the study.

### 5.5. Barriers and Enablers: Main Relationships

After presenting the findings regarding the drivers, barriers and enablers that have emerged from the analysis of interviews, this section reports the relationships that were identified by the researcher between the barriers and enablers. It is relevant to highlight these relationships because they can point out predominant factors and, therefore, provide better planning direction to decision-makers.

This is in line with what was discussed in Chapter 2 (Literature Review) and supported by Kirchherr et al. (2018) that a chain reaction exists between the barriers and enablers, and this should be identified by the researcher to inform planning and provide more robust and complete empirical evidence to other researchers.

The researcher has identified four types of relationships:

- 1) When one barrier drives or partially drives the existence of another barrier.
- 2) When one enabler drives or partially drives the existence of another enabler.
- 3) When one barrier drives or partially drives the existence of one enabler.
- 4) When one enabler drives or partially drives the existence of one barrier.

The first relationship occurs when one barrier drives or partially drives the existence of another barrier. In fact, some hindering factors identified in the study appeared to be rooted in other and more predominant hindering factors. Reporting these relationships is particularly significant because an overview of those can help identify some of the key challenges that are faced by the tourism businesses when seeking to adopt circular solutions. Therefore, clearer direction to decision-makers can be provided in the interest of the tourism sector and the mitigation of multiple barriers by tackling a main one.

The second relationship concerns enablers that act as the source or partially the source of other enablers. It is significant to highlight these relationships because an overview of them can inform decision-makers about ways to identify and boost key facilitating factors for a circular tourism economy in the OI that can have multiple positive effects by generating and enhancing other enablers in the region.

The third relationship – although possibly less relevant from a planning perspective – concerns barriers that drive the existence of enablers. The researcher finds it relevant to highlight these relationships to shed light on additional empirical evidence that could inform other researchers and the destination's stakeholders.

Lastly, some enablers to a circular tourism economy in the OI can also generate barriers. These relationships are reported to shed light on the additional complexities that underpin the ability of tourism businesses to adopt circular practices. Table 5.12. summarises the four types of relationships along with associated extracts from the interviews and the researcher's notes. Appendix 16 presents the relationships in more detail by reporting the participants' statements.

**Table 5.12.** Main Relationships Between Barriers and Enablers

<b>BARRIERS</b>	<b>One BARRIER drives/partially drives another BARRIER:</b>	
	Insufficient inter-island links	Waste collection challenges
		Limited access to circular skills from outside the islands
		Limited access to circular skills from within islands
		Institutional centralisation
	Insufficient island-mainland links	Challenging access to innovation centres and schemes
		High disposal and redistribution costs
	High distance from markets	High disposal and redistribution costs
	Challenging access to innovation centres and schemes	Limited access circular skills on the islands
	Limited / unreliable digital connectivity	Collaborative redistribution challenges
Challenging access to innovation centres and schemes		
Highly competitive environment	Solo working practices	
High disposal and redistribution costs	Collaborative redistribution challenges	
<b>ENABLERS</b>	<b>One ENABLER drives/partially drives another ENABLER:</b>	
	Traditional circularity	Circular entrepreneurship
	Strong community cohesion	COVID-19: increased informal circularity
		Strong tourism industry cohesion
	Strong pride and identity	Traditional circularity
	Tight urban clusters	Strong community cohesion
Strong tourism industry cohesion		
<b>BARRIERS</b>	<b>One BARRIER drives/partially drives one ENABLER</b>	
	Insufficient inter-island links	Circular entrepreneurship
		Traditional circularity
	Waste collection challenges	COVID-19: improved awareness on waste prevention
		Circular entrepreneurship
Institutional centralisation	Strong tourism industry cohesion	

<b>ENABLERS</b>	<b>One ENABLER drives/partially drives one BARRIER</b>	
	Small waste streams	Limited economies of scale for material reprocessing
		Challenging access to finance
		Limited access to small scale technologies

## **5.6. Conclusion**

Chapter 5 has presented the findings of the study from semi-structured interviews and supporting documentary analysis. The social, economic and environmental drivers of a circular tourism economy in the OI were reported. Some of the drivers included a circular tourism economy to stop depopulation, to promote resource self-sufficiency and to create new economic streams for the local tourism sector. The chapter also presented the barriers and enablers the tourism sector faces when seeking to adopt circular practices. Most of the barriers appeared to be of technical nature, but social, economic and institutional/governance factors also seem to be hindering the transition to a circular tourism economy. These include the hindering issues such as in relation to transport, as well as to the level of collaborative attitude present on the islands.

Moreover, technical and social enablers have emerged from the study, such as the presence of traditional circularity on the island in facilitating the transition to a circular tourism economy, strong community and industry cohesion, as well as indicating how the COVID-19 pandemic is facilitating the transition to a circular tourism economy. Furthermore, findings have communicated the relationships existing between the barriers and enablers to identify the predominant issues that should be tackled and emphasised by policymakers and future researchers. Therefore, the chapter has unfolded the wide range of issues faced by the tourism sector, which will be discussed in the following chapter.

## **Chapter 6 – Discussions**

### **6.1. Introduction**

In Chapter 6, the findings are discussed in clusters of themes following a similar structure to Chapter 5. The researcher considers how the findings are rooted in the islandness of the OI. To ensure that the diversity of the OI is recognised, the discussions contextualise each theme by considering the linked and non-linked islands. Also, by moving away from the simplistic interpretation of findings, the researcher recognises the importance of discussing how barriers or enablers are linked. This is in line with Kirchherr et al. (2018) suggesting that it is not enough to produce taxonomies of barriers and enablers to a CE, but it is crucial to capture the chain reaction between them.

### **6.2. Social Drivers**

In the OI, two social drivers have emerged: a CE to promote island self-sufficiency and a CE to create jobs and stop depopulation. The two drivers are discussed in the following section.

#### **6.2.1. Promote Island Self-Sufficiency**

In the OI, the circular tourism economy is sought to promote resource self-sufficiency. According to the respondents, and as reported in section 5.2.1.1., this can be achieved through better valorising the resources that enter the region and individual islands, and by using locally produced goods. Ultimately, the interviewed stakeholders appeared to be wanting less reliance on external resources, leading to increased resilience from the supply chain perspective. The driver is largely rooted in the islandness of the OI, where access to resources – as contextualised in Chapter 4, section 4.5.1. - can be hampered by the regional fragmentation, degrees of remoteness and costs associated with resource accessibility.



Becoming more resource self-sufficient in the OI seems to be essential given the logistical challenges faced by the islands when seeking to collaborate with other islands. These difficulties are rooted in transportation challenges in the OI. Moreover, the non-linked islands tend to prioritise more self-sufficiency than the linked ones due to their unmitigated physical isolation. The driver may imply a motivation from the tourism sector – especially when located in the non-linked islands – to adopt circular strategies that decrease reliance on external resources by valorising resources in the island system and by prioritising local productions.

Promoting a circular tourism economy for destination self-sufficiency and resilience – as emerged in the OI – has not been previously highlighted in the literature. Yet, evidence from the OI narrows down current studies (e.g., Kalaitzi et al., 2018; Korhonen et al., 2018a), to more territorial terms by pointing that the application of CE strategies is often driven by the company's need to decrease dependency on raw materials. The notions presented by Kalaitzi et al. (2018) and Korhonen et al. (2018a) apply to the tourism sector in the OI, where the application of CE practices seeks to disrupt the tourism value chain by making manufacturing, sourcing and consumption more sustainable. Such discussion adds and reinforces Kurtagić's (2018) argument when arguing the reasons driving the application of CE solutions in the tourism sector of Southeast Europe. Yet, despite agreeing with what was previously discussed in the literature and in a recent report by the UN (2021) pointing out the role of the CE in making tourism value chains more efficient, studies did not delineate the contextuality of the discussed driver as it is done in the present study of the OI.

In fact, the study of the OI adds to the existing literature that the circular tourism economy is promoted to mitigate spatial-geographical challenges. These are driven by degrees of isolation, the resulting uncertainties towards resource accessibility – especially during shocks – and high costs associated with imports. Differently from other contexts, for the OI, promoting self-sufficiency is a key priority in the implementation of a circular tourism economy.

To a certain extent, the driver from the OI is in line with other island-based studies. Although not focusing on the tourism sector, the study of Concu and Pani (2019) in

the island of Sardinia highlights that a CE seeks to reduce imports of energy, and Eckelmann and Chertow (2009) similarly argue that on the island of Oahu, the CE is sought to decrease the current high dependency on external resources by setting opportunities to valorise domestic materials. Yet, while these island-based studies support what emerged in the OI and evidence the CE response to island resource vulnerability, they are not tourism-related and do not highlight the archipelagic differences. In fact, the OI's experience adds to the literature on the CE and CE in tourism from an island tourism perspective seeking the CE for improving self-sufficiency. The OI also offer a view of how self-sufficiency through a circular tourism economy is more relevant for the more remote islands, meaning that it provides a detailed description of the regional differences, potentially applicable to similar contexts.

#### 6.2.2. Create Jobs and Stop Depopulation

The respondents mentioned that the need to create jobs and stop depopulation drives the circular tourism economy. Findings were reported in section 5.2.1.2. Island depopulation and population centralisation – as outlined in Chapter 4, section 5.4.1. – are the main consequences of regional fragmentation-related challenges (e.g., limited regular and cost-effective transport, challenge to commuting to other islands, limited job opportunities) that drive people to mainland Orkney (from the non-linked islands) and mainland Scotland (from the OI region). Consequently, the circular tourism economy is perceived as an opportunity for the islands to create new job avenues, possibly highly skilled and well-paid, as well as to retain the current population and attract new people to work and live on the islands.

To a certain extent, this contrasts with what Saleem (2016) discussed that the CE is often seen as a cause of job loss given the decrease in the production of new goods. The OI demonstrate, on the contrary, that employment opportunities are expected as outcomes of a circular tourism economy. This notion agrees with Hetgroenebrein (2020), who claimed that social and economic benefits should be associated with the CE, in addition to the environmental. Moreover, on a tourism level, the socio-economic opportunities expected in the OI reflect the promises of a CE highlighted by the UNWTO (2019a) when claiming that due to the interlinkages between tourism

and other economic activities, a circular tourism economy can generate significant cross-sectoral benefits.

Moreover, as the study shows, the driver is predominant in the non-linked islands that suffer more from depopulation and population centralisation. Therefore, the driver demonstrates a strong local motivation to develop circular solutions that generate job creation and improve the overall quality of life in the islands, especially the non-linked ones. This is believed to occur by expanding solutions within tourism and through collaboration with other economic sectors for innovative solutions and new socio-economic opportunities. The need to create jobs through a CE was further reinforced by the COVID-19 pandemic, which highlighted the need for more socio-economic resilience.

The discussion above is in line with Correa and Correa (2021) arguing that the CE is an opportunity for new professional practices and innovative income generation activities, with Moss (2019) suggesting that the CE will inevitably bring positive changes in the job landscape, and with Korhonen et al. (2018a) stating that job creation is a main “win” to the application of a CE. The driver from the OI also confirms what was discussed by del Vecchio et al. (2021) when they affirm that, because of the COVID-19 pandemic, the CE is increasingly seen as a pathway to generate more value for the stakeholders.

Yet, while these studies highlight the same driver – also in the context of the COVID-19 pandemic – the OI show that in a small island and archipelago context, the driver emerges from the regional fragmentation and resulting depopulation, which calls for more localised job opportunities. Therefore, the OI provide an archipelagic perspective by showing how depopulation is a predominant issue for the non-linked islands that tend to be subject to depopulation and population centralisation. This more regional perspective can better inform targeted and place-based strategies for the region taking into consideration the differences among the islands.

### **6.3. Economic Drivers**

In addition to the social drivers discussed in the previous section, a number of economic drivers have emerged from the study, including a circular tourism economy to promote local financial circularity, decrease business operational costs and create new income streams for tourism businesses.

#### **6.3.1. Promote Local Financial Circularity**

According to the respondents – and as reported in section 5.2.2.1. - the circular tourism economy in the OI is promoted to intensify financial circularity at the island and regional level, meaning that the CE is regarded to circulate financial resources as well as tangible materials. This appeared to be particularly relevant for the OI, where improved financial flows are needed through localising the supply chain and creating jobs to improve the islands' socio-economic conditions. This may drive local financially oriented circular tourism practices as well as significant attention to local markets for any outcomes from circular processes, which means there may be more attention paid to formal and profit-oriented agreements that involve financial flows among tourism actors and between tourism actors and other sectors.

The narrow economic specialisation of the OI that calls for economic diversification seems to drive the need to promote more financial circularity through a circular tourism economy. Smallness and degrees of isolation of the OI tend to result in narrow economic diversification. The driver of financial circularity is not directly discussed in the existing literature. Yet, evidence from the OI is in line with Korhonen et al. (2018a) when indicating that through valuing the resources continuously, financial value tends to circulate more intensely within a system. This is also in line with the key principle of the CE of keeping resource value flowing as much as possible within a specific system (Suarez-Eiroa et al., 2018). While the findings from the OI are complemented by Correa & Correa (2021) by arguing that the CE is directly connected to the creation of new professional practices and income generation activities, previous studies have not pointed at the CE as a tool to create financial circularity at the community level.

As seen in the OI – and probably in similar contexts – the CE is considered to increase and diversify the economic opportunities in small islands. Therefore, while the above sections noted that the CE is an opportunity to widen job prospects, creating a local financial circularity goes beyond employment by embracing the localisation of supply chains and the local re-processing and re-circulation of materials to increase the flow of financial resources in addition to the flow of tangible materials. The OI, nevertheless, offer an additional perspective. Due to their islandness, the financial side of the CE is a key motivator to the transition. Yet, it must be said that – in line with the broader discussions on the COVID-19 recovery – respondents have mentioned that the CE is regarded to build more economic resilience to better cope with financial disruptions. This was, for instance, mentioned by the newly formed OI's Steering Committee, whose work focuses on the economic recovery of the region. The committee stated that the CE represents a key priority in this effort. This is in line with recent discussions by the International Institute for Sustainable Development (2021) and the United Nations (2021), who underline the importance of the CE to build a more resilient tourism sector.

### 6.3.2. Decrease Business Waste Operational Costs

Waste operational costs appear to be high due to regional fragmentation and the resulting degrees of isolation that create significant physical distances and costs for businesses when seeking to ship off the waste. This is a driver particularly relevant for the most remote non-linked islands of the region, as they are more likely to lack waste management infrastructure and face higher geographical distances. Therefore, and as findings showed in section 5.2.2.2., to minimise these costs, tourism businesses seek to make the best use of the resources that enter the islands to ultimately reduce the need for transporting the waste, which is in line with the CE principle of re-circulating already existing materials (Suarez-Eiroa et al., 2018). Ultimately, this means that in the OI, the circular tourism economy is also driven by economic factors related to waste management.

Similar findings were provided by a few scholars but did not focus on SIDs. Miroshnychenko et al. (2017) noted that the CE – from a broader perspective – is applied to improve production efficiency and decrease operational costs, and

Korhonen et al. (2018a) argued that reducing waste-related management costs is a main “win” to the application of a CE. What emerged in the OI reinforces their claim. However, at a tourism level, this is further supported by Sorin and Sivarajah (2021), focusing on the Scandinavian tourism sector and pointing out that the CE is applied by the hospitality businesses to reduce waste management costs. The OI context further shows how islandness drives the application of a CE in SIDs because of the need to decrease waste-related operational costs. Such contribution means that local stakeholders seek the circular tourism economy to minimise waste management activities in small islands, which tend to be challenging (Feenstra & Alofs, 2020).

### 6.3.3. Decrease Imports Operational Costs

The respondents regarded the CE to decrease not only waste- but also import-related costs by valorising the resources already present within the island system to ultimately limit the import of new goods and mitigate the associated costs. The findings were presented in section 5.2.2.3. Import-related costs seem to be significant especially for the most remote non-linked islands because logistics face longer distances when islands rely on external supply chains. For the respondents, a circular tourism economy allows mitigating these costs by localising the economy and valorising the existing resources. This is certainly driven by the key CE principle of minimising material inputs in a given system (Suarez-Eiroa et al., 2018).

These findings are largely in line with Kalaitzi et al. (2018), arguing that the application of CE strategies is often driven by the need to decrease a company’s dependency on raw materials. Yet, Kalaitzi et al. (2018) do not refer to import-related costs. Korhonen et al. (2018a), on the other hand, specifically point out that the CE is a key tool used by companies to reduce their costs of materials imports. Nevertheless, these studies (e.g., Kalaitzi et al., 2018; Korhonen et al., 2018a) are not tourism-related, limiting their findings’ applicability to the tourism sector. Aryal (2021) narrows this gap and supports the findings from the OI by drawing upon a case study from Nepal, which confirms that also the tourism sector tends to prioritise the CE as a promising approach to reducing resources, but again, no reference to the financial aspect of resource import is made by the scholar.

The OI show that in a SID, it is likely that the CE is also regarded – in addition to other drivers – as a key solution to decrease reliance on external resources not only to build resilient resource accessibility through self-sufficiency but also to mitigate the high import costs faced by tourism businesses when located in a small island.

#### 6.3.4. Create Additional Income for Tourism Businesses

As reported in section 5.2.2.4., the respondents mentioned that the circular tourism economy is applied to create additional income for tourism businesses. This means that stakeholders perceive the CE in tourism as an opportunity to develop profitable circular solutions at the business level as well as to collaborate with other actors in tourism and other sectors and create an additional flow of financial resources. This appeared to be especially relevant for the most remote non-linked islands that tend to receive a small slice of the tourism market and that seek to diversify the economy. The findings of the OI are largely in line with broader discussions on the CE as highlighted by Geng et al. (2008) and Franklin-Johnson et al. (2016) when arguing that the CE is strongly prioritised to allow long-term profitable solutions based on the reduction, reuse and recycle of materials. Similarly, Korhonen et al. (2018a) have pointed out that the CE is an opportunity for boosting a company's green market potential.

Yet, existing studies do not focus on tourism and/or small island contexts, meaning that the OI provide empirical evidence that the creation of additional income for tourism businesses is a driver of a CE also in these settings. This implies that – when seeking to adopt circular solutions – businesses may focus on the extent to which circular opportunities can create extra income and on the importance of ensuring market access for any profit-oriented circular solution led by the tourism business or under the form of symbiotic relationships with other business actors.

### 6.4. Environmental Drivers

In addition to the drivers discussed above, the respondents have mentioned one environmental driver to the application of a circular tourism economy in the OI: to prevent waste.

#### 6.4.1. Prevent Waste

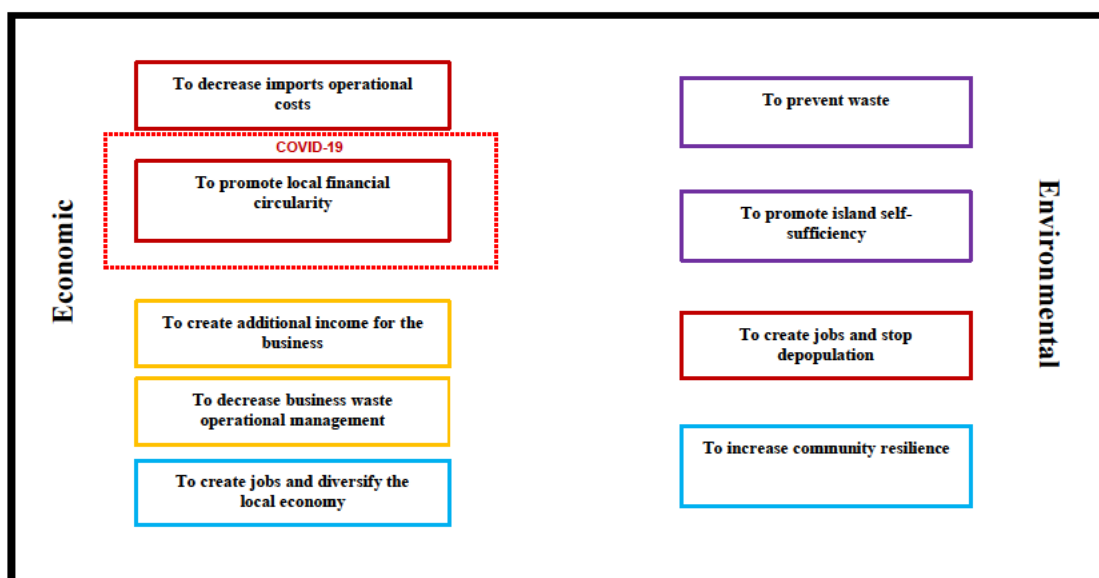
Preventing waste for increased environmental sustainability in the OI is a key driver to the implementation of a circular tourism economy, as reported in section 5.2.3. The management of waste – as discussed in Chapter 4 – appears to be challenged by island and regional territorial conditions that tend to limit on-site infrastructure development and transportation of waste in a timely and cost-effective manner. The respondents have mentioned that waste dispersal is a main issue in the OI as it generates pollution, which calls for mitigating solutions. The circular tourism economy is thus regarded as a promising solution to reutilise the “waste” and avoid its dispersal. This is in line with what was discussed – from the broader CE perspective – by Illic and Nikolic (2016), Cano-Rubio et al. (2021) and Korhonen et al. (2018a). Moreover, this is not a novel issue in the context of small islands, with previous studies further reinforcing the evidence from the OI. Mohammadi et al. (2021) discussed that the CE in islands is mainly a waste reduction effort, and Argo and Rachmawati (2021), drawing upon the Karimunjawa Islands in Indonesia, also highlighted that the CE is a direct response to the increasing solid waste accumulation and to the challenges in waste management that are generated by the island context.

Although very different contexts, the OI are in line with these examples, as well as with Mena-Nieto (2021) from the Balearic Islands, who argued that the CE is considered a pathway for the islands to achieve the EU targets for municipal waste reduction, and with Uche-Soria and Rodriguez-Monroy (2019), showing that the CE in the Canary Islands is sought to reduce marine pollution. These studies – together with Elgie et al. (2021) and Santamarta et al. (2014) – reinforce what emerged from the OI, a factor that is broadly supported by Girard and Nocca (2017a), who argue that “circular tourism is not only green tourism” (p. 69) but aims to reconcile tourism with the sustainable management of resources and reduce waste. Yet, in addition to confirming this island-based evidence, the OI shows how their wish to prevent waste through a circular tourism economy is largely a territorial-driven factor.







Figure 6.1. presents the findings in relation to the drivers. A colour code is also provided, which will be also used for other sections of the conceptual framework.



**Figure 6.1.** Conceptual Framework: Drivers Section



**Table 6.1.** Conceptual Framework’s Colour Code

Colour code	Description
	Factors presented in the initial version of the conceptual framework and concerning the CE in SIDs. These factors were not confirmed in the OI but are reported here because previous empirical literature confirms their relevance for a CE in SIDs.
	Factors presented in the initial version of the conceptual framework and concerning the CE in SIDs. Differently from the “blue” factors, these were confirmed by the study in the OI.
	Factors not presented in the initial conceptual framework, which have fully emerged from the OI.
	Factors presented in the initial version of the conceptual framework concerning the CE and CE in tourism (not specific to SIDs). These factors were confirmed in the OI.
	Factors applied only to the non-linked islands of the OI.
	Factors emerged and/or accentuated by the COVID-19 pandemic.

## **6.5. Technical barriers**

Several technical barriers were highlighted by the respondents in the OI. Each of these is discussed in the following sections.

### **6.5.1. Insufficient Inter-island and Low Island-Mainland Links**

In this section, two predominant barriers faced by the OI's tourism sector are discussed that were presented in section 5.3.1. and 5.3.2. The insufficient inter-islands and island-mainland links seem to concern all the OI (linked and non-linked islands). In fact, the OI are highly fragmented, with a significant number of distributed islands in a relatively large geographical area. It is the regional fragmentation that accentuates the transport challenges. As discussed in Chapter 4 section 4.5.1. many of the islands are linked to Mainland Orkney, but not to other secondary islands in the region.

The number and distribution of the islands are at the root of the low transport links in the region and with mainland Scotland. In fact, only Mainland Orkney is linked to mainland Scotland. For the non-linked islands to be connected to mainland Scotland, it is often a more costly and time-consuming process. The relevance of the two barriers is evidenced by their relationships with other barriers, as findings show that the insufficient inter-islands links tend to accentuate the waste collection challenges and, ultimately, the transition towards a circular tourism economy. Moreover, insufficient inter-island links are a main cause of depopulation/population centralisation and, consequently, limited access to circular skills from outside and within the islands. Insufficient inter-island links also lead to high disposal and redistribution costs for a circular tourism economy and accentuate institutional centralisation. The insufficient island-mainland links seem to be related to the sector's challenging access to innovation centres and schemes, as often there is a need to travel to other islands or mainland Scotland to participate in training and capacity-building.

The two barriers have practical implications for the circular tourism economy in the OI that are wide-reaching. Predominantly, the low linkages among the island territories and island-mainland may hamper the sector's involvement in a wider regional CE because of logistical challenges, high costs of material flows, limited flow of knowledge and limited possible and effective partnerships. Therefore, the implication is the establishment of a wider circular tourism economy landscape, with regional and systemic involvement of tourism actors in CE activities enabled by effective logistics. This is relevant as a CE depends on stakeholder collaboration and synergies among sectors (Niero & Rivera, 2018), which must be supported either at the territorial, technical or institutional levels (Crevoisier, 2014). As shown in the OI – but also by Mauthoor (2017) in Mauritius –, in an archipelagic context, the establishment of these synergies for a CE (e.g., resource sharing) can be challenged by regional fragmentation.

The OI also provide empirical evidence of what van Buren et al. (2016) and Tapia et al. (2019) asserted, that greater territorial accessibility plays a key role in reducing travel distance and time for a CE to overcome a variety of challenges. When effective linkages are challenged by the territory, such as in the OI, additional barriers are likely to emerge. Specifically in terms of island-mainland barriers, what emerged in the OI confirms Symeonides et al. (2019) findings in Cyprus – although a non-tourism-related study. There, the flow of materials from the island to the mainland is also hampered by physical distances. Moreover, as discussed by Accorsi et al. (2015), accessibility is essential because a closed-loop economy comprises many different links and nodes.

While community concerns in small islands have been highlighted in the past (Kerr, 2005; Moncada et al., 2010), the OI are an example of how an archipelago destination – characterised by fragmentation – is a very diverse context, an archipelagic diversity that hampers the CE by challenging its logistics. This issue highlights different degrees of isolation, in line with Bridge et al. (2013), who posited that isolation is also concerned with the location of an individual island within its region. Certainly, there is a need to increase inter-island and island-mainland links and, particularly, to assess the needed logistical improvements for effective materials flows and related value throughout the OI region, which would allow the tourism

sector to participate in a regional CE approach. The discussed barriers may be relevant for other SIDs where inter-territorial linkages rely mostly on sea transport and not on fixed linkages. In these situations – according to the OI and by linking to what was discussed by Accorsi et al. (2015) – it becomes essential to promote multiple transport modalities to enable a CE and intensify the flow of tangible and intangible resources throughout the region.

#### 6.5.2. High Distances from Market

Stakeholders in the OI mentioned that access to the market is a main barrier for the circular tourism economy, challenged by the physical distances that exist between tourism businesses (businesses that are generators of end-of-life materials to be re-circulated) and markets (receivers of end-of-life materials to be re-processed). The finding was presented in section 5.3.3. These often-significant distances are rooted in the fragmented region and – as previously discussed – the insufficient inter-islands and island-mainland links that do not fully mitigate the different degrees of physical isolation in the region. The barrier concerns each of the OI at different degrees depending on the position of the island and the markets that businesses are seeking to engage and reach.

The relevance of the barrier is, therefore, highly contextual to the individual island and may have practical implications for resource sharing between tourism businesses and receivers/initiatives headquartered in Mainland Orkney. Moreover, having long distances to the market accentuates high redistribution and disposal costs, which – as later discussed – represent a key economic barrier to the circular tourism economy. The key practical implication of this barrier within the context of the OI is, therefore, the actual ability of the tourism actors to circulate end-of-life materials throughout the region by engaging with other actors residing and operating elsewhere.

Empirical evidence from the OI is in line with most of the reviewed literature that has identified market-related barriers to a CE (e.g., de Jesus & Mendonça, 2018; de Mattos & de Albuquerque, 2018). Yet, while scholars such as Galvão et al. (2018) discuss that market barriers are mostly associated with the marketability of circularly produced products, in the OI – and in line with the argument of Tapia et al. (2019) –

distance is what matters. In fact, evidence from the OI supports, and it is supported by Tapia et al. (2019), that market-related challenges often unfold from the accessibility perspective. In an island context, this was pointed out by Symeonides et al. (2019) in Cyprus, where the existence of an only market for used tires resides outside the island, making the redistribution of materials difficult and highly cost ineffective.

At the OI level – but also in similar contexts – there may be the need to promote further localised markets for circular materials and/or mitigating strategies, such as efficient transport/logistics to promote a regular and cost-effective market. Yet, it must be noted, as Millette et al. (2019) suggest, that where low urban and industrial agglomeration exists, it is more challenging to localise markets for a CE. This means that for the OI's smaller and less populated islands, there will be a need for solutions that allow tourism participation in regional CE systems.

### 6.5.3. Collaborative Redistribution Challenges

Another technical barrier – as reported in section 5.3.4. - to the circular tourism economy in the OI concerns establishing collaborative redistribution activities. In fact, regional fragmentation challenges businesses seeking to share resources with other businesses on other islands. This is an addition to market accessibility, as collaborative redistribution challenges refer to how physical distances among islands affect collaboration in tourism and with other actors when seeking to redistribute materials in a non-profit manner.

Therefore, physical distance generated by regional fragmentation challenges symbiotic relationships, where the material output of one business may become the input for another. This is relevant for the entire region, but the degree of relevance of such a barrier depends on the location of the businesses seeking to collaborate. This finding is in line with what was discussed – although from the broad CE perspective – by Symeonides et al. (2019).

As Ghisellini et al. (2016) and Bocken et al. (2016) remind us, the CE is enabled by the interrelated and integrated effort of the different actors that allow collaborative

and participative actions to share resources. Yet, in the OI – and similar contexts – this barrier is particularly relevant to islands with limited business clusters because, in these cases, firms need to source collaborations/partners elsewhere within or beyond the region. The collaborative redistribution challenges that emerged in the OI were also discussed by Mauthoor (2017) in Mauritius, further confirming the barrier in the context of archipelagos and suggesting that there is a need to find solutions to these collaborative challenges among tourism businesses to allow the flow of tangible resources across the region.

Jointed strategies, as Loizidou (2016) highlights, are crucial in the islands' management of resources, as individual approaches produce limited benefits. Therefore, it may become essential to support inter-firm interactions, incentivise their circular partnerships and perhaps provide matchmaking support. Matchmaking support, which would be based on business-selection criteria (e.g., location, costs, type of materials flow), can facilitate cost-effective and mutually beneficial collaboration among businesses.

#### 6.5.4. Limited / Unreliable Digital Connectivity

As presented in section 5.3.5., in the OI, limited/unreliable digital connectivity emerged as a key barrier to a circular tourism economy and seems to be concerning the whole region, especially the most remote islands. The issues with digital connectivity are mainly rooted in the regional fragmentation and the isolation it creates for some of the OI. To some extent, low/unreliable digital connectivity challenges collaboration among actors, as digitalisation is becoming a prerequisite for material redistribution activities. The issue also hampers circular activities within the individual island relying on digitalisation and connectivity.

Digital connectivity is not discussed in the literature as a barrier to the CE. Yet, this might be because most studies have focused on mainland urban areas, where internet connection is more likely to be stable and of higher speed. The OI makes the availability of widespread digital connectivity essential for CE activities, especially – as Bauwens et al. (2020) argued – when these are highly decentralised. Thus, having low, ineffective or lacking completely digital connectivity can have significant practical implications for collaborative CE approaches within and

between islands. Moreover, as respondents suggested, low/unreliable digital connectivity can also limit access to online training and events, especially since the COVID-19 pandemic.

Ultimately, the OI findings illustrate that it is crucial to move away from discussions that treat accessibility solely as “physical accessibility” (e.g., van Buren et al., 2016; Tapia et al., 2019) to also recognise the importance of digital accessibility for a CE. For this reason, the low/unreliable digital connectivity in the OI represents a significant planning implication in the region.

#### 6.5.5. Challenging Access to Innovation Centres and Schemes

According to the respondents, and as reported in section 5.3.6., regional fragmentation and the resulting physical isolation limit the tourism sector’s access to innovation centres and schemes. This represents a wide barrier in OI. In fact, businesses located on Mainland Orkney face challenges in accessing innovation programmes and/or centres in mainland Scotland, whilst businesses located in non-linked islands face limitations in accessing these not only in mainland Scotland but also in Mainland Orkney. Therefore, the barrier applies to the whole region but is most significant for the non-linked islands, which are subject to double insularity. Moreover, as findings from the OI have shown, the barrier accentuates the limited access to circular skills because low access to innovative capacity-building tends to directly impact the extent to which circular skills can be developed on the island and region.

This barrier, although not specifically discussed in previous research, broadly links to discussions about accessibility of van Buren et al. (2016) and Tapia et al. (2019). The OI provide an additional perspective on accessibility to skills and innovation, where the distance to innovation centres limits the participation in CE-oriented capacity-building events. Accessibility to innovative ideas for business owners is crucial to promoting the CE transition (Schuman, 2020); therefore, for the OI and similar island contexts, mitigating solutions need to be identified. For instance, the increasing online-based innovation programmes that break geographical boundaries

must be further promoted to decrease the overall remoteness of islands from the centres of interest (Vallega, 2007).

#### 6.5.6. Limited Access to Circular Skills from Outside the Island and From Within the Island

The OI suggest limited access to circular skills from outside the islands and low access to circular skills from within the island as main barriers to a circular tourism economy. Findings in relation to barrier were reported in section 5.3.8. The limited access to circular skills from outside the islands appeared to be mainly related to people's low motivation to live in the OI because of limited transport and work opportunities in the islands, especially in the smaller and less connected ones. This is a barrier particularly relevant to the tourism sector in the smaller and non-linked OI, where the limited access to circular skills from within the island appeared to be mainly the result of depopulation/population centralisation of the active working people. Moreover, low access to innovation centres for the acquisition of skills and innovative ideas further accentuates these barriers. Certainly, the practical implications may see the innovative practices requiring an additional skilled workforce on the islands, for instance, to operate supporting circular services. The issue of skills availability for a CE in the OI is in line with broad literature (Garcés-Ayerbe et al., 2019) and the territorial-driven challenges to skills access that Mandip (2012) previously highlighted.

In narrower terms, findings from the OI support what Florido et al. (2019) argued, that the tourism sector still lacks the circular skills needed for designing and adopting circular strategies. The OI show how the issue may be strictly linked to territorial and socio-economic conditions, which may confirm the limited technical resources often existing in small islands for a sustainability transition (e.g., Briguglio & Briguglio, 2005; Ratter, 2018). Yet, the OI provide a more contextual understanding of the problem to promote circular innovation. In fact, in the OI, access to skills largely depends on issues such as distances, transport, access to capacity-building programmes and depopulation. Therefore, by tackling these issues, access to circular skills might be improved. The alternative scenario would be the limitation of developing circular practices that need the deployment of innovative knowledge in



addition to more traditional skills that may or may not be already present in the region.

#### 6.5.7. Limited Land for Circular Infrastructures

Respondents have mentioned – as shown in section 5.3.14. - that for the smaller OI, the circular tourism economy is hampered by limited land for establishing circular infrastructure, such as reprocessing facilities. The barrier is, therefore, rooted in the smallness of these islands. The key practical implication of this barrier is the inability of these islands to process materials within their territory and mitigate the distances and related costs involved in shipping them to circular facilities located on different islands or mainland Scotland. Thus, the issue is likely to hamper the development of a CE strategy within the individual island and indirectly accentuate barriers to a regional CE.

The current literature did not highlight issues related to land availability; however, this may be because studies have largely focused on contexts where land size is usually not an issue as it is in small islands. Thus, this study provides a new understanding of SIDs and highlights that land availability can and is a challenge to consider. The lack of strategies to establish size-appropriate facilities in the islands may slow down the transition towards the circular tourism economy because end-of-life materials would need to be exported, generating other barriers (e.g., logistical costs). Yet, this barrier only applies to the smaller islands where available land becomes an issue given their smallness. In fact, the issue was not mentioned by the stakeholders residing and operating in Mainland Orkney, which is a much larger island compared to all the other OI.

#### 6.5.8. Waste Collection Challenges

As reported in section 5.3.9., respondents have highlighted that waste collection challenges hamper the circular tourism economy and tend to be particularly present in the non-linked islands. This challenge obstructs the flow of materials that should be addressed to waste processing centres to undergo circular processing. The evidence from the OI provides a novel perspective regarding the issue of accessibility

for a circular tourism economy and from the waste management perspective. In fact, while current literature discusses how limited accessibility may hinder the sustainability transition of small islands (e.g., Kerr, 2005; Moncada et al., 2010), there has been little discussion from the point of waste collection. This may be because, in the case of OI, a significant number of islands rely on the waste collection service provided by the core island, showing how a hub and spoke system can affect the effectiveness of waste collection. This is in line with the archipelagic discussions of Mauthoor (2017) exploring the hub and spoke system and the CE in Mauritius.

Waste collection challenges have practical implications for the establishment of recycling and/or repurposing strategies that require the flow of materials across islands. Such a barrier, therefore, further emphasises “accessibility” in broader CE discussions (e.g., Tapia et al., 2019), more specifically for islands and archipelagos. This finding reinforces the need for a functional logistical system that considers the whole waste management dynamics (Accorsi et al., 2015).

#### 6.5.9. Highly Competitive Environment

A highly competitive environment seems to be particularly present in the outer OI which tend to receive smaller tourism flows, as tourism remains highly concentrated around the core island. As respondents mentioned, as presented in section 5.3.7., the presence of a highly competitive environment affects the businesses’ willingness to share knowledge and solutions to retain a competitive advantage in the market. The high competition, therefore, reinforces solo working practices.

This technical barrier has not been previously explored by other scholars. Yet, in a circular tourism economy, firm interaction is crucial for sharing tangible resources (Manniche et al., 2018) as well as knowledge to achieve a CE (e.g., Ghisellini et al., 2016; Tapia et al., 2019). Consequently, the barrier may imply limited collective actions and limited open and innovative attitudes in the region and within individual islands. The findings from the OI complement previous studies on CE-related collaboration as a barrier (Ayçin & Kayapinar Kaya, 2021) but specifically suggest that businesses tend to be reluctant to share innovative ideas when located in small territories and competing for a relatively small market. This issue may also be present

in similar contexts where solutions are needed to better engage the tourism sector in open innovative practices in such ways that the tourism businesses do not perceive these actions as a threat to their market advantage.

#### 6.5.10. Limited Access to Small Scale Technologies

As reported in section 5.3.11. limited access to technologies at scale represents a barrier to a circular tourism economy in the OI. The limitation concerns the application of mainstream circular technologies to small waste streams (typical of the OI) cost-effectively. Mainstream technologies are designed to operate in larger waste streams, but the small ones generated by the island tourism sector require appropriate technologies at scale. While small-scale waste streams can facilitate the deployment of some circular practices, they tend to hinder the adoption of more technology-driven approaches, especially in the smaller OI. This barrier may limit the sector's ability to expand to circular options that need more innovative solutions in treating the critical flowing mass. Therefore, with limited access to appropriate processing technologies, circular solutions may remain unstructured and less innovative both at the individual island and regional levels.

The finding complements the discussions of Ritzén & Sandström (2017) and Garcés-Ayerbe et al. (2019) on how technologies often represent a main barrier to a CE. Yet, unlike these studies that referred simply to the lack of technologies for a CE, the OI findings show that technologies can be a barrier because of the small scale of waste streams that characterise small islands. Moreover, the OI findings suggest that a lack of technologies is also a barrier to the tourism sector's transition to a CE and not only for more industrial contexts (e.g., de Jesus & Mendonça, 2018; de Mattos & Albuquerque, 2018), by directly impeding onsite business circular practices and, indirectly, by limiting the availability of supplementary circular services on the islands, such as reprocessing facilities.

In similar contexts, the availability of technologies at scale for a circular tourism economy should also be assessed. Yet, for the OI, new technological solutions must be identified by collaborating with research centres and the private sector to develop context-based technology solutions. These should facilitate on-island circular

processing that mitigates some of the logistic and financial barriers and allows the implementation of innovative circular practices on the islands.

#### 6.5.11. Limited Local Goods Production

The smallness of the OI limits what can be produced locally as reported in section 5.3.10. This limitation – not previously acknowledged in the literature – tends to affect the islands' potential to localise the supply chain for a CE and a circular tourism economy. Thus, while localising the supply chain is critical for local stakeholders, localisation is also needed to boost the circular tourism economy. Yet, the small territorial size limits local productions, particularly in the smaller OI, with the islands remaining – to a varying degree – dependent on outside suppliers. Moreover, the findings from the OI suggest that the limited volume of local production of goods constrains the local control to ensure and/or stimulate a CE to ultimately facilitate end-of-life circular processing. The respondents perceived the production of local goods as a resilience-building solution, with a circular tourism economy leading to less reliance on external resources.

Previous studies have neglected this aspect. In fact, the lack of studies on CE in small islands also means that existing studies (e.g., Deschne & Chertow, 2004) have hardly explored the barriers to a CE and circular tourism economy in relation to land size. This is because only small islands are rigidly delineated or bounded by the sea, indicating that this barrier rarely applies to other territorial contexts. Yet, from the researcher's perspective, tourism strategies that market local produce to tourists are needed and/or should be further emphasised to minimise reliance on imports.

#### 6.5.12. Seasonal High Tourism Demand

Peaks of high tourism demand – as presented in section 5.3.12. - are a barrier to the application of circular tourism economy practices as they impede the local provision of services circularly. In fact, by operating on a small island, the number of resources that can be circularly managed is limited. This was interpreted by the researcher as a barrier rooted in the tourism seasonality of the OI generating peaks of end-of-life materials. For the respondents, this barrier is mainly accentuated by the island's

smallness and their ultimate overall capacity to manage and process materials circularly without negative impacts.

The practical implication of this barrier concerns the fact that circular processes may not be sustained in high seasons (e.g., cruise ships). Strategic deployment with circular strategies developed more flexibly and that can tolerate tourism peaks may be needed – or the development of strategies that help alleviate seasonal market patterns. The barrier is likely hampering the implementation of a circular tourism economy at the island and regional levels. Although the literature lacks discussions on tourism seasonality and the CE, what emerged from the OI becomes a factor to consider when planning for a CE in an island context or more generally. Yet, such barrier also links to the importance of consumer choice of products and services in the CE transition (Kirchherr et al., 2017), emphasising the need to explore further the relationships between seasonality and the circular tourism economy in island settings.

#### 6.5.13. Seasonal Fluctuation of Waste Streams

Tourism seasonality impedes the transition to a circular tourism economy in the OI by generating strong fluctuations in waste streams, which lead to irregular inputs and outputs of materials. The findings were presented in section 5.3.13. This irregularity may be unsustainable for multi-actor partnerships where collaborative networks rely on the regularity of such waste streams. The smallness of waste streams further accentuates this issue across the OI region. The barrier's main implication may concern the difficulties that tourism businesses face when seeking to create partnerships that are profit-based and should be ongoing and cost-effective. Additional support may be needed to create more flexible collaborative partnerships among actors.

Previous literature does not discuss seasonality and the circular tourism economy in tourism destinations. Broader literature on the CE (e.g., de Jesus & Mendonça, 2018; de Mattos & de Albuquerque, 2018) shows that technical barriers and uncertainties often hamper CE partnerships, but it does not specifically focus on the issue of material irregularity. This study, instead, provides a novel perspective from the

tourism sector, where the inability to ensure consistent material flows represents a barrier to the circular tourism economy.

## **6.6. Social Barriers**

Two social barriers to a circular tourism economy in the OI have emerged from the study: conventional linear business practices and solo working practices. The two barriers are discussed in the following sections.

### **6.6.1. Conventional Linear Business Practices**

As reported in section 5.3.15, the existence of conventional linear business practices appears to be a barrier to the circular tourism economy in the OI, linking to the discussion of Tura et al. (2019) that the degree of social acceptance of a CE is highly relevant for its transition. The persistence of conventional linear business practices may lead to resistance to adopting innovation and new ways of operating. As discussed by Vergas-Sánchez (2019), local values and norms and an organisation's business culture may hamper its transition to a circular tourism economy. Yet, for Fan (2008), this low willingness to adopt circular practices may also be associated with little awareness of circular practices and their benefits. Thus, for the OI, this barrier implies the need to improve awareness programmes across the region where this resistance is predominant and clarify the short and long-term benefits of a circular tourism economy. Moreover, the introduction of appropriate technologies and the ability to mitigate other challenges would ultimately rely on the business's willingness to take part in a circular system which would – inevitably – require these businesses to modify the way they operate.

### **6.6.2. Solo Working Practices**

The predominant presence of solo working practices in the OI – also the result of a highly competitive environment – hinders the circular tourism economy and collaborations for a CE. The barrier was reported in section 5.3.16. Solo working practices emerged from low business clusters, limiting the opportunity for establishing partnerships cost-effectively. This is a relevant barrier because – as

Ghisellini et al. (2016), Tapia et al. (2019) and Bačová et al. (2016) pointed out – a CE requires collaboration to share tangible and intangible resources. Previous literature shows that small industrial agglomeration limits the implementation of circular practices (Millette et al., 2019). Yet, the OI findings add to the existing literature by showing that in an archipelagic region, these predominant solo working practices seem to be mainly the result of the distances that exist among the regional actors. For this reason, given the highly dynamic nature of a CE, prioritising solo working practices over collective actions would significantly limit the flow of value across sectors and subsectors of the region.

## **6.7. Economic Barriers**

In addition to the technical and social barriers discussed above, a number of economic barriers have emerged and are discussed in the following sections.

### **6.7.1. High Disposal and Redistribution Costs**

As reported in section 5.3.17., the significant distances among actors generate high disposal and redistribution costs. Tourism businesses experience these costs when seeking to re-circulate materials across the region, especially when located in the least connected islands. The findings from the OI are in line with the study of van Buren et al. (2016) in Cyprus, where re-circulation of materials outside the island appeared to be non-cost-effective, implying that either materials are redistributed within the island or incentives are provided to firms for transport costs. Yet, redistributing materials within the individual islands seems difficult due to low industrial agglomerations. This is in line with the discussion of Tapia et al. (2019) on how insufficient agglomeration tends to hamper the establishment of effective symbiotic relationships.

The findings of the OI narrow down the discussion of other scholars by highlighting similar issues from a broader perspective (e.g., de Jesus & Mendonça, 2018; de Mattos & de Albuquerque, 2018) in the context of small island tourism. In fact, the OI point out specific financial barriers that emerge from the territorial issues and

how these issues vary across the region. Moreover, the insufficient inter-island links and the high distances that exist from and to markets further accentuated existing disposal and redistributing costs.

#### 6.7.2. Challenging Access to Finances

Access to finances for a CE appears to be a barrier relating to scale for the OI's tourism sector. This is because current funding structures are designed for large CE initiatives rather than small-scale or family-owned businesses. The finding was discussed in section 5.3.18. The combination of small quantities of materials and lack of appropriate funding structures challenges businesses' access to capital for a CE. This is largely in line with most studies investigating the barriers to a CE that have repeatedly considered financial barriers (e.g., de Jesus & Mendonça, 2018). Yet, the OI offer an additional perspective on financial barriers being rooted in the size of material flows and lack of mitigating financial structures. Respondents mentioned that this is mainly because the CE initiatives of the small and medium-sized tourism businesses promise low financial turnover, and the funding application processes often require that they invest a minimum financial contribution which is too high for small, island businesses regardless of their location within the OI region.

Such requirements negatively affect the ability of small and medium-sized businesses in the OI to invest in technologies, equipment and/or small infrastructure for a CE. The implications may be relevant to the application of a circular tourism economy within the individual island of the region because businesses do not always have the investment power for circular solutions, such as for initial sustainability auditing and implementation of the solution. The findings from the OI complement previous discussions on financial barriers to a firm's capability in investing in equipment for a CE (e.g., Ritzén & Sandström, 2017) and Manniche et al. (2018)'s findings that a CE in tourism is often challenged by the lack of capital. The OI offer an island perspective which highlights the need to develop island-proof funding mechanisms in line with the characteristics of island businesses and, most importantly, the scale of resource flow. This may be similar to other destinations, as most are characterised by SME dominance and family-owned businesses.



### 6.7.3. Limited Economies of Scale for Market Accessibility

The smallness of material flows – as reported in section 5.3.19. - is a predominant barrier to the circular tourism economy in the OI by limiting access to markets for materials and channelling end-of-life materials to other actors to activate circular market-based opportunities. The barrier is particularly relevant for the non-linked islands facing higher collaborative costs and, thus, most affected by limited economies of scale provoked by the small scale of materials. Certainly, the implication of limited economies of scale for market accessibility may concern the ability of the tourism sector to find cost-effective markets for end-of-life materials from which value can be extracted.

While market-related challenges have been discussed by a great number of scholars in terms of physical accessibility (e.g., Galvão et al., 2018; Tapia et al., 2019) and market uncertainties (Galvão et al., 2018), the OI findings show that the scale of materials also challenges market access, thus adding a dimension to market-related barriers for a circular tourism economy. Moreover, the OI suggest that, practically, it is necessary to localise material streams and input them locally – more cost-effectively – rather than relying on external markets which may be harder to approach and sustain with small and often irregular waste streams. Therefore, more needs to be done to ensure that a circular tourism economy is not challenged by cost-ineffective markets for end-of-life materials. This is relevant to guarantee that materials can circulate throughout the region.

### 6.7.4. Limited Economies of Scale for Circular Services

Economies of scale are essential in a CE (Masi et al., 2018), and their absence can make a CE not financially feasible (Bahers et al., 2017). In the OI, as shown in section 5.3.20., the respondents pointed out that the non-linked islands suffer from low economies of scale for circular services (e.g., repairing services). This refers to the fact that it is often not financially feasible for a service provider to travel from Mainland Orkney to another island (where these services may not be available) to provide a service – or for the customer to pay a higher price to, for instance, repair an appliance. This is relevant because slowing material loops through strategies such as repairing services represent a key strategy in the CE (Bocken et al., 2016). Limited

economies of scale for circular services are provoked by the smallness of the islands, which leads to low business opportunities for these “external” circular services. As a result, the costs for these service providers to work on other islands are too high.

Moreover, there are limitations towards the development of circular services within the smaller islands because there is not enough demand given the small resident population. Thus, while Masi et al. (2018) and Bahers et al. (2017) highlight limited economies of scale as a barrier to the CE, from a material quantity perspective, the OI also relate the limited economies of scale to circular services, regional fragmentation, distances as well as small island populations. In fact, in the OI and similar contexts, factors such as distances, transportation costs, urban agglomerations and population sizes can significantly impede the tourism sector’s transition to a CE by making the provision of circular services cost-ineffective and, in certain cases, also time-ineffective.

Consequently, incentives may be needed to help circular services in Mainland Orkney to provide services to more remote areas of the Orkney region, where a great number of tourism businesses are located. The creation of on-island circular services may also be supported through incentives with more attention to transport costs and capacity-building programmes. With the existence of on-island circular services, operational costs may be largely mitigated and the need for significant economies of scale decreased, as the service will be already present on the island. This discussion links back to the issue of accessibility for a CE brought forward by van Buren et al. (2016) and Tapia et al. (2019). Yet, the OI experience illustrates that accessibility also concerns accessibility to circular services.

#### 6.7.5. Limited Economies of Scale for Re-Processing Materials

As reported in section 5.3.21., limited economies of scale also concern the ability to re-process materials for a CE. The respondents mentioned that small waste streams pose significant limitations to what can be – cost-effectively – circularly processed. Distances and the need to ship off critical mass accentuate such issues, so the barrier is more relevant for the remote OI, where they are likely to face extra costs that cannot be easily covered with a small number of materials. This may practically

suggest that when waste streams are relatively small, they cannot be re-processed and would need to be disposed of unsustainably and with no value created. Consequently, it may be appropriate to introduce targeted incentives, on-site, small-scale re-processing facilities and cost-effective matchmaking initiatives linking tourism enterprises with re-processing facilities in the region.

In addition to emphasising the importance of economies of scale for a CE, the literature does not cover such issues on small islands or from a tourism perspective. Yet, the findings from the OI support Symeonides et al. (2019), who highlighted the importance of cost-effective symbiotic relationships in islands. The OI, therefore, provide a new overview of how the lack of economies of scale obfuscates the overall establishment of symbiotic relationships and largely complements Deschenes and Chertow's (2004) assertion that, while on a small island materials can be more manageable for symbiotic relationships, the small scale also challenges the feasibility of such relationships. It is only by mitigating the challenges related to low economies of scale along with issues of physical distances and the location of infrastructure that a smooth operation of a circular tourism economy can be supported at the island and regional levels.

## **6.8. Institutional and Governance Barriers**

The last cluster of barriers that were mentioned by the respondents is of institutional and governance nature. For the respondents, a circular tourism economy in the OI is hampered by institutional and governance centralisation. The two barriers are discussed below.

### **6.8.1. Institutional Centralisation**

As reported in section 5.3.22., in the OI institutional centralisation hinders the circular tourism economy, meaning that the tourism sector in the non-linked islands feels institutionally isolated from public activities occurring in Mainland Orkney. Consequently, the respondents perceive they receive limited support from the public sector towards a circular tourism economy because the public sector does not decentralise its activities to ensure a better understanding of the needs and

opportunities of the individual islands in the region. Respondents associate institutional centralisation with regional fragmentation and the resulting difficulties the public representatives face when seeking to travel to other islands to establish a regular presence. Centralisation is, therefore, also a consequence of insufficient inter-island links hampering time-effective travel for public representatives.

The barrier suggests the need to establish a better public sector presence across the region, decentralise some of its activities, and promote online presence by overcoming the boundaries posed by travel distances, time, and costs. Due to institutional centralisation, the non-linked islands are subject to limited tailored support for a circular tourism economy, resulting from a central limited understanding of their scale and needs. Moreover, at a more regional level, institutional centralisation may lead to limited inclusiveness in circular systems that should be based on considering the heterogeneity of the OI. Institutional barriers are well discussed by several scholars from the broad CE perspective (e.g., de Mattos & de Albuquerque, 2018; Bauwens et al., 2020), and especially the importance for the public sector to create and coordinate a complex policy landscape for the different contexts (Milos, 2018; Domenech and Bahn-Walkowiak, 2019) including tourism (Florido et al., 2019). The findings from the OI largely confirm what is already known but point out how the public sector can be perceived as distant due to spatial-geographical factors, calling for more place-based sensitivity by public authorities as discussed in the literature (EU, 2009; Tapia et al., 2019; Berger & Pohoryles, 2019; Faludi, 2006; Avdiushchenko, 2018). Place-based approaches for a CE are well advocated (e.g., Tapia et al., 2019), and Barca et al. (2012) argued that these are approaches to promote development from the “outside” of the place. Yet, the OI demonstrate that this “outside” can have a different meaning. For the non-linked island, the “outside” is Mainland Orkney and mainland Scotland, and for Mainland Orkney is mainland Scotland. This may show, again, different levels of insularity within the same region that need to be understood – also to complement current theories and conceptualisations on insularity (e.g., Taglioni, 2018) - to close the gap between the territory and the institution for a CE (Zhijun & Nailing, 2007).

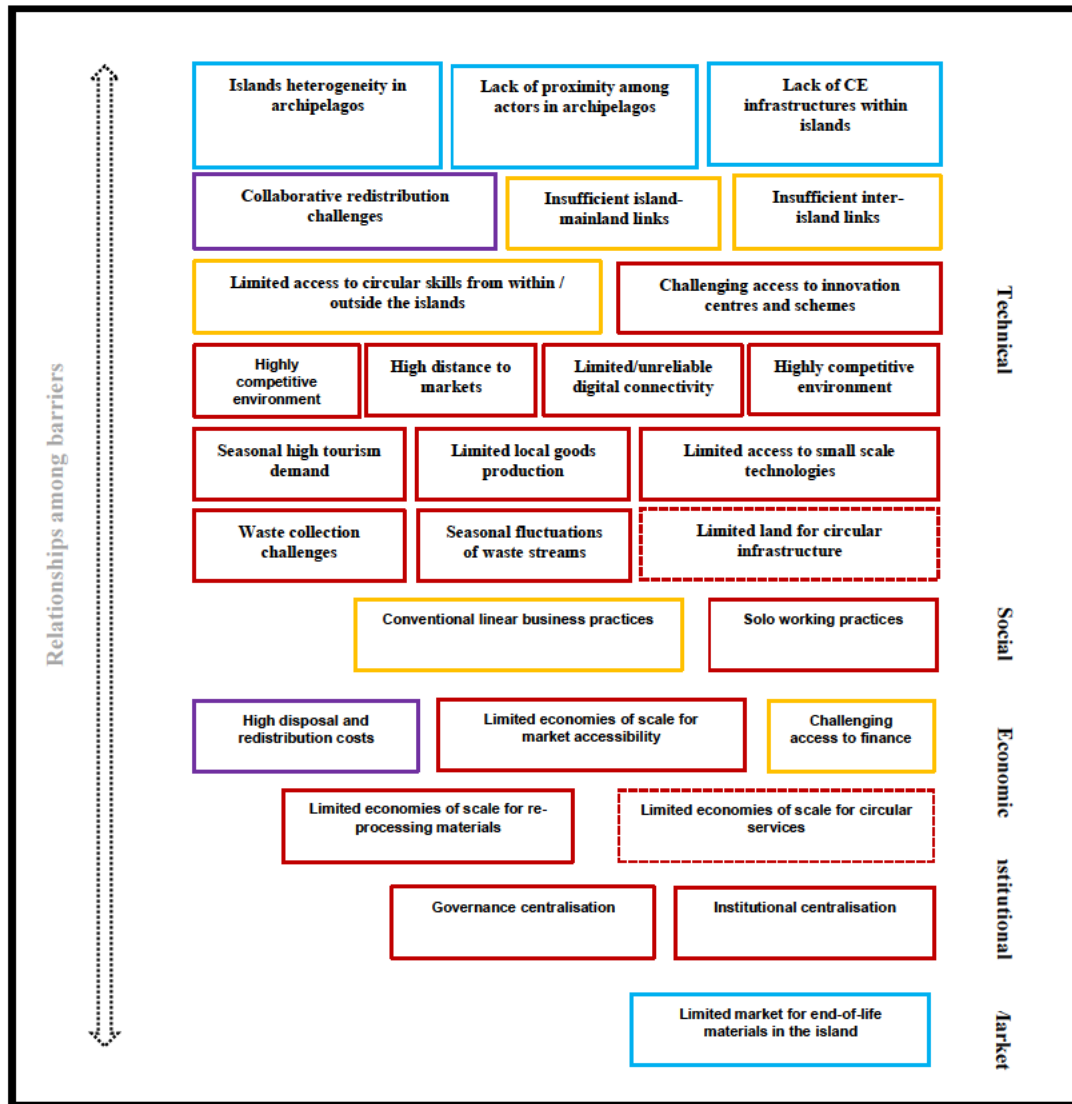
The case from the OI supports what Manniche (2019) found when looking at barriers to a circular tourism economy in the Baltic Region and is also in line with

Ouzounoglu (2014) arguing that the failure of the public sector in promoting a CE through appropriate strategies is often associated – in SIDs - to institutional centralisation. Moreover, the evidence from the OI complements Grydehøj and Casagrande (2020) and Bridge et al. (2013) that no single strategy can apply to all the islands of a region where different degrees of insularity may be present. Clearly, the findings have practical implications for similar contexts where the public sector’s activities appear to be centralised, where some areas of a region feel isolated and their needs, are not understood and addressed. For a circular tourism economy, this is particularly relevant as the way it unfolds, and the barriers and challenges depend on the specific island’s features. However, it is also true that in the lack of improvements in the public sector presence, local industry clusters may be formed where businesses come together for support, a factor that was mentioned in the OI. This confirmed what was argued by Bauwens et al. (2020) that circular initiatives are often the result of grassroots and decentralised actions.

#### 6.8.2. Governance Centralisation

For the respondents and as reported in section 5.3.23., the issue of centralisation goes beyond the public sector, concerning other aspects of governance and leading to strategic insularity, where strategic decisions by the different organisations are taken on the core island. Governance centralisation is also the result of regional fragmentation and the limited presence of supporting organisations throughout the region. While the literature highlights institutional barriers, it does not provide insights into the centralisation of governance from a broader perspective. Thus, by tackling issues of governance centralisation to promote more inclusiveness and strategic support at scale, there will be a better understanding of the non-linked islands’ specific issues. Finally, it is crucial that governing actors from the public and third sectors better involve actors residing on “secondary” islands in strategic decisions to develop more heterogenous planning solutions. Figure 6.2. presents the findings in relation to the barriers.

**Figure 6.2.** Conceptual Framework: Barriers Section



Having discussed the barriers, the following sections discuss the enablers that were mentioned by the respondents.

## 6.9. Social Enablers

A total of seven social enablers were mentioned by the respondents: traditional circularity, circular entrepreneurship, strong community cohesion, strong pride and identity, COVID-19 and improved awareness of locality, COVID-19 and improved awareness of waste prevention and COVID-19 and increased informal circularity. Each of these social enablers is discussed in the following sections.

### 6.9.1. Traditional Circularity

As evidenced in section 5.4.1., for the respondents, existing community circular practices emerged out of historical necessity and are enabling the circular tourism economy in the OI. Such a notion confirms Conkling's (2007) claim that the past influences current islandness. The researcher regarded this as traditional circularity emerging out of the islands' isolation and the high fragmentation within the OI region and the region within Scotland. To the researcher's knowledge, no definition of traditional circularity exists; therefore, it is defined in this study as the "traditional ability, habit and willingness to repair, repurpose and share resources – often with low-tech solutions – for their long-term valorisation". Traditional circularity – as it is out of necessity – appears to be predominant and widespread in the non-linked islands, representing an enabler for these settings, especially in slowing material flows (Bocken et al., 2016).

Traditional circularity has emerged from the insufficient inter-island and island-mainland links. Yet, according to the respondents, it is the local pride and identity that motivate the preservation of these traditional practices of repairing, sharing and repurposing. Moreover, it was noted that the existence of traditional circular practices further stimulates circular entrepreneurship to mitigate waste management challenges. The traditional circular actions can provide the basis for more formal and structured circular approaches to the circular tourism economy. Moreover, the existence of traditional circular values – underpinning these practices – such as being sensitive to the island's natural environment, the scarcity of resources and the well-being of the community, may also stimulate the community and businesses' willingness to adopt technology-based circular models. Traditional practices can also be the long-term pillars of informal circularity, which represents a relevant segment of the circular tourism economy in such small and highly community-oriented territories.

Findings from the OI reinforce empirical evidence from other contexts. Firstly, in line with Anderson (2001) and Perkins and Krause (2018), the OI show how historical isolation tends to stimulate the development of traditional sustainable practices. Moreover, the OI highlight the circular nature of these traditional practices and how local stakeholders perceive these actions as relevant to the circular tourism

economy. The OI also show that islands are not always characterised by limited socio-cultural resources for a sustainability transition (e.g., Briguglio & Briguglio, 2005; Ratter, 2018), demonstrating that – in line with Parker (2020) – the Orkney islanders have always reinvented themselves according to opportunities and available resources to safeguard their island community, culture and identity. Finally, the OI highlights that the islands’ culture is intrinsically related to its geography, dictating how the communities adopt more sustainable lifestyles throughout time.

In fact, in line with Nunn (2017), the OI illustrate that often CE practices can already exist because of physical isolation (e.g., Lincoln et al., 2018). Therefore, accessibility has a double impact of facilitating and/or inhibiting the circular tourism economy in the OI, suggesting a circularity dilemma of the small island context. From the inhibiting point of view, isolation and limited accessibility have led the OI communities to develop internal practices that may promote self-sufficiency (e.g., repair, reusing, redistributing resources) and less reliance on external inputs. This is evidenced in a potential predominant grassroots circular approach on the islands, which was also discussed by Schumann (2020) in Guam, where the CE transition seems to mainly depend on the ideas of the local communities.

Evidence from the OI may justify the need to prioritise participative approaches that capitalise on traditional practices and knowledge to promote a circular tourism economy. This is in line with Fuldauer et al. (2019), who heavily advocate participatory planning for resource management on the island of Curacao. Moreover, in the OI and similar contexts, building upon these traditional practices may also help mitigate barriers concerning scale by prioritising and incentivising small-scale circular strategies that do not rely on costly technologies, large and regular streams of materials as well as capital, resources and skills brought into the area. Yet, it remains essential to equip, support and provide the necessary enablers to make traditional circular practices more mainstream in business models in the OI and beyond and adapt to tourism operations in a safe and regulated manner.



### 6.9.2. Circular Entrepreneurship

As reported in section 5.4.2., several respondents mentioned that the transition to a circular tourism economy is enabled by circular entrepreneurship, a profit-oriented approach emerging because of the need to minimise the often costly imports and the export of end-of-life materials. Moreover, circular entrepreneurship is rooted in dimensions of islandness such as regional fragmentation and isolation, leading to waste management challenges, the often high costs for new goods and insufficient inter-island and island-mainland links. Yet, circular entrepreneurship appears to be facilitated by the traditional circular practices discussed above. However, while the respondents indicated circular entrepreneurship as enabling the circular tourism economy, limited practical examples were mentioned, making it unclear if circular entrepreneurship is more present in the linked or non-linked OI.

Strategies promoting the circular tourism economy in the OI can build upon profit-based and grassroots circular initiatives within the tourism sector and/or by linking the tourism sector to other sectors in the island and region in order to diversify circular activities and create value across economic sectors. Therefore, to promote a circular tourism economy, it is essential to nurture existing business-oriented initiatives through incentives and support partnerships between tourism and other actors who have innovative ideas with the potential of creating new sectors and jobs. Previous literature considered community adaptation to the island environment in relation to sustainability strategies (e.g., Anderson, 2001; Perkins & Krause, 2018) and existing social capital for sustainable development (e.g., Petzold & Ratter, 2015; Petzold, 2018). Yet, the OI also shows how adaptation occurs through profit-based, circular initiatives that can, ultimately, facilitate the circular tourism economy if adapted to tourism and/or by creating synergies with ecosystem actors. Therefore, it appears essential to identify, improve and mainstream circular ideas and initiatives.

### 6.9.3. Strong Community Cohesion

Strong community cohesion has emerged due to isolation and the need for community members to support each other in times of necessity. The respondents argued, as evidenced in section 5.4.3., that community cohesion is stronger in the non-linked islands, as they have historically faced greater isolation from Mainland

Orkney and mainland Scotland, and where urban centres are smaller and clustered. Great community cohesion – as respondents suggested – allows the deployment of informal circularity, a community collaborative attitude and trust. This is in line with Niero and Rivera (2018), for whom transparency and trust are key to collaboration, innovation and an effective CE transition. Florido et al. (2019) agree, stating that cohesive community involvement and attitude are certainly advantages for a tourism transition to a CE.

For the respondents, strong collaborations – both formal and informal – within the community represent an important enabler for the circular tourism economy. This largely confirms existing literature which highlights that community cohesion strengthens sustainability in small islands (e.g., Anderson, 2001; Perkins & Krause, 2018). Thus, in a circular tourism economy scenario, strong community cohesion is likely to have a significant impact on the ability of local stakeholders to collaborate for sharing tangible and intangible resources. This means that it becomes essential to capitalise on this social strength to build/support circular partnerships in the region, as also evidenced in Petzold's (2018) study on the island of Scilly. Therefore, the social capital of the OI can and is believed to play a significant role in setting collective actions and targets for a circular tourism economy, and this should be nurtured.

#### 6.9.4. Strong Pride and Identity

Respondents mentioned in section 5.4.4. that strong pride and identity were perceived as enabling the circular tourism economy in the region as they translate into a willingness to valorise local produce. They seem to be rooted in the boundedness and historical isolation of the islands and are an asset to the circular tourism economy in two ways. Firstly, it seems that strong pride and identity motivate the community and tourism sector to prioritise local products, including – potentially – circular products. This means that any effort to re-process locally the end-of-life materials (e.g., crafts, compost) would have a potential local market of people inclined to buy locally. Secondly, a strong pride and identity stimulate the preservation of traditional circularity. Hence, the application of these practices in the

tourism sector may be motivated by an underlying strong pride and wish to preserve them (e.g., the capability to repair, repurpose crafts and so on).

The strong pride and identity of the OI as enablers to the circular tourism economy add a novel perspective to the existing literature. In fact, while empirical evidence from island communities shows that communities often tend to valorise and build upon their heritage to sustainably adapt to their changing environment (e.g., Anderson, 2001; Perkins & Krause, 2018), the literature does not discuss pride and identity as motivating the deployment of sustainable practices or for circular tourism economy in SIDs. Only Vargas-Sánchez (2019) argued that local values and norms can significantly facilitate the tourism sector's transition to a CE. Thus, the OI suggest that strong pride and identity can reinforce the locals' willingness to purchase local goods and support the potential Orkney brand of circular produce. If this brand builds upon and/or links to circular processes in tourism, the locals' willingness to purchase and/or promote to tourists would – ultimately – support a circular tourism economy in the region. The key benefits of local markets involve avoiding shipping off locally produced circular goods while these can find a market in the island and region, creating a more robust financial circularity.

Circular goods may be produced directly by the tourism sector (e.g., souvenirs, crafts, etc.) and/or by third parties by using end-of-life materials originating in the local tourism sector to create final products such as composts, biogas, or made into new things of value. While it may be perceived as a too intangible process to operationalise on pride and identity, the finding from the OI shows that it may be relevant to understand the benefits of strong pride and identity and the opportunities around market localisation and the deployment of practices that local communities wish to preserve. The key implication from a planning perspective would be a call for appropriate support to integrate these traditional practices into tourism operations and to create a systemic circular system that links local actors collaborating in symbiotic relationships.

#### 6.9.5. COVID-19 and Improved Awareness of Locality

As shown in section 5.4.5., the respondents mentioned that the COVID-19 pandemic is enabling the transition to the circular tourism economy in the OI by improving

local communities' awareness of the locality. During the pandemic, supply chain disruptions challenged resource accessibility, further accentuated by the islands' boundedness and relative isolation, especially for the non-linked islands. Consequently, these challenges have stimulated stakeholders' willingness to localise supply chains to become more resilient and less reliant on external resources. Willingness to localise the supply chains can enable the transition to a circular tourism economy by supporting – market-wise – locally-produced circular products as well as stimulating the local financial circularity that seems to be a recovery priority for the OI stakeholders. The OI show how – as a result of a crisis – local stakeholders adapted strategies and attitudes to diversify and localise local markets.

Although the finding is in line with empirical examples from other islands that were mentioned in earlier sections (e.g., Aderson, 2001; Perkins & Krause, 2018), where communities adapt to changes in their often isolated environment, the OI highlights how, while searching for greater destination resilience, this adaption to a pandemic crisis can ultimately facilitate the islands' transition to a circular tourism economy. Thus, the COVID-19 pandemic has motivated an inward-looking attitude when it comes to markets, resource acquisition and supply chains. There is an opportunity to capitalise on this local willingness to support and develop local circular avenues supported by local stakeholders during the post-COVID-19 recovery stage.

#### 6.9.6. COVID-19 and Improved Awareness on Waste Prevention

In addition to improving awareness of the locality, according to the respondents and reported in section 5.4.6., the COVID-19 pandemic has also improved local awareness of island waste and waste prevention. Limited waste collection services led to an accumulation of waste in households and businesses (where these continued to operate). This reflects and further enhances the capacity of the island community to adapt and turn unsustainable into more sustainable practices in order to adapt to new conditions and become more resilient (e.g., Parket, 2020; Nunn, 2017). The increased awareness, therefore, can certainly provide a better foundation for the development of circular strategies in the region.

### 6.9.7. COVID-19 and Increased Informal Circularity

Findings in section 5.4.7. show that the COVID-19 lockdowns impacted the supply chains and challenged resource accessibility for the Orkney communities, further motivating the existing forms of informal circularity, such as food and tool sharing. These forms of informal circularity, as the respondents noted, are also facilitated by the strong community cohesion that characterises the OI. Practically, informal circularity can play a key role in the circular tourism economy where informal partnerships can be effective based on existing trust among community members. They can also provide the foundation for more formal approaches to a circular tourism economy that can involve, either directly or indirectly, the tourism actors of the region.

This links back to the ability of small islands communities to be able to rapidly adapt to changes (e.g., Anderson, 2001; Perkins & Krause, 2018) while benefiting from the strong social capital that is typical of the island communities (e.g., Petzold, 2018) and that has also reflected on the OI. The strong capital generates trust and collaboration which are essential for the CE and especially when informal solutions – as argued by Brown (2019) – may be predominant in small communities and grassroots community circular innovation. The finding, in addition to highlighting how informal CE was reinforced during the lockdown as a resilient response to a crisis, may also provide a moment of reflection on the need to identify what forms of informal circularity were/are practised, old or new. Strategies can capitalise on them and, where possible, allow them to become more mainstream by facilitating the formalisation of partnerships among actors in the region.

## **6.10. Technical Enablers**

In addition to the social enablers, in the following sections, the technical enablers are discussed, including tight urban clusters, strong tourism industry cohesion, small waste streams, COVID-19 and improved access to collaboration and innovation, and manageable material flows.

### 6.10.1. Tight Urban Clusters

Urban centres in the OI tend to be clustered, meaning that – due to the smallness of the islands – great distances do not exist among community members and/or businesses within an individual island. Smallness, therefore, allows proximity. As reported in section 5.4.8., respondents considered these tight urban clusters enablers for better operationalising community and industry cohesion. Such physical proximity gives rise to and facilitates effective and cohesive collaborations to share resources in a timely and cost-effective manner. Nevertheless, as discussed in Chapter 4, the OI are diverse in size, representing different urban realities. Proximity facilitates the circular tourism economy within individual islands but does not benefit a regional CE, as in an archipelago, proximity between islands appears to be an issue in the OI and other contexts (e.g., Mauthoor, 2017).

The OI evidence the benefits that high urban agglomeration may have on the circular tourism economy and how important these are to close material loops cost-effectively (Masi et al., 2018) and minimise the need to export end-of-life materials, which is an issue demonstrated by Symeonides et al. (2019) in Cyprus' tires industry. The findings from the OI also reinforce what was argued by Deschenes and Chertow (2004) that the geographical boundaries of islands tend to facilitate resource sharing due to the tight and confined urban clusters.

Therefore, as specifically shown in the OI and previous studies (Deschenes & Chertow, 2004), tight urban clusters not only allow knowledge sharing (Bačová et al., 2016), market accessibility (Millette et al., 2019) and skill resourcing for a CE but also the sharing of tangible resources (Tapia et al., 2019). Hence, tight urban clusters facilitate the circular tourism economy by providing opportunities to establish collaborations that are facilitated by shorter distances between actors within the individual island. This can help the sector promote more cost-effective collective solutions to a CE that capitalise on these collaborative opportunities.

### 6.10.2. Strong Tourism Industry Cohesion

In section 5.4.9., the respondents mentioned the presence of a strong tourism industry cohesion as an additional technical enabler to a circular tourism economy, which

reflects the ability and willingness of tourism actors to collaborate. Specifically, this enabler refers to the tourism sector's technical collaboration towards a circular tourism economy in terms of sharing tangible and intangible resources. For the respondents, the strong industry cohesion is allowed by the community cohesion existing in the region which represents the collaborative social foundation of these islands, an asset applied by the tourism sector. Moreover, as discussed in the previous section, the tight urban clusters in the OI allow the operationalisation of industry cohesion.

Yet, respondents also mentioned that the tourism actors tend to work cohesively in response to a perceived sense of isolation from the central regional institutions and supporting organisations. This means that the tourism actors in the non-linked islands tend to support each other because of the institutional centralisation that creates a lack of strategic support for the smaller islands. A CE needs strong industry cohesion, as it relies on the ability of industry actors to share resources, set common objectives, innovate together and be able to establish partnerships that may lead to the collective valorisation of the resources that enter the system. The OI findings show that islands' features tend to motivate the needed robust industry cohesion, even though they partly contradict a previously discussed barrier to existing solo working practices resulting from a highly competitive environment of the OI, indicating another input to the small island dilemma of circular economy mentioned in earlier sections.

While previous studies observed that the island environment tends to challenge the collaborations among actors for a CE because of issues related to proximity (Mauthoor, 2017), the OI highlight that the industry tends to also be more cohesive as a result of these island features. Moreover, the relationship between tight urban clusters and the ability for social interactions and cohesion for a CE was previously argued by Tapia et al. (2019), an argument further reinforced by the OI study context. What was mentioned by the respondents in the OI also confirms what was claimed by Bačová et al. (2016) that industrial clusters allow the functioning of a CE through industrial symbiosis and the sharing of services.

The findings from the OI complement previous literature by providing an overview of how the island features stimulate a strong industry cohesion for the circular tourism economy, both directly and indirectly. While the benefits of industry cohesion for a CE are well outlined in the literature, less was known about what stimulates industry cohesion in the SIDs for a CE, and some initial perspectives were provided in this section. Industry cohesion should be nurtured because it is the businesses ability to innovate openly and operate collectively that can further support the tourism sector's transition to a CE.

#### 6.10.3. Small Waste Streams

Previously, small waste streams were associated with a number of barriers, including a lack of technologies and economies at scale. Yet, as shown in section 5.4.10., few respondents mentioned that the small waste streams facilitate the circular tourism economy by enabling a more manageable flow of resources and the deployment of small-scale circular solutions involving the tourism sector. This was identified by the researcher as an enabler with the condition that the circular processing of resources is not significantly hampered by challenges that emerged from their smallness related to market access, technologies at scale, processing limitations, access to finance and so on. Nevertheless, for local circular and small-scale solutions, having small waste streams can be advantageous.

Previous literature did not refer to any relationship between the smallness of the waste streams and the transition to a CE. Therefore, the OI may suggest that in SIDs, small-scale and perhaps frugal circular solutions for the tourism sector should be developed. This is because the smallness of waste streams should also be seen as a strength for the circular tourism economy and not solely as a barrier. For this reason, solutions that capitalise on the smallness of waste streams should be supported to be able to circularly manage small streams of resources within the individual islands and thus mitigate regional level challenges such as transport and access to the market.

#### 6.10.4. Manageable Material Flows

In addition to the technical enablers discussed in the previous section, in the OI – and as reported in section 5.4.11. - the respondents have noted that the circular



tourism economy is enabled by the hard boundaries that characterise the islands. Particularly, the respondents mentioned that due to the presence of well-defined geographical boundaries, the management and supervision of material flows – both in and out – are facilitated. Previous studies pointed out similar strengths belonging to small islands from a resource-sharing perspective, such as in the case of Puerto Rico, where the hard island boundaries are seen as a facilitator for the implementation of symbiotic relationships among industrial actors (Deschenes & Chertow, 2004). Yet, the case of the OI shows that there are opportunities arising from the hard geographical boundaries to gain more control over the resources that enter and exit the island, as well as the gathering of data on the type of material streams that flow, their quantity and origin. The data can be used to inform strategic planning at the island level. Thus, while it is typical for the literature to point at the negative effect of the geographical boundedness of the islands (e.g., Mauthoor, 2017), the OI show that there are opportunities arising from the spatial-geographical borders in terms of monitoring and material profiling efforts, opportunities that have not been identified by previous scholars because CE-related studies have largely focused on mainland areas, where boundaries tend to be delineated mainly administratively.

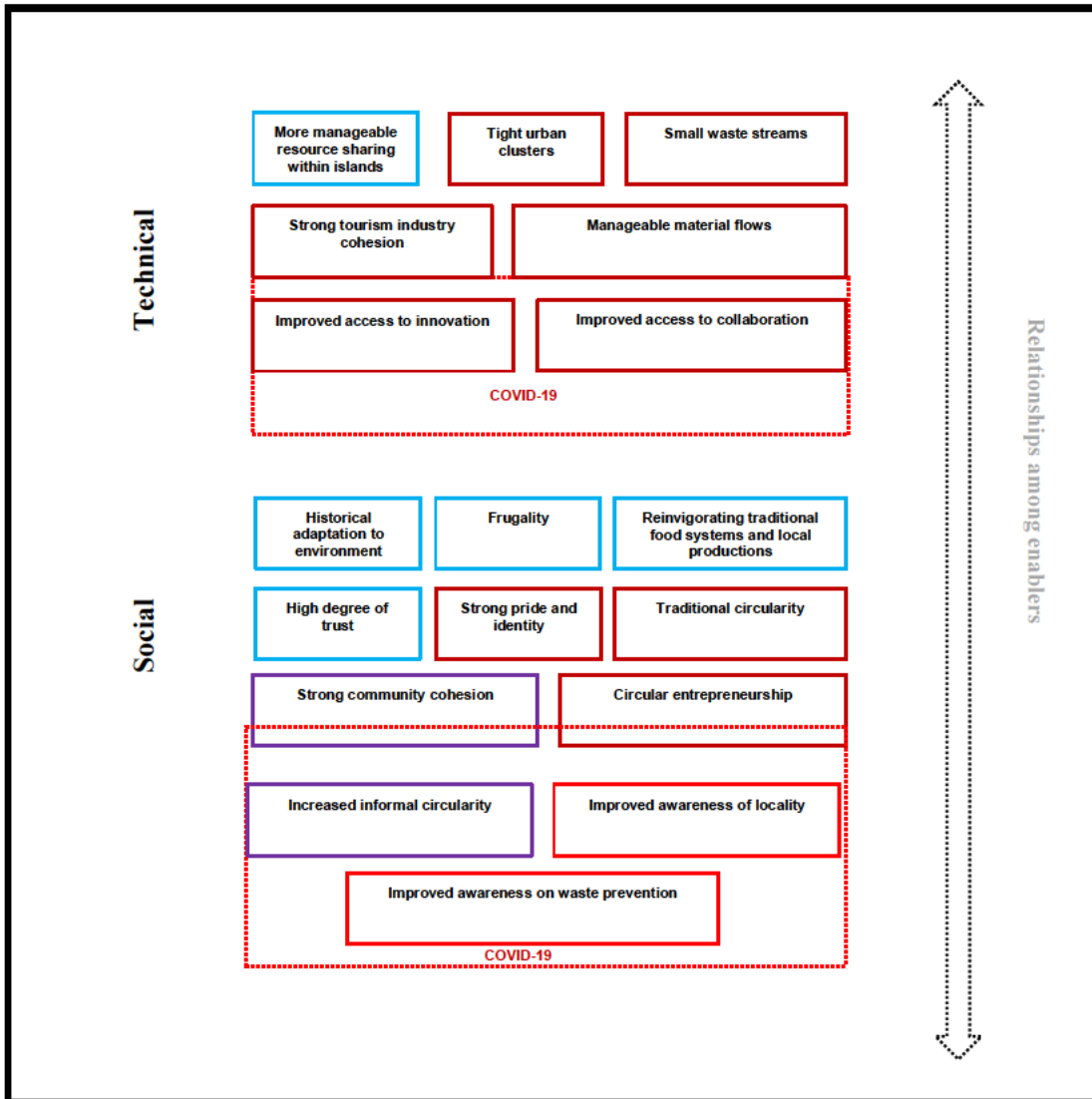
#### 6.10.5. COVID-19 and Improved Access to Collaboration and Innovation

As discussed in Chapter 4 in section 4.5.1., access to collaboration and innovation has always been a challenge for the tourism sector in the OI. This is because of the physical distances between tourism actors and between tourism businesses and innovation centres that are often located in mainland Scotland. Such significant travel distances imply high costs and time-ineffective business travel associated with any kind of collaboration. Moreover, the COVID-19 measures – as discussed in Chapter 4, section 4.5.2. – led to travel restrictions which have certainly accentuated the barriers to collaboration among the tourism actors and any travel to mainland Scotland and/or mainland Orkney to participate in capacity-building programmes for a CE.

Yet, as reported in sections 5.4.12. and 5.4.13., the COVID-19 pandemic led to the uptake of digital technologies, providing safe and often free collaborative platforms

that have become the norm. According to the respondents, these collaborative platforms are enabling collaborations among actors residing on the different islands and greater access to training through webinars and more extensive capacity-building programmes delivered by development organisations. A major reliance on online tools certainly allows the OI's tourism stakeholders to mitigate the issues related to physical accessibility, which tend to hamper the transition to a CE (Tapia et al., 2019) and promote the multi-level and interrelated activities that are required in a CE (Ghisellini et al., 2016) – and this is especially important for the tourism sector, given its complexity and diversity (Florido et al., 2019). The OI show how the COVID-19 pandemic leads to the application of digital technologies for the flow of intangible resources and, therefore, mitigates the boundaries to knowledge accessibility. This is especially significant for the tourism actors that are in the more remote areas of the OI region. The finding adds a new perspective on the role of COVID-19 in the transition to a circular tourism economy that has not yet been explored by scholars, and it indicates the need to continue capitalising on such digital resources to provide increased access to innovation for a circular tourism economy in the OI and similar contexts. The finding also agrees with Ellen McArthur Foundation's (2022) claim that digital technologies are essential for accelerating the transition to a CE, and the OI proves that this is very important for island territories where online access to innovative knowledge and collaborative networks is often the only feasible option.

Figure 6.3. Conceptual Framework: Enablers Section



### 6.11. A Circular Tourism Economy for the Linked and Non-Linked Islands

The discussed findings have outlined how islandness facilitates and/or challenges the OI's transition to a circular tourism economy according to the way the businesses operate internally and externally, in agreement with Schulte (2013). Yet, the findings have also delineated the ways in which islandness affects – often differently – the circular tourism economy in the non-linked and linked islands. The barriers and enablers – that are internal and external to the business (de Mattos & de Albuquerque, 2018; Vargas-Sánchez, 2019) – tend to be also internal and external to the island territory.

Findings have shown that the extent to which an island is linked to another through fixed bridges can play a role in how islandness expresses and, ultimately, facilitates and/or enablers the circular tourism economy. In fact, as discussed in previous sections, the non-linked islands are often disadvantaged because of physical isolation and increased travel distances and costs for the flow of materials, and due to institutional/governance factors such as institutional centralisation. Yet, the degrees of physical isolation that hold back the non-linked islands in several ways have also been at the root of traditional circular practices, circular entrepreneurship and strong community and industry cohesion, which are perceived as key assets to the circular tourism economy. Thus, these and other differences that emerged between the linked and non-linked islands may suggest the need to appreciate the islands' diversity and significant differences within the region itself.

According to Grydehøj (2019), there must be a critical effort towards the study of islands due to their geography. Also, because of their islandness – as conceptualised by Fernandes and Pinho (2017) –, island communities face a set of diverse challenges related to insularity, which means that there is no one-size-fits-all solution that applies to all of them (Grydehøj & Casagrande, 2020). Instead, in the OI, each island should be seen as a unique entity within the archipelagic system. As discussed by Taglioni (2011), it is crucial to create a distinction based on common features, challenges and strengths, as small islands are territories with specific features (EU, 2008; Monfort, 2009).

Therefore, beyond the linked/non-linked islands' classification used by the Orkney stakeholders that suggest only two levels of insularity, the current study indicates that there are more insularity levels in the OI. In fact, the non-linked islands, while sharing common features such as a more decentralised peer-to-peer circular approach to a CE, also present significant differences in relation to a circular tourism economy. For instance, the islands of North Ronaldsay and Sanday face greater challenges regarding physical distance and transport time to mainland Orkney than, for example, Westray and Shapinsay, which are also classified as non-linked islands. For this reason, decision-makers should diversify their strategic approaches based not only on two key differences (linked and non-linked) but also on other island

typologies and related levels of insularity within the Orkney region that were highlighted in the study.

Although the EU (2016) recognises only main and secondary islands in an archipelago, the study is strongly in line with the Conference of Peripheral Maritime Regions of Europe (CPMR), suggesting that an archipelago can retain islands affected by the first, dual or third insularity (CPMR, 2002), and with Baldacchino (2013a), who argues that it is common for an archipelago to have a third level of insularity level depending on the island's position within the region and the resulting challenges. This seems the case for the OI when seeking to apply a circular tourism economy. However, the OI empirically show that insularity levels can be identified also based on their strengths. Hence, it is imperative, as mentioned by EPSON (2020), Rodríguez-Pose & Wilkie (2017) and Centobelli et al. (2020), to understand the local dynamics to successfully promote a CE.

What was discussed highlights, therefore, the necessity of a more critical standpoint towards the planning for a circular tourism economy in the OI and similar archipelagic contexts. The findings from the OI confirm previous studies' empirical insights in other archipelagos, such as the dramatic differences among islands in Mauritius (especially in terms of infrastructure and natural resources) leading to planning challenges for sustainable development, as outlined by Gowreesunkar et al. (2018), and Bartlett et al. (2010), writing from Vanuatu, who advocated the importance of understanding island heterogeneity and the diverse dynamics existing among clusters of islands to enhance sustainability. In other words, each island entity should be seen as an individual effort for the circular tourism economy because they retain – while sharing similarities – unique challenges and opportunities for a circular tourism economy. However, they should not be seen in isolation but as part of their regional circular economy system. When it comes to the circular tourism economy, there are different challenges and opportunities for its implementation at the individual island and regional levels that should be fully understood and integrated into strategies, as discussed in the following section.

## **6.12. A Circular Tourism Economy at the Island and Regional Level**

The findings from the OI have shown key differences when seeking to implement a circular tourism economy at the individual island level and when seeking to build a regional CE system linking two or more islands in the region. This confirms previous claims (e.g., Silvestri et al., 2020; Centobelli et al., 2020) that the geographical dimensions within the CE discussions are highly relevant and that each island tends to respond uniquely to external changes, forces and environment (McElroy & Albuquerque, 1990). For this reason, before looking at the regional level, it is important to understand the individual island, as discussed previously.

The islandness implications on the different islands concern the deployment of the circular tourism economy within the individual island but also its ability to interact with the external environment. This last perspective links back to what Pugh (2016) argued and defined as an archipelagic turn in island studies. For Pugh (2016) – and as confirmed by the study on the OI – the implications of islandness should be seen not only in events occurring within the island but also in relation to the island's interaction with other islands and the mainland. This was clearly demonstrated by the OI. Islandness-produced factors such as community cohesion and informal circularity tend to mainly facilitate the circular tourism economy at the individual island level, whereby other islandness-producing factors, such as island physical and digital isolation and transport challenges, tend to impede the development of a more regional and systemic circular tourism economy in the OI.

Islandness tends to facilitate the circular tourism economy at the individual island level rather than challenge it. However, when seeking to promote a circular tourism economy more systemically, regionally and by linking the different islands, for instance, to promote the flow of resources, islandness tends to mostly hamper the transition. As outlined, this depends on the position of the island within the Orkney region and how the challenges are mitigated. This was already described by Bridge et al. (2013) arguing that isolation is related also to the location of the individual island within a network of islands. Moreover, the OI show that for a circular tourism

economy to be systemic and for the value of materials to flow, joint and cohesive strategies are needed. This confirms Loizidou's (2016) discussion on the need for joined strategies as a solution to the sustainable management of islands' resources and waste, where systemic approaches promote effective collaborations (Niero & Rivera, 2018). Thus, barriers to intra-firm collaboration and knowledge spillover mentioned by Ghisellini et al. (2016) and Tapia et al. (2019), in the context of the OI, also concern the establishment of intra-regional collaboration.

While planning efforts should be aware of the island's individual characteristics (Grydehøj, 2019), there is a need to adopt a holistic approach for a circular tourism economy that is informed by the individual island characteristics to promote – as suggested by Kirchherr et al. (2017) – a CE where the different geographical and institutional levels are harmoniously interconnected. What was discussed in this, and the previous section delineates what can be termed the Circular Tourism Island Dilemma, referring to the facilitating but also hindering role of islandness for a circular tourism economy.

### **6.13. The Circular Tourism Island Dilemma**

The Circular Tourism Island Dilemma is a proposed term which defines the two main extremes faced by each SID when seeking to adopt CE practices. Thus, the Circular Tourism Island Dilemma is rooted in the polarised experience of the individual island – as described in previous sections – when located within an archipelago and seeking to embark on a CE transition. Drawing from the OI's experience, it can also be suggested that the extent to which the dilemma is experienced by the individual island seems to depend on the degree of physical connectivity of the SID, or on the presence of appropriate measures that mitigate the limited physical connectivity, such as digital infrastructure, transport and affordable costs.

In the OI, this was shown by the different ways that the dilemma seems to be experienced by the linked and non-linked islands. In fact, while the non-linked islands may be characterised and enabled by more robust social capital and traditional circularity because of historical necessity, they tend to find challenging access to a more regional CE system. The linked islands, on the other end, find it

easier to access innovation and collaborative opportunities with Mainland Orkney and Scotland but find themselves – due to historically better connectivity – to have less robust social capital and that degree of traditional circularity that benefits the more remote and detached islands of the region.

The Circular Tourism Island Dilemma, therefore, emerged from this polarisation between barriers and enablers in individual islands seeking to facilitate circular solutions internally and regionally. Moreover, the way each island experiences the dilemma depends on how islandness is expressed there. This is an island dilemma, but it can also be defined as a regional dilemma, where the region experiences facilitators to the implementation of a CE at the island level but with a much more complex scenario for the development of a CE regional system. While this study can only confirm that this dilemma is experienced by the OI, the researcher proposes to future researchers and planners the assumption that the dilemma may apply to other archipelagic regions.

The researcher believes that, by drawing from the OI case study, the Circular Tourism Island Dilemma should redefine how the CE is planned in SIDs through micro, meso and macro strategies. The dilemma simply cannot be neglected if a regional transition to a CE in tourism is to be promoted in SIDs. This is because the differences as well as commonalities existing within the island region should be considered in integrated planning strategies. On one side, planning and policies aiming at supporting the CE transition in island tourism should consider the development of CE at the individual island level and factors affecting this transition. From the other side, planning and policies should also consider how to support these individual islands to be part of a regional CE system through the ability to share tangible and intangible resources. The planning and policy implications generated by the Circular Tourism Island Dilemma, therefore, call for the recognition of a more complex but potentially more effective way to plan for a CE in SIDs integrated within an island region and representing different expressions of islandness. This more complex but highly tailored planning approach should integrate the community's voices from the individual SIDs, moving away from cases of institutional and strategic insularity by promoting more participatory approaches. These must be driven by the recognition of the uniqueness of regional subsystems

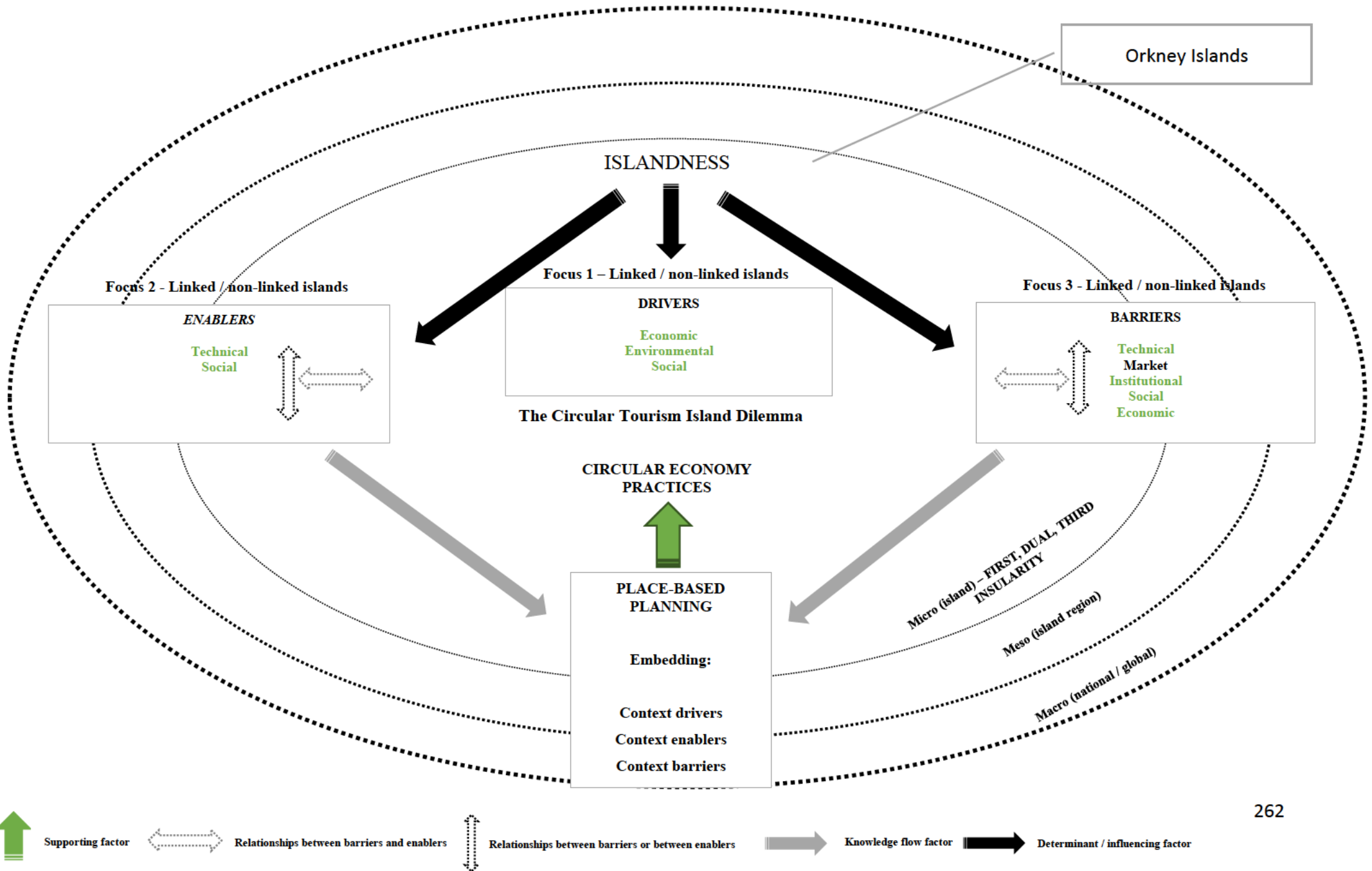


and allow higher community involvement in CE planning. Ahead of the conclusions and recommendations, the researcher presents the revised framework integrating the findings of the study.

#### **6.14. Revised Conceptual Framework**

In this section, the revised conceptual framework is presented following the same format as the initial framework. The revised framework shows how this study has helped advance empirical knowledge in the field with a specific focus on the OI. Future researchers can and should apply this framework to refine it further and adapt to the circumstances of other SIDs.

Figure 6.4. Overview of Revised Conceptual Framework









The framework embeds the micro, meso and macro environments. In the microenvironment, the SIDs can be found. In this case, the SIDs are part of the OI and present three different levels of insularity. In the meso environment, the entire OI region can be found, thus the regional space. The macro-environment represents the national and global environments. The framework, similar to the initial conceptual framework, is characterised by islandness as a supporting factor. The effects of islandness on the drivers, barriers and enablers were, in fact, confirmed in the OI and are in line with the previous empirical contributions. Islandness tends to determine the drivers, barriers and enablers – and in “green” are the categories confirmed in the OI. The “market” barriers were taken out from the initial framework because they were empirically confirmed in the context of a CE in SIDs, even if not directly confirmed in the OI.

Three types of relationships are shown: a) between the barriers and enablers, b) among barriers and c) among enablers. The dynamics concerning the drivers, barriers and enablers should be captured to inform place-based planning which is an essential planning approach for a CE in SIDs. Moreover, the revised conceptual framework shows the Circular Tourism Island Dilemma termed by the researcher in this study, where islandness tends to facilitate as much as hamper the tourism sector’s transition to a CE.

The Circular Tourism Island Dilemma is positioned between the barriers and enablers as they are the core of the dilemma. Additionally, the overview of the revised conceptual framework shows “Focus 1-2 and 3”. The three “focuses” are reported in Figure 6.5. below. The “focus” sections zoom on each of the driver, barrier and enabler in order to provide the reader and future researchers with a clear visualisation of the findings. Table 6.2. guides how to read the sections in Figure 6.5. There are a total of six colour codes. It was essential for the researcher to use multiple colour codes to indicate how he confirmed and/or added factors to the initial framework.

**Table 6.2.** Conceptual Framework’s Colour Codes

Colour code	Description
	Factors presented in the initial version of the conceptual framework and concerning the CE in SIDs. These factors were not confirmed in the OI but are reported here because previous empirical literature confirms their relevance for e CE in SIDs.
	Factors presented in the initial version of the conceptual framework and concerning the CE in SIDs. Differently from the “blue” factors, these were confirmed by the study in the OI.
	Factors not presented in the initial conceptual framework, which have fully emerged from the OI.
	Factors presented in the initial version of the conceptual framework and concerning the CE and CE in tourism (not specific to SIDs). These factors were confirmed in the OI.
	Factors applied only to the non-linked islands of the OI.
	Factors emerged and/or accentuated by the COVID-19 pandemic.

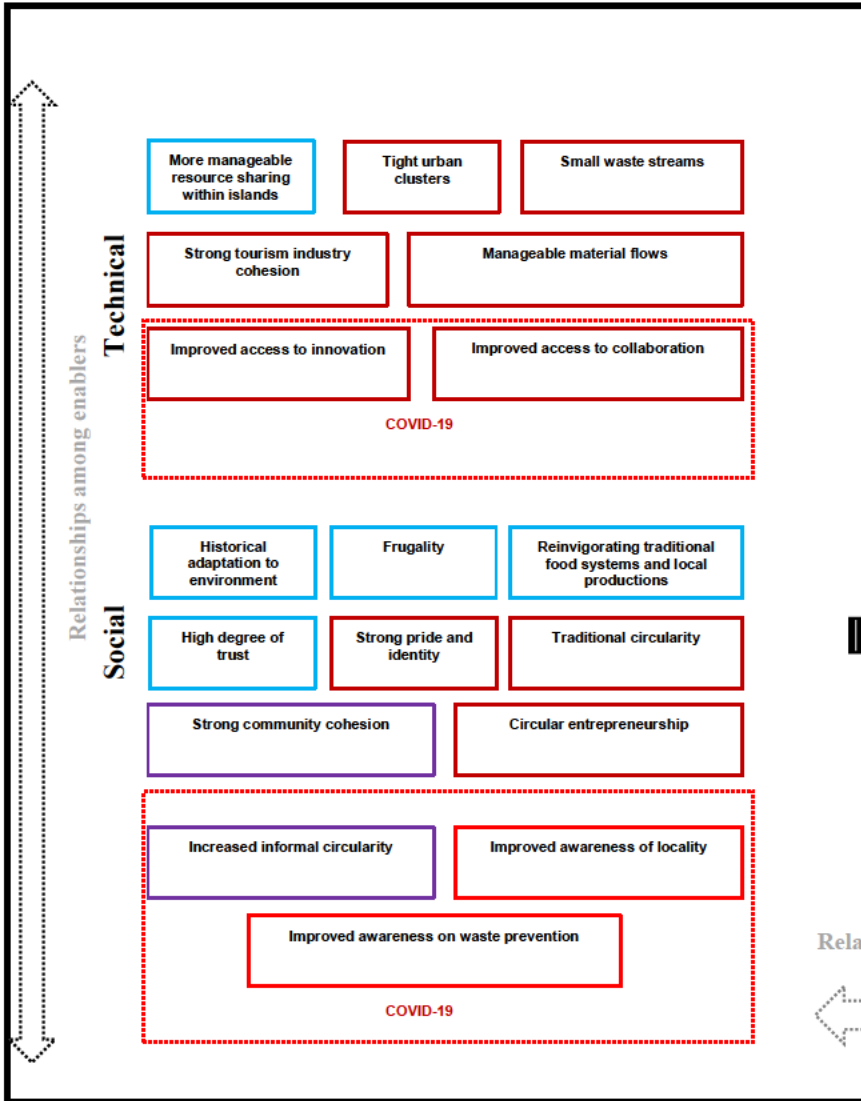
It is noticeable that in the revised conceptual framework, the researcher kept only the factors that apply to the OI and SIDs, as previously supported by empirical studies. Therefore, while the initial conceptual framework represented three levels of drivers, barriers and enablers (CE, CE in tourism and CE in SIDs), the revised version concerns only the CE at the SIDs’ level, with, of course, a focus on the OI. This is to be in line with the researcher’s questions calling for an understanding of the drivers, enablers and barriers in the OI rather than other contexts.

Figure 6.5. Focus of Revised Conceptual Framework

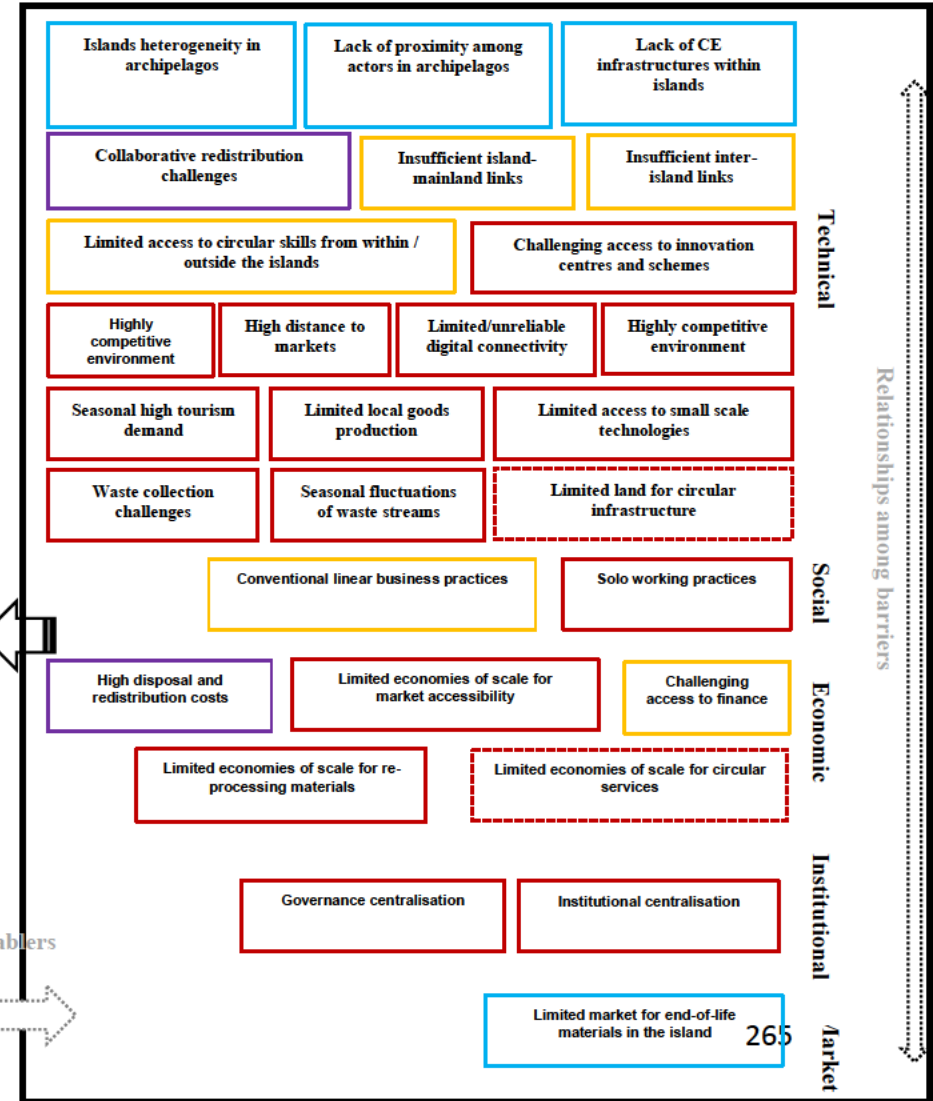
**FOCUS 1 - DRIVERS**



**FOCUS 2 - ENABLERS**



**FOCUS 3 - BARRIERS**



**CIRCULAR ECONOMY PRACTICES**

Relationships between barriers and enablers

Relationships among enablers

Relationships among barriers

The factors represented in blue in the framework were not confirmed in the OI. The researcher kept these factors because they are supported by previous empirical contributions focusing on the CE in SIDs and, therefore, may apply to the OI – even if not identified by the researcher. Including these factors in the conceptual framework allows the researcher to build upon previous research and provide a comprehensive framework that may apply to other SID contexts. The factors in purple also represent those supported by previous empirical literature on the CE in SIDs but, differently from the blue factors, these were confirmed in the OI. Lastly, the red factors are new additions that were not present in the literature and have emerged as drivers, enablers or barriers for the first time in this study of the OI.

The yellow factors were represented – in the initial conceptual framework – as to be concerning the CE or the CE in tourism, but their application to SIDs was not confirmed by previous literature. Yet, through the findings from the OI, some of these factors, represented in yellow, were confirmed as applicable to the OI and, potentially, other SIDs. Moreover, all factors apply to the linked and non-linked islands, yet a number of them apply only to the non-linked islands and are represented with thick dashes. Such representation allows a better understanding of the diversity existing within the region. It was also essential for the researcher to represent the factors influenced by the COVID-19 pandemic. These can be identified in the conceptual framework with fine bright red dashes. Moreover, three types of relationships are illustrated that were not represented in previous literature.

## **6.15. Conclusion**

The chapter commenced with a discussion of the social and economic drivers of a circular tourism economy in the OI. This was followed by a discussion of the barriers that have emerged from the study, including the technical, social, economic and institutional/governance barriers. In later sections, Chapter 6 discussed the social and technical enablers to a circular tourism economy in the OI and proposed an argument on the differences arising within the region when seeking to apply the circular tourism economy at the individual island as well as at the regional level. The chapter has, therefore, proposed a wide range of issues that should be considered when planning for a CE in SIDs. The key outtake from the discussion of the findings from

the OI is the existence of a dilemma which was termed by the researcher as Circular Tourism Island Dilemma. The dilemma essentially refers to the contradictory effects of islandness on the tourism sector's transition to a CE. In fact, it is formed by the enablers and barriers that are generated by islandness to a CE in the OI. Therefore, being on a small island can facilitate as well as hamper a CE in the sector.

Finally, a revised conceptual framework was presented with the drivers, barriers and enablers that emerged from the study findings. In addition, a more detailed version that zooms into the drivers, barriers and enablers – and, therefore, the dilemma – and existing relationships was provided. The framework needs to be tested in other SIDs for its applicability to other contexts.

## **Chapter 7 – Conclusions and Recommendations**

### **7.1. Introduction**

Chapter 7 concludes the study by discussing the theoretical implications of the findings as well as suggesting research directions. The chapter firstly revisits the research gap, research objectives and research questions and the study methodology. This is followed by a discussion of the implications of the findings. The implications, while specific to the OI, could apply to similar island contexts. Finally, the study limitations and areas of future research conclude the chapter.

### **7.2. Research Gap and Questions**

Currently, the literature provides an overview of the drivers, barriers and enablers of a CE, but lacks contextualised approaches to inform place-based planning. In Chapter 2, such discussion was deemed imperative for SIDs. In fact, the literature supports that island features – and the islandness of small islands – tend to define the events and the life on an island. Considering the limited empirical contributions, this study sought to shed light on if and how islandness – seen as a spatial-geographical dimension – drives, enables and/or challenges the adoption of CE models in SIDs' tourism establishments. Drawing from the outlined study focus, the researcher sought to answer the following research question:

What are the drivers, barriers and enablers of the circular economy in the tourism sector of the Orkney Islands?

The research sub-questions that underpinned the study and were answered in Chapters 5 and 6 are:

1. What drives the implementation of a circular economy in the Orkney Islands' tourism sector?
2. What are the barriers and enablers to the adoption of a circular economy in the Orkney Islands' tourism sector?



3. How does islandness affect the adoption of a circular economy in the Orkney Islands' tourism sector?

Four research objectives have guided the researcher in answering the research questions:

1. To conduct a literature review surrounding the topics of circular economy, circular business models, islandness and their significance for tourism in SIDs.
2. To develop a conceptual framework for the study articulating the drivers, barriers and enablers to a circular economy in small island destinations within the context of islandness.
3. To explore with a range of local stakeholders their perceptions of drivers, barriers and enablers in the application of circular business models in the Orkney Islands' tourism sector.
4. To contribute to the theoretical development of circular economy, islands and circular tourism literature.

The study met all the stated research objectives. A literature review on CE, circular business models and their significance for the tourism sector of SIDs was conducted. Throughout the literature review, the researcher also paid attention to if and how islandness affected a CE in small islands and SIDs. As a result, an initial conceptual framework was constructed articulating the drivers, barriers and enablers of a CE in SIDs and the role of islandness.

The initial conceptual framework guided the researcher in achieving the third objective of the study by investigating the perceptions of the OI's stakeholders regarding the drivers, barriers and enablers faced by the tourism sector when seeking to adopt circular practices in business operations. Finally, for the researcher, the study has also successfully contributed to theories on CE, sustainable island development and the intersecting fields of CE and SIDs. The theoretical contribution of the study is also claimed in this chapter.

### **7.3. Summary of Applied Methodology**

The study applied a qualitative methodological approach. Semi-structured interviews were conducted with local stakeholders from the public, private and third sectors, supported by documentary analysis. It was a key fact in the selection of the participants the need to involve stakeholders operating regionally but also within specific islands, both linked and non-linked. Data were analysed using thematic analysis to identify common factors in the study context and complemented with the analysis of secondary sources. The findings that highlight these common factors are summarised in the following section.

### **7.4. Summary of Findings**

Findings were broadly categorised, in chapter 5, as drivers, barriers and enablers faced by the tourism sector when seeking to adopt CE practices in their operations. The findings allowed the researcher to provide a contextual view of the drivers, barriers and enablers of a circular tourism economy in the OI. The revised conceptual framework, in fact, reports specific issues faced by the tourism sector that are rooted in the islandness of SIDs.

#### **7.4.1. Research Questions 1 and 3: Drivers and Islandness**

In terms of drivers identified during the study, these were categorised as social, economic and environmental. Social drivers, as reported in sections 5.2.1.1. and 5.2.1.2., included factors such as the need to promote the island and regional self-sufficiency, create jobs and mitigate depopulation. Relevantly, differences emerged in the degree of emphasis applied to these issues between the linked and non-linked islands. Economic drivers, reported from section 5.2.2.1. to section 5.2.2.4., involved promoting financial circularity at the local level and decreasing waste-related operational costs as well as import costs that are often enhanced by the distances within the region and between the region and the mainland. Issues concerning operational costs were discussed more intensively in the non-linked islands. From the environmental perspective, as reported in section 5.2.3., respondents stated that a CE is sought to prevent waste and related environmental impacts from its

unsustainable management. This was deemed relevant especially for the smaller and non-linked islands lacking waste infrastructure.

#### 7.4.2. Research Questions 2 and 3: Barriers, Enablers and Islandness

Barriers to a CE faced by the OI's tourism sector were depicted as technical, social, economic and institutional/governance. The technical barriers, as reported from section 5.3.1. to 5.3.14, included insufficient inter-island links, which hamper regional collaboration and the cost-effectiveness of circular solutions. Technical barriers were also categorised in terms of access to circular skills, technologies at scale and distance to markets. The type and degree of relevance of the technical barriers were often expressed differently among the respondents based on the extent to which they operate in the linked or non-linked islands.

As evidenced in sections 5.3.15. and 5.3.16., the social barriers to a CE faced by the OI's tourism sector emerged around issues related to the existing conventional business practices that are integrated into tourism businesses and solo working practices appearing to be predominant in the region. Social barriers seem largely relevant to all the OI. The economic barriers, as reported from section 5.3.16. to section 5.3.21., emerged mainly as high costs faced by businesses to operationalise CE practices, such as material redistribution among actors located on different islands due to logistical distances. They also included issues concerning access to finances and insufficient economies of scale. Low economies of scale are especially an issue for the smaller and more physically remote islands of the region. Moreover, as presented in sections 5.3.22. and 5.3.23., from an institutional and governance perspective, respondents have highlighted issues of institutional and governance centralisation faced by the non-linked islands.

In terms of enablers faced by the OI's tourism sector, the respondents have pointed out – as evidenced from section 5.4.1. to 5.4.4. - that the CE is enabled socially by the presence of traditional circularity, strong community cohesion, pride and identity. Moreover, from section 5.4.5. to 5.4.7., the COVID-19 pandemic has improved local awareness of the need for financial locality and waste prevention, as well as it has enhanced businesses' access to collaboration and innovation as a result

of the increased usage of online platforms. From a technical perspective, the CE in the OI seems to be enabled by tight urban clusters and a strong cohesion in the local tourism industry. Findings were reported from section 5.4.8. to 5.4.11.

The barriers and enablers have not emerged in isolation and are often interconnected, showing different degrees of importance between the linked and non-linked islands. For instance, inter-island logistics and access to circular skills appeared to be significant issues for the non-linked islands. At the same time, however, the non-linked and most remote islands showed a number of enablers to a CE, such as the presence of traditional circularity and tight urban clusters allowing more cost-effective exchanges.

Overall, the findings have shown that the region's tourism sector faces enablers and barriers at two levels. Firstly, the application of a CE at the individual island level and, secondly, the application of a CE at the regional level. In fact, while the application of circular solutions in the tourism sector within the island appeared to be largely enabled by the island's islandness, promoting the transition at the regional level – with a more systemic effort – seems to face harder barriers from various angles, especially economic and technical. This gives rise to a dilemma experienced at the regional level – as discussed in the previous section – where a SID is facilitated by its own islandness to an internal CE but is also hampered by the islandness to be part of a regional CE.

## **7.5. Theoretical Contribution**

The findings generate theoretical implications that are concluded in this section. Firstly, the Circular Tourism Island Dilemma provides a new and more critical perspective to the CE from the broad angle of regional CE planning and development. In fact, the Circular Tourism Island Dilemma questions uniform planning approaches for regional CE deployments and suggests that regional planning for the CE must be tailored to the micro-systems existing within a region. Therefore, while the current literature insights concerning the drivers, barriers and enablers to a CE are place-blind (e.g., de Jesus & Mendonça, 2018; de Mattos & de

Albuquerque, 2018), the Circular Tourism Island Dilemma proposes a more contextual view of a CE for the OI as well as for other SIDs.

The Circular Tourism Island Dilemma complements existing theories and responds to a loud call for more tailored approaches to a CE, thus providing a territorial dimension of a circular tourism economy as called by Varjú and Dabrowski (2018) and Tapia et al. (2019). This novel conceptualisation of the CE transition builds upon existing literature (e.g., Guerra & Leite, 2021; van Keulen & Kirchherr, 2021; Grafström & Aasma, 2021), but it gives a more contextual description of the transition which would potentially help planning for a CE in tourism. In the OI, the micro-systems to consider would be the individual islands that are part of the regional system. Thus, there is the potential to draw from this study and build territorial theoretical advancements for a CE.

Secondly, by narrowing down the CE within a tourism context, the study, and the Circular Tourism Island Dilemma provide a further theoretical contribution to the intersecting field of CE and tourism, which – while revising the literature – appeared to be in its infancy. In fact, the Circular Tourism Island Dilemma provides a first full, complex and interconnected landscape of the barriers and enablers as well as motivational factors that tend to be faced by tourism businesses. Such interconnectedness was not previously identified in research. This landscape – as emerged from the OI – is a robust foundation to be used by planners in the specific OI region but is potentially applicable to other contexts when seeking to integrate a CE into a destination's vision and strategic direction. Stakeholders can use the developed framework to inform the development of strategic support for a CE in the OI.

Moreover, for the intersecting field of CE and tourism, the theoretical contribution of the study becomes additionally relevant as it allows moving away from the very few existing studies exploring the barriers and enablers to a CE in tourism destinations without highlighting how these factors may be contextual and polarised. Therefore, while the study adds to existing CE-related tourism discussions (e.g., Girard & Nocca, 2017; Pattanaro & Gente, 2017; Kliment, 2018; Arzoumanidis et al., 2020), it supports a theoretical understanding of how a specific tourism

destination can be supported in their transition to a CE. The study also confirms some of the insights previously offered (e.g., Martínez-Cabrera & López-del-Pino, 2021) and provides new factors that were not mentioned in previous research on how the characteristics of a destination can drive, enable and hamper the sector's transition to a CE.

Thirdly, from a Small Island Destinations (SID) perspective, the contribution of the study can be identified from several angles. Theoretically, the Circular Tourism Island Dilemma is relevant for the intersecting field of tourism and small islands, and island studies research streams. Studies that empirically explore the CE transition in the context of SIDs are currently non-existent in the literature. Therefore, while extending from empirical and theoretical contributions focusing on the CE in small islands (e.g., Feenstra & Alofs, 2020; Eckelmann & Chertow, 2009), the Circular Tourism Island Dilemma brings a more specific perspective to this context by focusing on the tourism sector. This means that this study provides an initial, detailed and tailored overview of the factors to be considered when seeking to promote a CE in the OI and, possibly, other SID contexts. An understanding of these aspects certainly enriches the theoretical blocks of economic and sustainable development of island tourism, where this new CE-related knowledge provides the needed theoretical foundation for further developing the circularity of resources in island tourism.

Moreover, from purely a small island studies perspective, the contribution shows that the fundamental concept of islandness, largely discussed in island studies, can be applied to the CE transition of SIDs to better territorialise the understanding of the CE from a more contextual perspective. Therefore, the study also finds a position within discussions around islandness (Conkling, 2007; Vannini & Taggart, 2013; Fernandes & Pinho, 2017; Grydehøj, 2019) by proposing a new way to “utilise” this concept both in planning and research. In particular, the study extends what was done by Fernandes and Pinho (2017) when using the spatial-geographical perspective of islandness to inform planning. In this study of the OI, by proving that the theoretical concept of islandness can be used for a more holistic understanding of the CE in SIDs, islandness becomes a key framework that aligns spatial-geographical features of SIDs as the root of motivation, barriers and enablers to a CE in these contexts.

Most importantly, this approach responds to the call for place-based planning for SIs and SIDs (Moncada et al., 2010; McLeod et al., 2018). Thus, the key theoretical contribution of the study is shown by the first-ever usage and outcome of applying islandness to guide research and inform CE planning in SIDs. Such main contribution can be further dissected in line with the Circular Tourism Island Dilemma.

The way the Circular Tourism Island Dilemma is experienced by the individual OI enriches our understanding of sustainable development in SIDs located within an archipelago and in relation to their level of insularity, where islandness can either facilitate and/or challenge the adoption of CE solutions. Thus, theoretically, the study complements discussions around insularity (e.g., Taglioni, 2011; Conference of Peripheral Maritime Regions of Europe, 2002; Baldacchino, 2013). This provides a regional theoretical perspective to the existing discussions on island development that are often conducted by placing the island or the SID in isolation from their surroundings.

Finally, therefore, this study potentially provides a fundamental theoretical advancement, moving from simplistic observations of a CE and, more broadly, sustainable development of island communities and the tourism sector. In fact, it helps recognise that all islands within the region are unique and while, on one hand, their islandness may facilitate the CE, on the other hand, it may also pose significant barriers due to island type, location, size and historical context. This means that this study offers a new understanding and appreciation of the diversity that exists within tourism island regions, posing questions for further research developments to dissect entities within the region to produce tailored evidence and, therefore, solutions for a CE. This theoretical perspective suggests the need to move from regional standardised planning and policy approaches to more tailored considerations down to smaller contexts within one individual region. This path would potentially generate more efficient solutions for a CE in SIDs. Yet, these solutions require planning stakeholders to think systemically.

## **7.6. Research Limitations and Future Research Directions**

The dilemma that has emerged from the study opens new research avenues that emerge from the limitations that this study incurred. Limitations can mainly be identified as rooted in the available time for the research and the qualitative approach that, as with any research method, carries advantages and disadvantages. Thus, while this study provides a potentially robust introduction to the drivers, barriers and enablers to a CE in the OI's tourism sector forming the defined dilemma, new research should be conducted to test and refine the presence of this dilemma in similar contexts. The study provides an initial understanding of the dilemma with potential common features across island regions, but future research can further apply this dilemma as a driving conceptual framework to evaluate how it replicates in other island regions, such as in developing contexts, in more physically isolated regions or island regions with a mass tourism industry. There is, therefore, significant scope for developing studies on the Circular Tourism Island Dilemma.

Another avenue for researchers would be to zoom in and explore specific drivers, barriers and/or enablers that have emerged from this study. Here, the researcher opted for understanding the broad range of issues and how these are rooted in the islandness because of a large foundational absence in previous literature, but by building on this overview, researchers can focus on certain issues and provide more insights on specific aspects of the dilemma. Furthermore, researchers can build best-case scenarios for island regions, potentially supporting the development of more systemic approaches for the promotion of a CE in SIDs where researchers and planners think regionally while considering each regional subsystem. This is because there is no one-size-fits-all solution, as suggested by the dilemma presented in this study. The suggested research direction also applies to the OI. In fact, in the region, more modelling may help visualise how a system CE in tourism would concretise from different perspectives (e.g., policies, waste flow modelling). Moreover, these research avenues are suggested on the basis that a qualitative study cannot generalise the nature of the dilemma of the OI to other contexts but only carefully speculate its existence in other island regions, given that no island and no island region can escape from their very own islandness.



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## 9. Appendices

### 9.1. Appendix 1 – Schools of Thoughts of the Circular Economy

**Table 9.1.** Schools of Thoughts of the Circular Economy

<b>Concept</b>	<b>Description</b>	<b>References</b>
<b>Cradle to Cradle</b>	Considers all materials involved in industrial processes as nutrients – materials are technical and biological. Product components can be designed for continuous recovery and re-utilisation as biological and technical nutrients within these metabolisms.	(McDonough & Braungart, 2002; Ellen MacArthur Foundation, 2017a)
<b>Performance Economy</b>	A shift from providing services rather than products. Contribution lies on the dematerialisation of products with the elimination of their tangible provision.	(Reday-Mulvey & Stahel, 1981; Ellen MacArthur Foundation, 2017a)
<b>Biomimicry</b>	See nature as a model to imitate forms, process, systems, and strategies to create a more sustainable economy. Links back to cradle to cradle with a circular flow of materials which is inspired by nature	(Benyus, 2002; MacArthur Foundation, 2017a)
<b>Industrial Ecology</b>	It represents the study of material and energy flows through industrial systems. The focuses is on the connections between operators within the industrial systems for creating closed-loop processes in which waste becomes an input. This has given rise to the key concept of industrial symbiosis where the waste from one process becomes raw material for another.	(Chertow, 2002; MacArthur Foundation, 2017a)

## 9.2. Appendix 2 – Principles of the Circular Economy

**Table 9.2.** The Six Principles of the Circular Economy

<b>Principle</b>	<b>Description</b>
<b>System thinking</b>	Taking a holistic approach to understand how individual decisions and activities interact within the wider systems they are part of.
<b>Innovation</b>	To create value by enabling the sustainable management of resources through design of processes, products/services, and business models.
<b>Stewardship</b>	To consider the economic, environmental and social impacts determined by the organisation both in its supply chain and customer base.
<b>Collaboration</b>	Internal and external collaboration through formal and/or informal arrangements that create mutual value among organisations.
<b>Value optimisation</b>	To reconsider what might be seen as waste or system losses and identify opportunities to realise new potential from them.
<b>Transparency</b>	Build trust, both internally and externally.

**Source:** Adapted from Niero and Rivera (2018)

### 9.3. Appendix 3 – Value Hill and Circular Business Models

**Table 9.3.** Examples of Circular Business Models in the Value Hill

<b>Value Hill Category</b>	<b>Business Model</b>	<b>Description</b>
<b>Circular Design (Up-hill)</b>	<b>Circular product design</b>	Designing products with their end-of-life in mind by making them easy to maintain, repair, upgrade, refurbish or remanufacture
	<b>Classic long life</b>	Delivering longevity of a product with high levels of guarantees and services for a high price upfront
	<b>Encourage sufficiency</b>	A high price per product can justify lower volumes
	<b>Circular materials</b>	Utilise input materials such as renewable energy, bio-based, less resource intensive or fully recyclable materials
<b>Optimal Use (top-hill)</b>	<b>Life extension</b>	Sells consumables, spare parts, and add-ons to support the longevity of products
	<b>Repair and maintenance services</b>	Repairs, maintains, and possibly upgrades products that are still in use
	<b>Product leasing (product-as-a-service)</b>	Delivers access to a product rather than the product itself so that the service provider retains ownership of the product. The primary revenue stream comes from payment for the use of the product and a single user uses the product at any given time
	<b>Product renting (product-as-a-service)</b>	Delivers access to a product rather than the product itself so that the service provider retains ownership of the product. The primary revenue stream comes from payment for the use of the product and different users use the product sequentially
	<b>Performance provider (product-as-a-service)</b>	Delivers product performance rather than the product itself through a combination of product and services, where no predetermined product is involved, and the service provider retains ownership of the product. The primary revenue stream is payment for performance of the product, i.e., pay-per-service unit or another functional result.
	<b>Sharing platforms</b>	Enablers an increased utilisation rate of products by enabling or offering shared use/access or ownership through which, different users use the product sequentially.

	<b>Sell and buy packs</b>	Provides a product and agrees on repurchasing the product after some time
<b>Value Recovery (down-hill)</b>	<b>Recaptured material supplier</b>	Supplies recaptured materials and components to substitute the use of virgin or recycled material.
	<b>Refurbisher</b>	Refurbishes used products if necessary and re-sells them.
	<b>Second-hand seller</b>	Provides used products.
	<b>Remanufacturer</b>	Provides products from recaptured materials and components.
	<b>Recycling facilities</b>	Transform waste into raw materials. Additional revenue can be created through pioneering work in recycling technologies.
<b>Network Organisations (Circular Support)</b>	<b>Recovery provider</b>	Provides take back systems and collection services to recover useful resources out of disposed products or by-products.
	<b>Process design</b>	Provides services around processes that increase the re-use potential and recyclability of industrial and other products, by-products, and waste streams.
	<b>Value management</b>	Provides services around managing information, materials, transparency, payments, and governance in a circular value network. For example, ICT solutions for smart contracts and payment systems, or consultancy on circular management systems.
	<b>Tracing facility</b>	Services to facilitate the trading and the marketing of secondary raw materials.

**Source:** Adapted from Achterberg et al. (2016)

## 9.4. Appendix 4 - Territorial Factors Influencing the Circular Economy

**Table 9.4.** Territorial Factors Influencing the Circular Economy

<b>Factor</b>	<b>Brief Description</b>	<b>References</b>
<b>Urban/industrial agglomeration</b>	Spatial concentration of territorial features – allowing symbiosis, market for skills, knowledge spills, social networking, market access, economic of scale for a CE	(Bahers et al., 2017; Masi et al., 2018; Tapia et al., 2019)
<b>Land based resources</b>	Physical environment and nature-based resources - influencing the CE in three ways: natural stocks, renewable energy sources and environmental quality	(Tapia et al., 2019)
<b>Accessibility</b>	Plays a key role in reducing travel distance/time, transport costs and improving access to material, skills available, collaboration for a CE	(Accorsi et al., 2015; Buren et al., 2016; Tapia et al., 2019)
<b>Knowledge-based</b>	Influences the development of disruptive products and sustainable processes through eco-design, lifecycle thinking and the adoption of new business models, but it is also a fundamental ingredient for policy design and implementation by the public sector	(Marra et al., 2018; Garcés-Ayerbe et al., 2019; Tapia et al., 2019)
<b>Technological based</b>	Local capability of implementing technology, technology lock-ins, current technological base	(Sariatli, 2017; Galvão et al., 2018; Tapia et al., 2019)
<b>Institutional and governance</b>	Presence of different institutional environments and structures leading to different outcomes	(Milios, 2018; Ranta et al., 2018; Tapia et al., 2019)
<b>Territorial milieus</b>	Complex network of informal and social relationships that unfold in limited geographical area that can enhance local innovative capabilities through synergies and knowledge sharing for sustainability	(Camagni, 1991; Baggio, 2011; Bevilacqua et al., 2014; Tapia et al., 2019)

## 9.5. Appendix 5 – Conceptual Framework Focus Sections

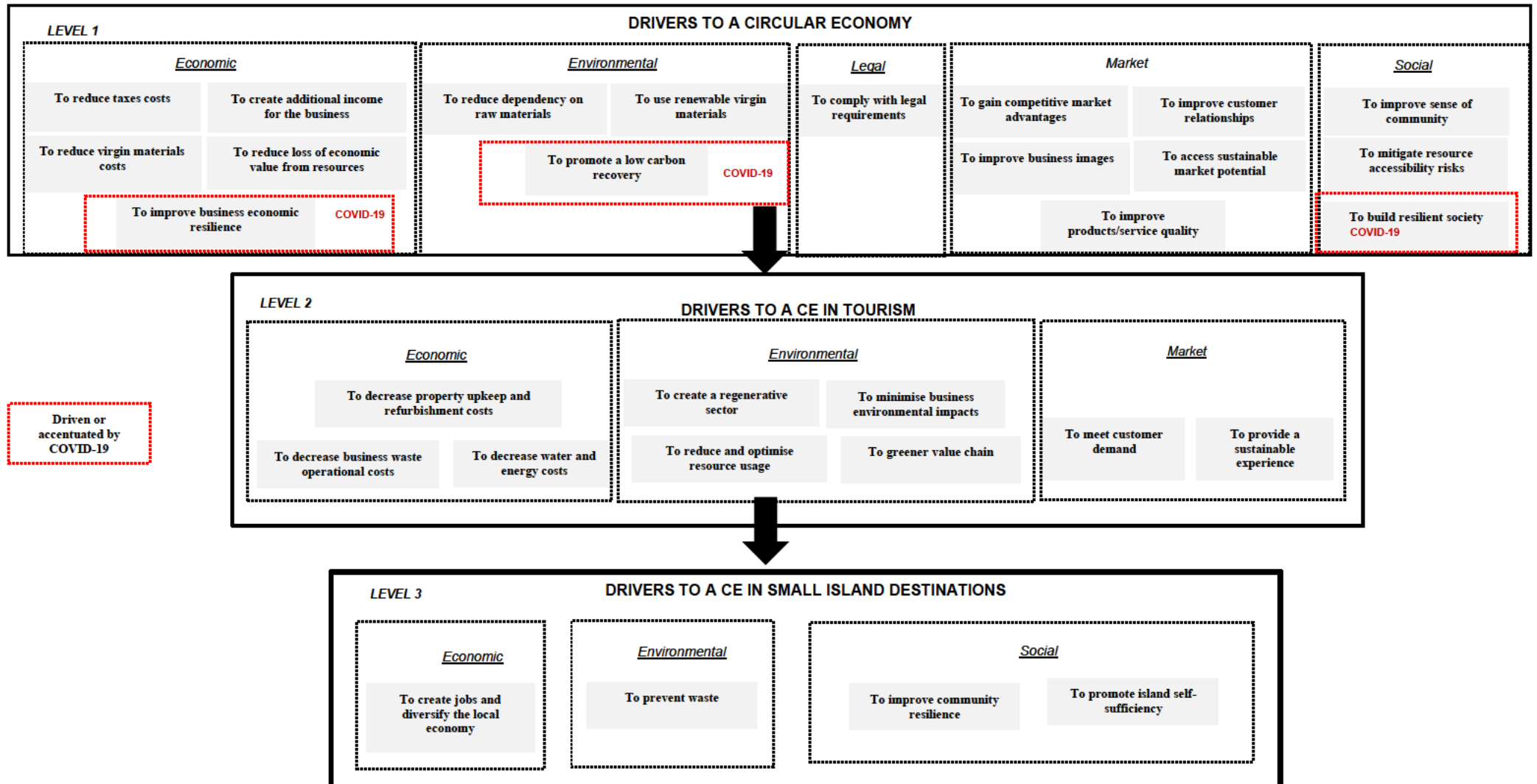


Figure 9.1. Focus: Conceptual Framework of Drivers

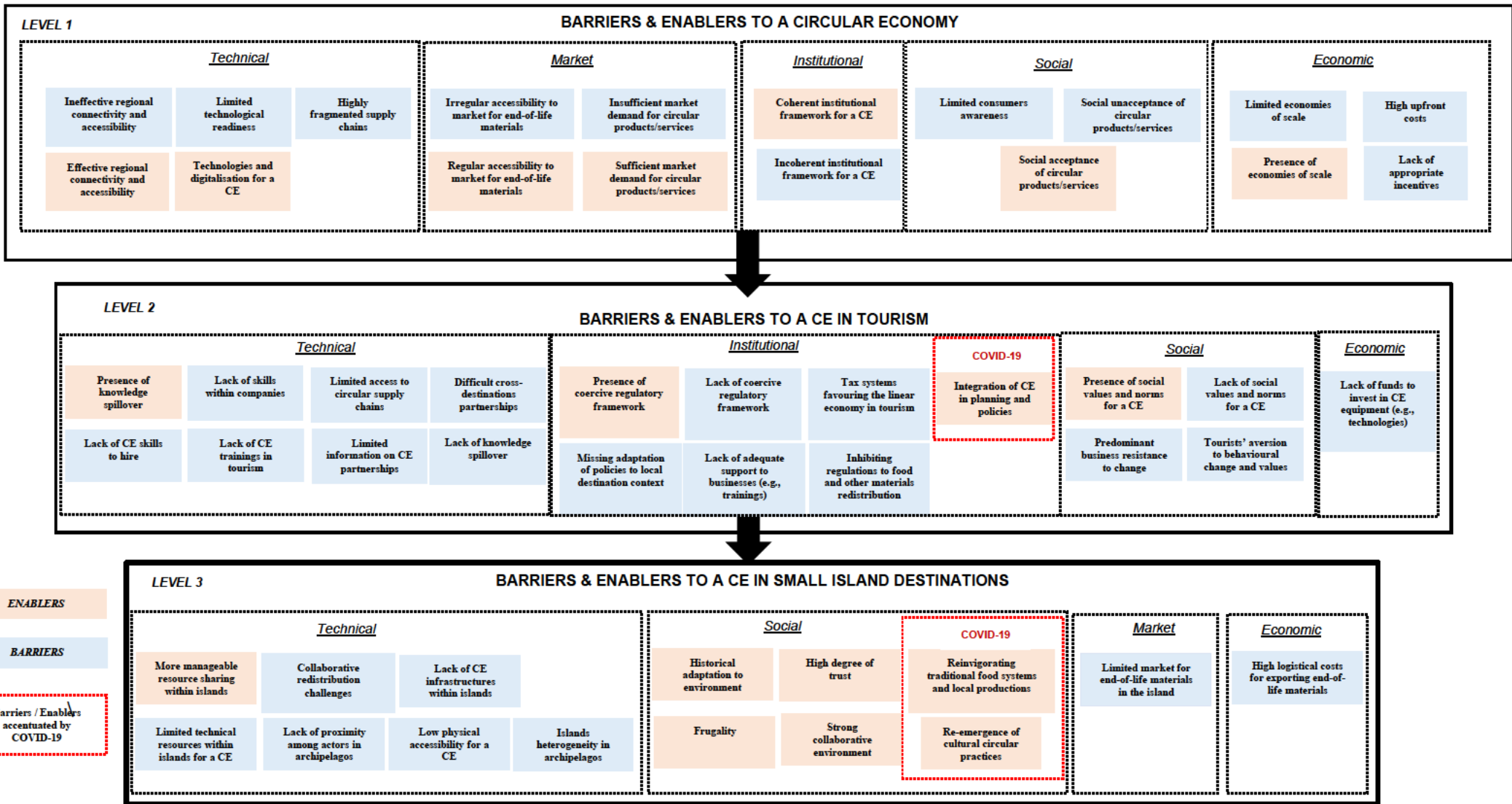


Figure 9.2. Focus: Conceptual Framework of Barriers and Enablers



## 9.6. Appendix 6 – Self-Completing Questionnaire

### Pre-Interview Self-Completing Questionnaire for Private Sector

**Project title:** Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland

The following pre-interview questionnaire is part of a **PhD research project at Edinburgh Napier University**. The Questionnaire seeks to explore the challenges and enablers faced by your business towards the adoption of circular economy business models and practices. The data will be anonymised when collected and no individual participant will ever be identified. If there are any questions that you do not wish to answer, please leave them blank. After completing the questionnaire, you will be invited to an interview by the researcher.

Thank you for your participation in this survey.

#### 1. Can you please describe in what sector you operate, the nature and age of your business?

Hotel	<input type="checkbox"/>	Self-catering	<input type="checkbox"/>
Restaurant	<input type="checkbox"/>	Hostel	<input type="checkbox"/>
Guest House	<input type="checkbox"/>	Camping	<input type="checkbox"/>

If other, please add below:

Age of your business (*in years*)

#### 2. Can you please specify where your business is located?

Mainland Orkney	<input type="checkbox"/>	Papa Westray	<input type="checkbox"/>
Shapinsay	<input type="checkbox"/>	Stronsay	<input type="checkbox"/>
Sanday	<input type="checkbox"/>	Hoy	<input type="checkbox"/>
Westray	<input type="checkbox"/>		

If other, please add below:

#### 3. Do you operate:

Seasonal?

Year Round?

**4. What role do you cover within the firm?**

Department Manager (*please specify*)   
General Manager   
Owner   
Sustainability Manager

**If other, please add below:**

**5. Can you please describe how you are seeking to implement a circular economy in your business? What practices have you or are you trying to implement (*thick all that apply*)?**

Food Redistribution	<input type="checkbox"/>	Products as services	<input type="checkbox"/>
Reusing materials	<input type="checkbox"/>	Sharing platforms	<input type="checkbox"/>
Repairing products	<input type="checkbox"/>	Circular supply chain	<input type="checkbox"/>

**If other, please add below:**

**6. Are you facing or did you face any technical and operational challenges when seeking to implement circular economy practices in your business? If yes, can you please indicate which of the following challenges reflect your own experiences?**

Logistics and transport	<input type="checkbox"/>	Supply chain management	<input type="checkbox"/>
Physical and digital connections	<input type="checkbox"/>	Access to technology and other infrastructure	<input type="checkbox"/>
Available skills for circular practices	<input type="checkbox"/>	Travel distance from urban centres	<input type="checkbox"/>
Interfirm collaboration	<input type="checkbox"/>	Finances and capitals	<input type="checkbox"/>
Technology-related skills	<input type="checkbox"/>	Market for circular products and/or services	<input type="checkbox"/>

**If other, please add below:**

**7. How does being on a small island facilitates or challenges the adoption of circular economy practices in your business? please indicate which ones reflect your own experiences below?**

Inter-island connections	<input type="checkbox"/>	Stakeholders collaborations	<input type="checkbox"/>
Island-mainland connection	<input type="checkbox"/>	Resource availability	<input type="checkbox"/>
Community size	<input type="checkbox"/>	Size of urban centres	<input type="checkbox"/>
Social networking	<input type="checkbox"/>	Distance between centres	<input type="checkbox"/>
Heritage and traditions	<input type="checkbox"/>	Distance between businesses	<input type="checkbox"/>

If other, please add below:

## Pre-Interview Self-Completing Questionnaire for Civil Society - Not-For-Profit - Trusts - Public Sector

**Project title:** Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland

The following pre-interview questionnaire is part of a **PhD research project at Edinburgh Napier University**. The Questionnaire seeks to explore the challenges and enablers faced by tourism businesses of the Orkney Islands towards the adoption of circular economy business models and practices. Data will be anonymised when collected and no individual participant will ever be identified. If there are any questions that you do not wish to answer, please leave them blank. After completing the questionnaire, the researcher will invite you to an interview.

Thank you for your participation in this survey.

- 1) **Could you please briefly describe your organization and the role covered in the promotion of a circular economy in the Orkney Island’s tourism industry?**

- 2) **Can you please indicate where you operate?**

Mainland Orkney	<input type="checkbox"/>	Papa Westray	<input type="checkbox"/>
Shapinsay	<input type="checkbox"/>	Stronsay	<input type="checkbox"/>
Sanday	<input type="checkbox"/>	Hoy	<input type="checkbox"/>
Westray	<input type="checkbox"/>	The entire region	<input type="checkbox"/>

If other, please add below:

- 3) **Could you please indicate the circular economy practices that have been implemented or that are in implementation phase in the Orkney Islands by the tourism sector? (*thick all that apply*)**

Food Redistribution	<input type="checkbox"/>	Products as services	<input type="checkbox"/>
Reusing materials	<input type="checkbox"/>	Sharing platforms	<input type="checkbox"/>
Repairing products	<input type="checkbox"/>	Circular supply chain	<input type="checkbox"/>

**If other, please add below:**

**4) Are the businesses seeking to implement circular economy practices facing technical and operational challenges? If yes, can you please indicate the challenges faced by tourism businesses in the Orkney Islands from the list below (*tick all that applies*)?**

Logistics and transport	<input type="checkbox"/>	Supply chain management	<input type="checkbox"/>
Physical and digital connections	<input type="checkbox"/>	Access to technology and other infrastructure	<input type="checkbox"/>
Available skills for circular practices	<input type="checkbox"/>	Travel distance from urban centres	<input type="checkbox"/>
Interfirm collaboration	<input type="checkbox"/>	Finances and capitals	<input type="checkbox"/>
Technology-related skills	<input type="checkbox"/>		<input type="checkbox"/>

**If others, please add below:**

**5) How does being on a small island facilitates or challenges the adoption of circular economy practices by tourism businesses in the Orkney Islands? Can you please indicate below by ticking all those who apply?**

Inter-island connections	<input type="checkbox"/>	Stakeholders collaborations	<input type="checkbox"/>
Island-mainland connection	<input type="checkbox"/>	Resource availability	<input type="checkbox"/>
Community size	<input type="checkbox"/>	Size of urban centres	<input type="checkbox"/>
Social networking	<input type="checkbox"/>	Distance between centres	<input type="checkbox"/>
Heritage and traditions	<input type="checkbox"/>	Distance between businesses	<input type="checkbox"/>

**If other, please add below:**

## 9.7. Appendix 7 – Interview Protocols

### Semi-Structured Interview Guide

#### Civil Society - Not-For-Profit - Trusts - Public Sector

**Project title:** Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland

1. Can you please describe how you are seeking to facilitate a circular economy in the Orkney Islands' tourism sector (e.g., projects, initiatives etc.)?
2. Could you please further elaborate what circular economy practices have been or are being implemented in the Orkney Islands by the tourism sector?
3. What collaborations and partnerships, both informal and formal, have been established by the tourism sector in the Orkney Islands in order to facilitate a circular tourism economy?
4. What collaborations and partnerships, both formal and informal, have you established or are you seeking to establish to facilitate the promotion of a circular economy in the Orkney Islands' tourism sector?
5. Can you please elaborate why these collaborations and partnerships have been established, how were they facilitated and how they have or are helping the local tourism business' transition towards a circular economy?
6. Are there any regional circular economy initiatives and/or projects that are facilitating and/or supporting the implementation of circular economy in the tourism sector of the Orkney Islands?
7. Can you please further elaborate on the technical and operational challenges that you have indicated in the pre-interview questionnaire?
8. Can you please further elaborate, how being on a small island have or is facilitating and/or challenging the tourism business' transition towards a circular economy?
9. Can you please share how the tourism businesses are trying to overcome the technical and operational challenges?
10. Is there any direct support provided to tourism businesses in the Orkney Islands to help them overcome the challenges faced towards the implementation of a circular economy?
11. Can you please describe how the institutional framework facilitates and/or challenges the implementation of circular economy practices in tourism businesses in the Orkney Islands (through taxation, regulations, educational programs)?
12. Are there any other factors that have or are facilitating the transition towards a circular economy in tourism businesses?

13. How can the different stakeholders further facilitate the transition towards a circular economy of tourism businesses in the islands?
14. What actions and initiatives do you think may be needed in the future?
15. If there is anything else you would like to add that we have not covered in the questionnaire?
16. Are there any individuals and/or organisations you would suggest being involved in this study?

## **Semi-Structured Interview Guide**

### **Civil Society - Not-For-Profit - Trusts - Public Sector (later version)**

**Project title:** Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland

1. What is a Circular Economy for you, your organisation and what motivates you to promote it in the Orkney Islands Tourism sector?
2. In your view, what benefits can a CE in tourism bring to the Orkney Islands?
3. Can you please describe in a little more detail how you are seeking to facilitate a circular economy in the Orkney Islands' tourism sector?
4. Are there any circular practices implemented by the tourism sector that you are aware of being implemented or in phase of implementation (if any)? Where and how are these unfolding?
5. Are there any regional circular economy initiatives and/or projects that are facilitating and/or supporting the implementation of a circular economy in the tourism sector or do you think that the transition is more at the individual island level?
6. Do you think that the COVID-19 pandemic is emphasising the need for a CE in the Orkney Islands? If so, how?
7. How do you think the COVID-19 pandemic is facilitating and/or challenging the CE transition in the Orkney Islands?
8. In your view, how is the local public sector facilitating and/or, if the case slowing down, a CE transition in the Orkney Islands tourism sector?
9. In your view what are the technical and operational challenges that are faced by the local tourism businesses towards a CE? What is the cause of these challenges? What are the specific implications to a tourism circular economy?

10. More specifically, how being on a small island have or is facilitating and/or challenging the tourism business' transition towards a circular economy?
11. Are there any market-related issues (for instance lack of access to market for the final circular products?) – in your view – that would facilitate and/or challenge the reuse and redistribution of materials – or any other circular practices – in the tourism sector of the Orkney Islands?
12. Does tourism seasonality facilitate or inhibits the transition towards a CE in the tourism sector?
13. Any specific ways that materials flow may be facilitated and/or challenged by the regional conditions of the Orkney Islands mainly in terms regional fragmentation, smallness of the islands, and individual island isolation?
14. Do you see any issues related to access to innovation for tourism businesses for a circular tourism economy, in terms of being challenged and/or facilitated by the fact of being on a small island? What is the implication on the circular tourism economy transition?
15. How are tourism businesses trying to overcome any of these challenges they face to a CE?
16. Are there any collaborations that have been established within the tourism sector or between the tourism sector and any industries – both formally and informally – that have been established or that are in the process of be established to allow a circular economy in the Orkney Islands - is that's the case?
17. Is the council supporting the establishment of these collaborations? If yes how? how were facilitated? Are these initiatives island-based or regional?
18. And how they have or are helping the local tourism business' transition towards a circular economy? for instance, how is the steering group helping the tourism businesses adopt circular economy in their operations?
19. Is there any direct support provided to tourism businesses in the Orkney Islands to help them overcome the challenges faced towards the implementation of a circular economy? if yes, what type of support is provided and does it apply to both, the linked and non-linked isles?
20. In particular, can you please describe how the institutional framework at the macro/national level, facilitates and/or challenges the implementation of circular economy practices in tourism businesses in the Orkney Islands (through taxation, regulations, educational programs)?
21. Is the diversity of the Orkney Islands well addressed by public strategies towards – by both at national/local levels, when it comes to circular economy or more in general sustainable development? if yes, how this is addressed?
22. What actions and initiatives do you think may be needed in the future in order to overcome regional and individual-island challenges and capitalise on local strengths to facilitate a CE in the tourism sector? and do you see any need to for these initiatives to address differently to the linked and non-linked islands? and if yes how?
23. Accordingly, how can the different stakeholders further facilitate the transition towards a CE of tourism businesses in the islands?
24. Do you think the regional conditions are more inhibiting or facilitating the transition to a circular tourism economy from the perspective of the non-linked islands as well as the linked islands?

25. If there is anything else, you would like to add that we have not covered in the questionnaire?
26. Are there any individuals and/or organisations you would suggest being involved in this study? Any tourism businesses I could talk to? Could you link me with them?

## **Semi-Structured Interview Guide**

### **For Private Sector**

**Project title:** Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland

1. Can you please describe what the circular economy means for your business? What are the reasons for implementing it, and what is your long-term vision?
2. Can you please further elaborate on the circular economy practices that you have or are implementing in your business, as mentioned in the pre-interview questionnaire?
3. Can you please further elaborate on the technical and operational challenges that you have indicated in the pre-interview questionnaire?
4. How have you or are trying to overcome the technical, operational and market challenges that you have discussed?
5. Have you established any collaborations and partnerships, formal and/or informal, that facilitate the implementation of a circular economy in your business? If yes, can you please describe them?
6. Why have you established these collaborations and partnerships?
7. How were these collaborations and partnerships facilitated and how their have or are helping your business's transition towards a circular economy?
8. Are there any regional circular economy initiatives and/or projects (e.g. Love Food Hate Waste) that are facilitating and/or supporting the implementation of circular economy practices in your business?
9. Can you please describe how the institutional framework facilitates and/or challenges the implementation of circular economy practices in your business (e.g. through taxation, regulations, educational programs)?
10. Can you please further elaborate, how being on a small island is enabling and/or challenging your transition towards a circular economy?



11. Are there any other factors that are challenging or facilitating the transition towards a circular economy in your business?
12. How can the different stakeholders further facilitate the transition towards a circular economy of tourism business in the islands?
13. What actions and initiatives may be needed in the future?
14. If there is anything else, you would like to add that we have not covered?
15. Are there any individuals and/or organisations you would suggest I contacted?

## **Semi-Structured Interview Guide**

### **For Private Sector (later version)**

Project title: Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland

1. What is the circular economy for your business and what is your motivations to promote it in your operations?
2. In your view, what benefits can a CE bring to your business and to the island community as a whole?
3. Can you please further elaborate on the circular economy practices that you have or are implementing in your business, as mentioned in the pre-interview questionnaire?
4. Do you think the Covid-19 pandemic has emphasised the need for your business to adopt circular economy practices? if so, how?
5. How is the Covid-19 pandemic facilitating and/or challenging a circular economy transition for your business according to the circular economy practices that you are seeking to implement?
6. In your view, how the local public sector is facilitating and/or even slowing down the circular economy transition of your business still according to the circular practices that you are trying to implement?
7. What technical and operations challenges are you facing towards the circular practices that you are trying to implement as mentioned in the questionnaire?
8. How being on a small island facilitates and/or challenge the circular economy transition of your business according to the practices that you are trying to implement?
9. Is there any market (profit-no profit) -related issues that facilitates and/or challenges your business transition to circular economy? for instance, in terms of food redistribution do you have an issues in findings matching receivers?

- 10.** How is tourism seasonality facilitating and/or challenging the circular economy practices that you are trying to implement?
- 11.** Do you have any specific issues in relation to access to innovation for your business that could facilitate a circular economy transition?
- 12.** How have you or are trying to overcome the technical, operational and market challenges that you have discussed?
- 13.** Have you established any collaborations and partnerships, formal and/or informal, that facilitate the implementation of a circular economy in your business? If yes, can you please describe them?
- 14.** Why have you established these collaborations and partnerships?
- 15.** How were these collaborations and partnerships facilitated and how their have or are helping your business's transition towards a circular economy?
- 16.** Is the council supporting the establishment of these collaborations? If yes how?
- 17.** Are there any regional circular economy initiatives and/or projects (e.g., Love Food Hate Waste) that are facilitating and/or supporting the implementation of circular economy practices in your business?
- 18.** Can you please describe how the institutional framework facilitates and/or challenges the implementation of circular economy practices in your business (e.g., through taxation, regulations, educational programs)?
- 19.** What actions and initiatives do you think may be needed in the future that could further facilitate the transition towards a circular economy of your and other tourism business in the islands?
- 20.** If there is anything else, you would like to add that we have not covered?
- 21.** Are there any individuals and/or organisations you would suggest I contacted?

## 9.8. Appendix 8 - Documentary Analysis Resources

**Table 9.5.** List of Documentary Resources Used in the Study

<b>Document</b>	<b>Objectives</b>	<b>Methodology</b>	<b>Islands covered</b>	<b>Contribution</b>
<i>Shapinsay Community Action Plan: Research Report 2020-2025 (2020)</i>	To evaluate the challenges and development opportunities Shapinsay Island	Community survey and consultations	Shapinsay Island	Drivers to a CE
<i>North Ronaldsay Community Consultation Report for the Scotland National Island Plan (2019)</i>	To evaluate the challenges and opportunities in the island of North Ronaldsay and inform the Scotland National Island Plan	Community consultations	North Ronaldsay Island	Drivers / barriers / enablers to a CE
<i>Hoy and Walls Community Consultation Report for the Scotland National Island Plan (2019)</i>	To evaluate the challenges and opportunities in the islands of Hoy and Walls and inform the Scotland National Island Plan	Community consultations	Hoy and Walls Islands	Drivers / barriers / enablers to a CE
<i>Orkney Community Consultation Report for the Scotland National Island Plan (2019)</i>	To evaluate the challenges and opportunities in Mainland Orkney and inform the Scotland National Island Plan	Community consultations	Mainland Orkney	Drivers to a CE
<i>Sanday Community Consultation Report for the Scotland National Island Plan (2019)</i>	To evaluate the challenges and opportunities in the island of Sanday and inform the Scotland National Island Plan	Community consultations	Sanday Island	Drivers / barriers / enablers to CE
<i>Stronsay Community Consultation</i>	To evaluate the challenges and opportunities in the	Community consultations	Stronsay Island	Barriers / enablers to a CE

<i>Report for the Scotland National Island Plan (2019)</i>	island of Stronsay and inform the Scotland National Island Plan			
<i>Westray Community Consultation Report for the Scotland National Island Plan (2019)</i>	To evaluate the challenges and opportunities in the island of Westray and inform the Scotland National Island Plan	Community consultations	Westray Island	Enablers to a CE
<i>Locality Consultations: Orkney Non-Linked Island Summary (2017)</i>	To identify challenges and opportunities as well as development priority across the non-linked islands to inform the Non-Linked Island Development Plan (2018 – 2021)	Community questionnaire	Non-Linked Islands	Drivers / barriers to a CE
<i>Orkney Islands Council Plan 2018-2023 (2018)</i>	To identify development priority for the Orkney Islands	Conversations with residents	All Orkney Islands	Drivers to a CE
<i>Draft Orkney Tourism Strategy 2020 – 2025 (2020)</i>	Strategic planning for the Orkney Islands tourism sector	Stakeholder consultations	All Orkney Islands	Barriers to a CE
<i>Consultations on a National Islands Plan and Island Communities Impact Assessment Guidance (2018)</i>	To provide guidance to island communities consultations to inform the national island plan	Report	National islands	Barriers to a CE
<i>Orkney Islands Skills Investment Plan – University of Glasgow – Final Report (2017)</i>	Overview of skills needed and opportunities for young people.	Report	Highlands and islands	Barriers to a CE
<i>Locality consultations – summary report (2017)</i>	Annual report	Report	All Orkney Islands	Barriers to a CE

<i>– Volunteer Action Orkney</i>				
<i>Island sustainability in challenging times: a development plan for Stronsay (2011)</i>	Presentation of the island development plan	Presentation	Stronsay Island	Barriers to a CE
<i>OIC Community Conversations: Feedback Report - A summary of the main issues raised by local people during Orkney Islands Council's Community Conversation meetings held in June 2018. Orkney Islands Council (2018)</i>	Presentation of main concerns of local communities and development preferences	Community consultations	All Orkney Islands	Drivers / barriers to a CE

## 9.9. Appendix 9 – Sample of Feedback on Findings

### Summary of Findings

**Project:** Barriers and Enablers to a Circular Economy in Small Islands  
Destinations: The Case of the Orkney Islands

Mr Angelo Sciacca – PhD Candidate at Edinburgh Napier University

Please add feedback in the box at the end of the document and return the form to



#### **Statement on the content**

**Please refrain from sharing this form or its contents with people and organisations without the researcher’s permission.**

This is a summary of findings from a PhD project conducted by Mr Angelo Sciacca, PhD Candidate at Edinburgh Napier University. The project seeks to understand the factors that *drive, enable, and challenge* the transition of the Orkney Islands’ tourism sector to a circular economy (CE). Particularly, the study wants to shed light on how islands’ characteristics drive, facilitate and/or challenge the application of CE practices. Findings are intended to be relevant for *tailored* planning efforts for the Orkney Islands as well as similar contexts. Semi-structured interviews were conducted with several local/regional stakeholders operating in the Orkney’s *linked* and *non-linked* islands between October 2020 and March 2021. The summary is shared with the interviewed stakeholders to collect feedback – *anonymously* – on the main themes that have emerged from the analysis.

#### **Summary of findings**

The *Drivers* appeared to be of social, economic, and environmental nature. These include the promotion of *island self-sufficiency, creating jobs* to mitigate depopulation, decreasing business *operational costs* on waste management and on importing goods from outside the islands, and ultimately, *preventing waste*. Among the factors, there was particular emphasis on how these drivers – although relevant for the whole region – may be more acute in the *non-linked* or more peripheral of the Orkney Islands. For instance, some of the islands experience greater physical distance than others to Mainland Orkney, making them more vulnerable to waste management costs, lack of jobs to retain and/or attract people, and their ability to diversify their economy. Thus, a CE in tourism – while being relevant for the entire region – was particularly emphasised for the non-linked islands. Key issues that have emerged are, therefore, a CE to reduce the need to rely on external resources by valorising what is present on the island/s, creating innovative job opportunities, stimulating a more

intense local financial circularity, reducing business waste operational costs by decreasing the need to dispose of materials, and reduce the imports related costs by decreasing the need to import goods through improving their circularity. It has emerged that all these issues are strongly rooted in some of the territorial challenges that are faced by the tourism sector and the island communities, including depopulation or population centralisation, limited job opportunities, physical distances leading to high logistical costs and the regional fragmentation of the region. Therefore, the Orkney Islands show a strong territory-derived motivation to adopt a CE in the tourism sector.

Furthermore, the *enables* were classified as *social* and *technical*. Similarly to the drivers, some of the factors appeared to be more acute and relevant for the *non-linked* islands. It is significant to note that there was a strong agreement on the presence of *traditional practices* (e.g., make do and mend) that have existed and developed over time due to necessity given the peripherality of some of the islands. Such an issue was especially emphasised to be present in the more peripheral islands of the region and believed to provide the foundation for CE solutions in the tourism sector as well as to drive forms of informal circularity. Moreover, the Orkney Islands appeared to be benefiting from strong *community cohesion* which was seen to stimulate collaborations and trust for a CE and that – as mentioned by some of the respondents – translates into a strong *tourism industry cohesion*. Concerning community cohesion, it was highlighted that such social asset is particularly present in the smaller and more peripheral communities of the region. Moreover, the COVID-19 pandemic was identified as an enabler because – as a result of waste management and supply chain disruptions during initial lockdowns – the community and the sector have become more aware of the importance of *locality in resources* and of *waste prevention*. The pandemic seems to have also further stimulated forms of *informal circularity* (e.g., food sharing). Moreover, and especially for the tourism actors in the non-linked islands that are subject to double insularity, the COVID-19 pandemic led to increasing utilisation of online tools allowing collaborations and access to innovation breaking the geographical, financial, and time-related barriers to participation to meetings, trainings etc.

The *Barriers* to the implementation of a CE in the tourism sector appear to be of *technical*, *social*, *economic*, and *institutional/governance* nature. Some of the barriers are more relevant or only concern the non-linked islands. A main barrier that has emerged concerns the current status of the *inter-island* and *island-mainland* links that seems to hamper the establishment of regular, time and cost-effective partnerships. It appears that regular links are missing among the non-linked islands while most of the islands are well-connected to Mainland Orkney, affecting the businesses' ability to establish collaborations for a CE when these collaborations do not involve Mainland Orkney. Moreover, a predominant barrier concerns the status of *digital connectivity*, especially relevant for the most peripheral areas of the region, an issue that impact communication among actors as well as access to training, webinars etc. on circular and sustainable innovation. There were some concerns about *solo working* practices resulting from a highly competitive environment, leading tourism businesses to refrain from sharing innovative knowledge. In addition, and particularly for the smaller and non-linked islands, issues regarding skills accessibility were raised, both in terms of skills available within the island and from outside the island. From the economic perspective, it was emphasised that access to funds for a CE is often challenged because of the limited suitable funding mechanisms that are not only island proof but also in line with CE initiatives that can be feasibly developed by the small tourism businesses. Finally, the non-linked islands perceived institutional and governance isolation and limited tailored support that is provided to them. However, it was noted that this is a consequence of travel issues that tend to limit the regular presence of the institutional actors in the more peripheral areas of the region.

To conclude findings shows some differences between the non-linked and linked islands of the region. In fact, in some ways, the non-linked islands are facilitated in their transition through their social assets, but they are also limited when seeking to establish collaborations

for a CE involving the flow of tangible and intangible resources. Being an island destination can, therefore, be an advantage to the application of CE solutions, but it becomes more complex in the archipelago where a technical complexity may arise when seeking to develop a regional and interlinked CE system with different levels of insularity to take into consideration.

### List of findings

Category	Themes	
Drivers	To promote island self-sufficiency	To create jobs and stop depopulation
	To promote local financial circularity	To decrease business waste operational costs
	To decrease imports business operational costs	To create additional incomes for tourism businesses
	To Prevent waste	
Enablers	Traditional circularity	Circular entrepreneurship
	Strong community cohesion	Strong pride and identity
	Covid-19: Improved awareness of locality	Covid-19: Improved awareness of waste prevention
	Covid-19: Increased informal circularity	Tight urban clusters
	Strong tourism industry cohesion	Small waste streams
	Manageable material flows	Covid-19: Improved access to collaboration
	Covid-19: Improved access to innovation	
Barriers	Insufficient inter-island links	Insufficient island-mainland links
	High distance to markets	Collaborative redistribution challenges
	Limited/unreliable digital connectivity	Challenging access to innovation centres and schemes
	Highly competitive environment	Limited Access to Circular Skills from Within / From Outside the Islands
	Waste collection challenges	Limited local goods production
	Limited access to small scale technologies	Seasonal high tourists demand
	Seasonal fluctuation of waste streams	Limited land for circular infrastructures
	Conventional linear business practices	Solo working practices
	High disposal and redistribution costs	Challenging access to finance
	Limited economies of scale for material reprocessing	Limited economies of scale for circular services
	Limited economies of scale for market accessibility	Institutional centralisation
	Governance centralisation	

**Do you think that the findings provide an accurate overview of the current drivers, barriers, and enablers to a CE in the Orkney Islands' tourism sector?**

Commenting as someone working in CE, but who lives in mainland Scotland, these findings look comprehensive and logical. It's interesting that waste, but not 'net zero' is mentioned. The community cohesion and the barriers in particular resonate with my knowledge of island communities.  
 Congratulations on your work and achievement.



## 9.10. Appendix 10 – Information and Consent Form

### Information and Consent Form

#### **Title of the Project – Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland**

My name is Angelo Sciacca and I am a PhD candidate from the Business School at Edinburgh Napier University. As part of my degree course, I am undertaking a research project for my PhD degree. The title of my project is: Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland.

This study will investigate the challenges as well as the enablers that are faced by tourism businesses towards the adoption and implementation of circular economy business practices in small island tourist destinations. The finding of the project will be valuable for the development of planning strategies that facilitate a tourism sustainability through a circular economy in small island territories. The research is being funded by the Edinburgh Napier University

I am looking for volunteers to participate in the project. Stakeholders are selected by the researcher based on their current involvement in adopting, implementing and promoting a circular economy in the Orkney Islands.

If you agree to participate in the study, you will be asked to participate in a **self-completing questionnaire and a follow-up online interview** using tools such as Skype or Zoom. Although video will not be recorded, for facilitating later data analysis the researcher will audio record the interview. Moreover, the researcher is not aware of any risk associated with the interview.

The self-completing questionnaire should not take longer than 1 hour and the follow up interview not longer than 45 minutes. You will be free to withdraw from the study at any stage, you would not have to give a reason.

Data will be anonymised when collected and no individual participants will ever be identified. Your name will be replaced with a participant number or a pseudonym, and it will not be possible for you to be identified in any reporting of the data gathered. All data collected will be kept in a secure place that is password protected to which only the researcher has access. These will be kept till the end of the examination process, following which all data that could identify you will be destroyed.

The results may be published in a journal or presented at a conference.

If you would like to contact an independent person, who knows about this project but is not involved in it, you are welcome to contact Dr. Eleni Theodoraki, Associate Professor at Edinburgh Napier University.

Her contact details are given below.

████████████████████

If you have read and understood this information sheet, any questions you had have been answered, and you would like to be a participant in the study, please now see the consent form.

Edinburgh Napier University Research Consent Form

Barriers and Enablers to a Circular Economy in Small Island Destinations: The Case of Orkney Islands, Scotland

Edinburgh Napier University requires that all persons who participate in research studies give their written consent to do so. Please read the following and sign it if you agree with what it says.

1. I freely and voluntarily consent to be a participant in the research project on the topic of circular economy in small island destinations to be conducted by Angelo Sciacca, who is a postgraduate student at Edinburgh Napier University.
2. The broad goal of this research study is to explore barriers and enablers to a circular economy in small island destinations. Specifically, I have been asked to participate in **self-completing questionnaire and a follow-up interview**. The self-completing questionnaire should not take longer than 1 hour and the follow up interview not longer than 45 minutes.
3. I have been told that my responses will be anonymised. My name will not be linked with the research materials, and I will not be identified or identifiable in any report subsequently produced by the researcher.
4. I also understand that if at any time during the interview I feel unable or unwilling to continue, I am free to leave. That is, my participation in this study is completely voluntary, and I may withdraw from it without negative consequences. However, after data has been anonymised or after publication of results it will not be possible for my data to be removed as it would be untraceable at this point.
5. In addition, should I not wish to answer any particular question or questions, I am free to decline.
6. I have been given the opportunity to ask questions regarding the study and interview and my questions have been answered to my satisfaction.
7. I have read and understand the above and consent to participate in this study. My signature is not a waiver of any legal rights. Furthermore, I understand that I will be able to keep a copy of the informed consent form for my records.

---

Participant's Signature

Date

I have explained and defined in detail the research procedure in which the respondent has consented to participate. Furthermore, I will retain one copy of the informed consent form for my records.

---

Researcher's signature

Date

## 9.11. Appendix 11 – Respondents Quotes: Drivers to a Circular Tourism Economy

**Table 9.6.** Quotes on the Circular Economy for Local Financial Circularity

<b>Respondent</b>	<b>Statement</b>	<b>Location</b>
2	<i>“a local group has been set up [Local Economy Steering Group], it is run by businesses [...] who have come together to navigate and create a route map out of the COVID-19 situation and that can help recover the economy and they are very interested in looking at how the circular economy can be used as a mean, you know.... build a sustainable economy future”.</i>	Linked and Non-Linked Islands
6	<i>“As a result of COVID, an economic steering group has been set up [same group mentioned by respondent 2], and one of its focus areas is the circular economy. The circular economy has been presented as a heading, when you discuss with these who are talking about it, they are talking about circulating money in Orkney”.</i>  Moreover:  <i>“At the moment, there is quite a lot of discussion with stakeholders, and some argue that it is [referring to the CE in tourism] about circulating money around the local economy”.</i>	Linked and Non-Linked Islands
5	<i>“We want to get [through the CE in tourism] as many producers to businesses within the island, rather than having them buying from Tesco”</i>	Sanday Island [Non-Linked Island]
13	<i>“I guess, as what we are facing at the moment [the COVID-19 financial impacts], in terms of a circular economy is where that money flow, what can we do collectively as [name of organisation omitted by the researcher] and the local organisations such as Visit Orkney, to promote Orkney to locals. The campaign that we are trying to pursue at the moment is a local-to-local scheme”.</i>	Linked and Non-Linked Islands
7	<i>“people are increasingly feeling that it is important to buy local, to support the local food producers” [through a CE in tourism].</i>	Linked and Non-Linked Islands

## 9.12. Appendix 12 – Documentary Analysis: Drivers to a Circular Tourism Economy

**Table 9.7.** Documentary Support: A Circular Tourism Economy for Creating Jobs and Mitigate Depopulation

Document	Quote
<p><b>Hoy and Walls Report (2019) - Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b></p>	<p>The document shows the island’s priorities concerning with the population increase to boost the economy.</p> <p><i>“the economy of the islands is very much reliant on increasing the demographic of economically active persons within the population. At present, the island suffers from a continually aging demographic due to an influx of retirees and an outward migration of young people”</i> (p.4).</p>
<p><b>Locality Consultations: Orkney Non-Linked Island Summary (2017)</b></p>	<p><b>Island of Hoy:</b> the consulted community stated that there are <i>“Very few job opportunities on the island, especially for young people, therefore, lack of young folks with families and a knock-on effect on the school”</i> (p.14) and that there is a trend of <i>“depopulation and centralisation to Kirkwall, therefore, need to encourage those working on Hoy to live on Hoy”</i> (p.14).</p> <p><b>Island of North Ronaldsay:</b> the consulted community shared <i>“worries about the island population, slowly decreasing as families leave and people getting older but struggling to attract families to the island”</i> (p.16).</p> <p>Other statements from other islands include:</p> <p><b>Island of Eday</b> - <i>“few opportunities to earn a living wage on the island”</i> (p.6).</p> <p><b>Island of Flotta</b> – <i>“work opportunities on the island are quite limited”</i> (p.9).</p> <p><b>Island of Graemsay</b> – <i>“lack of work and ability to commute to Kirkwall from the island is a bigger problem than housing. If there was work, people would find or build places to live”</i> (p.11).</p> <p><b>Papa Westray</b> – <i>It would be difficult for folks to live here and attend work on mainland Orkney and there aren’t many jobs available on the island”</i> (p.20).</p>

	<b>Rousay, Eglisay and Wyre</b> – “ <i>Virtually non-existent [referring to jobs] for Egilsay and Wyre – commuting is vital for work and training</i> ” (p.24).
<b>Orkney Islands Council Plan 2018-2023 (2018)</b>	One of the top developments priorities is the need to address workforce development across the region to ensure a better quality of life (p.13).  The Plan mentions the need to “ <i>work with partners to provide opportunities to make Orkney an attractive location for young people to live, work and study</i> ” (p. 16).
<b>Stronsay Report (2019) – Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b>	The consulted community suggested to “ <i>revise current policy to promote the repopulation of the island by an economically active demographic. - Focus on affordable housing and diverse job opportunities</i> ” (p.4).
<b>Sanday Island Report (2019) – Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b>	The consulted community affirmed that there are “ <i>Not many jobs on the island - many part-time jobs and poor pay</i> ” and “ <i>Challenges of attracting young people to the island to be economically active</i> ” with people having to “ <i>leave the island for work – leaving family and friends</i> ” (p.27).

**Table 9.8.** Documentary Support: A Circular Tourism Economy for Preventing Waste

<b>Document</b>	<b>Quotes</b>
<b>OIC Community Conversations: Feedback Report (2018)</b>	During the consultation meeting “ <i>People asked that the Council made it easier to recycle by introducing more community recycling points and incentivising people to recycle by publishing league tables of where the most recycling was done. It was also felt that more support was needed for businesses to help them recycle more</i> ” (p.5).

	<p>Furthermore, the consulted communities have asked that <i>“The Council do more to become plastic free through the development of an official policy and reusable bags or cups”</i> (p.6).</p>
<p><b>Shapinsay Community Action Plan: Research Report 2020-2025 (2020)</b></p>	<p>The consulted community have called for <i>“better recycling facilities (learn from what other island-communities are doing)”</i> (p.21).</p>
<p><b>Locality Consultations: Orkney Non-Linked Island Summary (2017)</b></p>	<p><b>Island of Shapinsay:</b> the consulted community in Shapinsay suggested that <i>“recycling provision needs to be increased”</i> (p.29).</p> <p><b>Island of Sanday:</b> the consulted community affirmed that <i>“Disposal of the rubbish needs to be looked at – it can blight the landscape”</i> and called for <i>“Better provision of recycling facilities for the island”</i> (p.27).</p> <p><b>Island of North Ronaldsay:</b> the consulted community demanded the public sector to: <i>“Consider specific funding streams to undertake research on recycling on small islands in order to better understand the waste patterns and potential of a circular economy in its disposal”</i> (p.15).</p> <p><b>Island of Eday:</b> the consulted community mentioned the <i>“Lack of facilities especially recycling – so a lot of it gets burnt”</i> (p.42).</p> <p><b>Island Papa Westray:</b> the consulted community mentioned that <i>“There is a significant amount of marine litter on the shores, which is unsightly, and will be affecting the marine environment adversely”</i> (p.18).</p> <p><b>Islands of Rousay, Eglisay and Wyre:</b> the community pointed at <i>“No Recycling”</i> (p.22) on the island driving the need to prevent waste.</p> <p><b>Island of Hoy:</b> the consulted community mentioned that <i>“Plastic recycling needed, dog fouling an issue”</i> &amp; <i>“Recycling is very often full to capacity so not enough space for the number of people using it”</i> (p.13).</p> <p><b>Island of Stronsay:</b> the consulted community mentioned that <i>“Better site needed for recycling – facilities for e.g., Plastics”</i> (p.32).</p>

### 9.13. Appendix 13 – Respondents Quotes: Barriers to a Circular Tourism Economy

**Table 9.9.** Quotes on Insufficient Inter-Island Links as a Barrier to a Circular Tourism Economy

Respondent	Quote
3	<i>"it is obvious that ferries are not as reliable [...] fine in the summer, but in winter does tend to get a little.... you know ferries get cancelled"</i> .
9	<i>"they [referring to challenges to a circular tourism economy] still come down to things like transport, and you can have a circular economy and it will still rely on transport, so transportation for greening the economy as a whole is absolutely essential"</i> .
6	There are <i>"transport timetable issues"</i> .
2	<i>"logistic and transport is one of the key issues of living on an island"</i> .
13	<i>"There is always the issue with the internal ferry service that doesn't run frequently enough and that has the capacity to take freight materials and it can be trickier [...]. There are issues on collaboration due to the island-island connection"</i> .
15	<i>"it comes down to links between the isles"</i> and that <i>"If you want equal value across the islands, improved connections are the main thing"</i> .
14	<i>"the transport connection external and internal are a real issue"</i> .
5	<i>"we don't have the infrastructures; we don't have the lorries to go down 20 miles to get rid of plastic"</i> and continued by affirming:  <i>"transport is difficult, the timing of the transport is also very difficult, it is not just about the plane journey or ferry journey, but it is about that none of them match up so getting on and off of the island is pretty much a two-day, three-day exercise rather than a day straightforward exercise because you may be able to get a place to Kirkwall or a ferry to Kirkwall, but you can't go to a place until the next day and so forth, so transport is a big issue"</i> and that <i>"Inter-island connections they don't exist"</i> .

4	<p><i>“an extra challenge that we have to work around to take part in the wider Orkney sector circular economy and not just focusing on the circular of [the non-linked island of the respondent], you know, being able to connect with that it is a challenge in that”.</i></p> <p><i>“we are lucky that we have a direct ferry to Kirkwall, whereas Sanday and Stronsay they all share a ferry. They potentially have more ability to connect to each other but it’s still a huge deny that makes things more difficult in a way. With everything happen to go through Mainland it is difficult [...] I think being on an island is more of a facilitator of the circular economy within the island community, within the region is difficult, but within the island I would say is a facilitator, but it has its unique set of challenges that you wouldn’t see elsewhere”.</i></p>
11	<p><i>“All the inter-island connections are started out in Kirkwall, so I got to do work on Sanday for example, I have to go to Kirkwall and often spend the rest of the day and night and then get a ferry to go to the next place. Huge number of hours missing and you gotta understand that 99% of traffic is between the islands and Kirkwall and inter-island is fairly difficult, we can’t arrange for anything else to be hold’.</i></p>

**Table 9.10.** Quotes on Limited Access to Circular Skills as a Barrier to a Circular Tourism Economy

Respondent	Quote
8	<p><i>“We can’t do what we want to do on an empty island. We need people”.</i></p>
13	<p><i>“a lot of the communities on the outer isles are quite fragile and it’s an aging population, and it is struggling to get new people into the island that are proactive, engaging and sustainable”.</i></p>
4	<p><i>“I was referring to the composting project that will be maybe coming up in the future. It’s being able to access the knowledge of how we even start to do something like that for our community. How does it work a composting project? how can it work for us?”.</i></p>
	<p><i>“the issue is that we have a very small population here and we actually need people to do this stuff and we are struggling to fill the jobs that we have. We don’t have people to fill these jobs”.</i></p> <p>Moreover:</p>



	<p><i>“if you buy an electric bus in Westray and it breaks down there is nobody who can fix it, you have to put it to Mainland Orkney, and we are not even sure of there is anybody in there in Kirkwall who could fix it. That’s a key issue that if you get the technologies then you may don’t have anybody here who could fix it” and finally “it comes back to access to skills”.</i></p>
<p><b>9</b></p>	<p><i>“In the more rural areas one of the challenges is accessing expertise and innovation in the place [...]. Some of them are well set in an island community in terms of the people that can get on and do it, but the knowledge related to technologies often sets within larger businesses or the university that are not present within the region or within our more rural and island communities”.</i></p> <p>Moreover:</p> <p><i>“I think having that scale set whatever is technologist, research expertise to know how to take a new product or developing new research that’s key for the businesses and to be able to do that and build these relationships, that’s really critical to have access to appropriate facilities, appropriate tech to test things and try within that rural area”.</i></p>

## 9.14. Appendix 14 – Documentary Analysis: Barriers to a Circular Tourism Economy

**Table 9.11.** Documentary Support: Insufficient Inter-Island Links as a Barrier to Circular Tourism Economy

Document	Quote
<p><b>Locality consultations – summary report (2017) – Volunteer Action Orkney.</b></p>	<p>The report provides evidence that barriers related to inter-island link are present in various islands:</p> <p><b>In the island of Eday:</b> the consulted community mentioned that “<i>Transport affects access to services</i>” (p.5).</p> <p><b>In the island of Graemsay:</b> the consulted community mentioned that “<i>... depend on ferry for everything. Recent reliability issues with the service have brought this to the front of our minds</i>” (p.10) and: “<i>No boat from island to neighbouring island</i>” (p.10).</p> <p><b>In the island of North Ronaldsay:</b> the consulted community shared “<i>Frustration for the amount of cancellations</i>” (p.15) and “<i>transport/infrastructure/digital connectivity /aging population/housing/ directly affect future sustainability of the island</i>” (p.17).</p> <p><b>In the island of Sanday:</b> the consulted community mentioned that “<i>ferry times doesn’t give you long in Kirkwall</i>” (p.27) -and their “<i>Inability to be able to ‘commute’ – either by ferry or plane</i>” (p.27) the “<i>Lack of joined up transport</i>” (p.27) and that “<i>Ferry times suit ferry workers and not the people in the isles</i>” (p.27).</p>
<p><b>Sanday Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)</b></p>	<p>The community called to “<i>Revise current transport services with a focus on island community needs</i>” (p.4) and to “<i>Harmonise good practices related to the transport sector across all Scottish islands</i>” (p..4). Furthermore, the community mentioned the need to “<i>Ensure that the new ferry and plane fleet are upgraded considering appropriate technology that specifically benefits the needs of island communities</i>” (p.5).</p> <p>The community also argued that “<i>It is [...] essential that transport should not be considered just as an economic service, but as an essential lifeline for the community [...] Consequently, timetabling, as well as ferry and air infrastructure, need to be revised in order to better benefit island communities</i>” (p.6).</p>

<p><b>Stronsay Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)</b></p>	<p>“transport” issues were evidenced by the community at p. 2 of the report.</p> <p>Moreover, the community called for:</p> <p>“discussion with ferry providers to discuss improvements of the fleet in terms of frequency and capacity” (p.6) and calling for “Legal requirement for community input into revision of integrated transport timetabling with increased frequency of ferry crossing” (p.6).</p> <p>Furthermore, it was also stated that:</p> <p>“In terms of transport, the current infrastructure in place for ferries does not provide the necessary ‘lifeline’ service that the island communities are wholly reliant on. Participants indicated that the current ferry fleet was outdated and unreliable, and that there was a complete lack of public transport available on the island itself. There is a need to revise the transport sector to ensure that it is driven by island communities, and that it is fully recognized as being a ‘lifeline’ service for islanders rather than just an economic service” (p.7).</p>
<p><b>Westray Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)</b></p>	<p>At p. 3 of the report “transport” was regarded as of the main challenges for the Westray community. Moreover, at p. 4 the community stated that:</p> <p>“revision of local transport policy to take into account the potential transformational role that an improved transport systems have for island communities” (p.4) and “consider the possibility of developing and island focused/centric transport policy that benefits island communities” (p.4).</p> <p>The community concluded by arguing that “anything from timetabling to ferry and air infrastructure needs to consider the impacts such decisions will have on island communities. There is a strong need to better understand through data gathering and research the travel needs of the population on Westray” (p.5).</p>
<p><b>Consultations on a National Islands Plan and Island Communities Impact</b></p>	<p>The community indicated the need to improve ” Transport services” (p.7) is indicated as a key objective of the Plan.</p>

<b>Assessment Guidance (2018) – The Scottish Government</b>	
<b>Orkney Tourism Strategy (2020) 2020 – 2025</b>	The SWOT analysis forming the foundation of the strategy highlighted that the public transport is a key actor to the development of tourism (p.18).
<b>Papa Westray Island Development Plan 2011-2021 (2021)</b>	Under the key objectives, the plan highlighted transport issues to be improved. At p. 3, the plan called for an integrated transport system by:  <i>“Secure a scheduled year-round passenger ferry service between Papay and Westray to improve existing economic, education, health and social links between the isles and to access more ferry transport links to Kirkwall” (p.3) and “Provide additional ad-hoc passenger ferry sailings between Papay and Westray out with scheduled ferry times to access social, recreational and economic opportunities not currently available in Papay” (p.3).</i>
<b>Orkney Islands Skills Investment Plan – University of Glasgow – Final Report (2017)</b>	The plan highlighted some of the challenges stated by the communities, including <i>“poor transport links” (p.7).</i>
<b>North Ronaldsay Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b>	At p. 6 of the report it is stated that <i>“From a transport perspective, both air and ferry services need to improve. More joined up thinking and integrated policies will benefit the island community of North Ronaldsay. The possibility of daily commuting (all year round) will enable more people to consider moving to the island” (p.6).</i>
<b>Orkney Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and</b>	The community called to <i>“Review and reform of the transport policy in line with island communities’ interests and priorities (ferry, air and bus)” (p.4) and that there is a “need for integrated transport policy and timetable, as transport for island communities is not just a service (it’s a lifeline, it’s a right) (p.5).</i>

<i>Scottish Islands Federation (SIF)</i>	
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**Table 9.12.** Documentary Support: Limited/Unreliable Digital connectivity as a Barrier to a Circular Tourism Economy

Document	Quote
<p><b>Locality consultations – summary report (2017) – Volunteer Action Orkney.</b></p>	<p><b>In the island of Eday</b> the community highlights that “<i>Broadband slow and unreliable</i>” (p.6) that “<i>Problems can take a long time to sort</i>” (p.6) that the “<i>Mobile signal is patchy</i>” (p.6) and that “<i>Businesses can’t run – average speed is 3.2</i>” (p.6).</p> <p><b>In the island of North Ronaldsay</b> the community highlights that “<i>Broadband is slow and expensive, unreliable</i>” (p.17), “<i>Mobile coverage – patchy at best and only really 2 main carriers</i>” (p.17) it “<i>Comes and goes</i>” (p.17) and “<i>Needs to improve for the future of the island/Business etc...</i>” (p.17).</p> <p><b>In the island of Westray</b> the community mentioned that the “<i>Broadband is slow and expensive, unreliable</i>” (p.21, “<i>Mobile coverage – patchy at best and only really 2 main carriers</i>” (p.21) and that “<i>Affordable connectivity and equity of coverage speeds would really add to the possibilities to keep the island communities</i>” (p.21).</p> <p><b>In the island of Rousay, Egilsay and Wyre</b> community discussed that “<i>There are many areas of Rousay which have poor internet access and mobile phone signal - and some where it is negligible</i>” (p.24) and it is “<i>A major issue – very variable BB and phone signals</i>” (p.24) and it “<i>Affects many aspects such as work, health services etc, high risk</i>” (p.24).</p> <p><b>In the island of Sanday</b> community also mentioned the “<i>Broadband issues around speed and reliability – good one day – and then poor the next</i>” (p.27) - “<i>Mobile signal can be patchy – have to travel 2 miles to get a good signal</i>” (p.27) - “<i>Challenges of running a business with these issues</i>” (p.27).</p> <p><b>In the island of Shapinsay,</b> the community highlighted the “<i>Dead patches for mobile coverage</i>” (p.30) and “<i>decent broadband speeds but very aware that others on the island are in a much worse situation</i>” (p.30).</p>

	<p><b>In the island of Stronsay</b> the community stated the “<i>Internet service unreliable</i>” (p.33), “<i>Mobile phone service patchy</i>” (p.33), and that “<i>Few places signal is good some where none at all</i>” (p.33).</p> <p><b>In the island of Westray</b> the community argued the “<i>Lack of internet speeds and mobile signal is inhibiting economic growth</i>” (p.36), “<i>Much has been promised but little delivered</i>” (p.36) and that “<i>There will be higher speed broadband installed in Westray, but over a very limited area. The main economic hub (Bakehouse, crab factory, and haulier as well as doctor’s surgery) all being missed out</i>” (p.36).</p>
<b>Sanday Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)</b>	<b>In the island of Sanday</b> , the community stated that “ <i>when it comes to digital connectivity, the community on Sanday is not uniformly served, with some parts of the island enjoying good broadband and mobile connection and others much less. This was routinely mentioned as an ‘umbrella’ issue, that if improved would have ripple effects across the island. Specifically, the issue of economic development was highlighted as being severely impacted by the current lack of reliable connectivity</i> ” (p.6).
<b>Stronsay Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)</b>	<b>In the island of Stronsay</b> , it was mentioned the need to “ <i>revise digital connectivity policy to discuss with services providers connectivity as a right / lifeline rather than just an economic service</i> ” (p.6) to “ <i>consider the development of minimum legally binding requirements in relation to digital connectivity, starting from the periphery</i> ” (p.6) and that “ <i>achieving sustainable economic development was heavily reliant on the improvement of the current standard of digital connectivity, which is very inconsistent across the island</i> ” (p.7).
<b>Westray Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)</b>	<b>In the island of Westray</b> , digital connectivity was regarded a main barrier to development in the island of Westray. It was stated the need of “ <i>harmonisation of digital connectivity across the island through better infrastructures</i> ” (p.5) to “ <i>consider digital connectivity not just an economic service but as a lifeline that island communities require in order to survive</i> ” (p.5) and “ <i>when it comes to digital connectivity, the community on Westray is not uniformly served with some parts of the island enjoying good broadband and mobile connection and others much less</i> ” (p.6).
<b>Orkney Tourism Strategy 2020 – 2025 (2020)</b>	The SWTO analysis forming the foundation of the strategy does highlights that digital connectivity is one of the main challenges to the tourism development of the islands (p.18).
<b>Orkney Islands Skills Investment Plan – University</b>	The plan highlighted that one of the challenges faced by the region is “ <i>Broadband and 3G/4G connectivity across the Orkney Islands varies. Again, this can limit the competitiveness of Orkney Islands businesses and act as a barrier to accessing employment, training and learning opportunities for individuals</i> ” (p.7).

<b>of Glasgow – Final Report (2017)</b>	
<b>North Ronaldsay Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b>	<p>At p. 5 the report highlights that the need to “<i>revisit what amounts to “periphery” it shouldn’t exclude those on the actual periphery i.e. Papa Westray and North Ronaldsay.</i>” (p.5) and “<i>Improved digital connectivity infrastructure but starting from North Ronaldsay and then spread to Sanday</i>” (p.5) as well as “<i>Developing minimum legally binding requirements starting from the periphery</i>” (p.5).</p>
<b>Orkney Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b>	<p>At p. 3 of the report “<i>digital connectivity</i>” is regarded as one of the challenges.</p>
<b>Hoy and Walls Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b>	<p>At p. 3 of the report, the community stated that “<i>digital connectivity</i>” is a main challenge faced by them towards development. This was mentioned in more details when stating the need to “<i>consider the development of minimum legally binding requirements in relation to digital connectivity, starting from the periphery</i>” (p.4) and continued by arguing that “<i>It should also be noted that economic development was heavily reliant on the improvement of the current standard of digital connectivity</i>” (p.5).</p>

**Table 9.13.** Documentary Support: Limited Access to Circular Skills as a Barrier to a Circular Tourism Economy

Document	Quote
<p><i>Consultations on a National Islands Plan and Island Communities Impact Assessment Guidance (2018) – The Scottish Government</i></p>	<p>As key objective the plan indicates the need to “<i>increasing population level</i>” (p.7) which may be linked to increase in working population.</p>
<p><i>Locality consultations – summary report (2017) – Volunteer Action Orkney.</i></p>	<p><b>In the island of Eday</b>, the community mentioned that “<i>Number of people on Eday make it difficult to make jobs – especially trades -financially viable</i>” (p.6).</p> <p><b>In the island of Flotta</b>, the community mentioned that “<i>Its main downside is that the small population is unable to support some activities</i>” (p.8).</p> <p><b>In the island of North Ronaldsay</b>, the community mentioned that “<i>transport/infrastructure/digital connectivity /aging population/housing/ directly affect future sustainability of the island</i>” (p.17)</p> <p><b>In the island of Sanday</b>, the community mentioned that “<i>Challenges of attracting young people to the island to be economically active</i>” (p.27) that “<i>Have to leave island for work – leaving family and friends</i>” (p.27), and the “<i>Aging population – so many older people don ’t’ need a job</i>” (p.27).</p>
<p><i>Stronsay Report Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF) (2019)</i></p>	<p><b>In the island of Stronsay</b>, it was mentioned that “<i>stopping population decline</i>” is a key issue for the islanders as mentioned in p. 2 of the report.</p>



<b>Island sustainability in challenging times: a development plan for Stronsay (2011)</b>	<p>At p. 7 of the report the community stated that there is a lack of “<i>Training provided for skills, short and long courses</i>”.</p>
<b>Papa Westray Island Development Plan 2011-2021 (2011)</b>	<p>Under the objectives in education and trainings, the plan highlights the need to “<i>local skills and business trainings</i>” (p.3).</p>
<b>Orkney Islands Skills Investment Plan – University of Glasgow – Final Report (2017)</b>	<p>Objectives were identified during the plan such as “<i>meeting current skills needs of employees</i>” (p.1).</p> <p>The Plan states that “<i>The ageing population on the Orkney Islands – coupled with overall population declines in some communities – is placing increasing pressure on public services and new methods of service delivery will need to be developed and adopted. If current working patterns continue, this will also reduce the overall size of the available labour force</i>” (p.7). Moreover, at p.8 of the report, it is specified that depopulation is mainly driven by poor inter-island connections that challenge the life on the island.</p>
<b>North Ronaldsay Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b>	<p>At p. 3 of the report, “<i>depopulation</i>” is seen as a key challenge, clearly stating that the “<i>population decline on North Ronaldsay is worrying</i>” (p.6).</p>

**Table 9.14.** Documentary Support: Institutional centralisation as a Barrier to a Circular Tourism Economy

Document	Quote
<p><b>Locality consultations – summary report (2017) – Volunteer Action Orkney.</b></p>	<p><b>In the island of North Ronaldsay</b> the community “<i>Don’t feel council listen or understand problems of island life</i>” (p.17).</p> <p><b>In the island of Papa Westray</b> the community stated that “<i>Your voice can be heard in Papay but on the whole engagement with the Council isn’t perceived as valuable</i>” (p.19) and “<i>I don’t think the council listen to our needs or understand our problems, they certainly don’t come back with any answers</i>” (p.19).</p> <p><b>In the island of Rousay, Egilsay and Wyre</b> the community stated that “<i>We have no say in anything. We are continually ignored by the Council and other bodies</i>” (p.24).</p> <p><b>In the island of Sanday</b> the community stated that “<i>Council doesn’t work in partnership with local organisations</i>” (p.26) and “<i>Better partnership working with OIC would make a huge difference</i>” (p.26).</p> <p><b>In the island of Stronsay</b> the community stated that “<i>Sometimes decisions are imposed although they haven’t been thought through properly</i>” (p.32) and “<i>Dialogue would help – little or no feedback</i>” (p.32).</p>
<p><b>OIC Community Conversations: Feedback Report - A summary of the main issues raised by local people during Orkney Islands Council’s Community Conversation meetings held in June 2018. Orkney Islands Council (2018)</b></p>	<p>Among the overall top issues highlighted by the communities at p. 6 it is stated that “<i>Community Councils would need a link officer if they were going to take on services and staff management, help with funding applications and other jobs on the isles. They could then organise income generation projects for their individual community – reuse and recycle projects were very common. It was suggested that funding for these posts could come from the reserve fund</i>” (p.6).</p>

**Table 9.15.** Documentary Support: High Disposal and Redistribution Costs as a Barrier to a Circular Tourism Economy

Document	Quote
<p><b>Locality consultations – summary report (2017) – Volunteer Action Orkney.</b></p>	<p><b>In the island of Eday</b> the community stated that “<i>High costs of getting things/materials to the island</i>” (p.5) and “<i>Difficult to start a sustainable small business on island and ferry costs</i>” (p.6).</p> <p><b>In the island of North Ronaldsay</b> the community stated that “<i>Residents have to pay to recycle, there is nowhere to put rubbish so therefore it starts to collect and pile up around the island</i>” (p.15).</p> <p><b>In the island of Shapinsay</b> the community stated that “<i>Ferries are expensive</i>” (p.28).</p>
<p><b>Island sustainability in challenging times: a development plan for Stronsay (2011)</b></p>	<p>The community stated that “<i>The costs of transport and fuel were a major disincentive to business start-ups</i>” (p.5).</p>
<p><b>North Ronaldsay Report (2019) Strathclyde Centre for Environmental Law and Governance (SCELG) and Scottish Islands Federation (SIF)</b></p>	<p>The community argued that “<i>Crucially, the cost of both air and ferry travel is seen as extremely expensive, and measures should be taken to effectively reduce this cost where possible and allow for uniform reductions to be applied to all ferry services operating from the island</i>” (p.6).</p>

## Appendix 15 – Respondents Quotes: Enablers to a Circular Tourism Economy

**Table 9.16.** Quotes on Traditional Circularity as an Enabler to a Circular Tourism Economy

Respondent	Quote
2	<i>“the key concept of circular economy is keeping materials in use and high value for as long as possible, and the islands have just automatically done that over time because as it is so hard to get things here when you have them in here you keep them running, you keep them useful for as long as you can” and that “the outer isles... they try to keep materials for as long as possible because once it becomes a waste, for instance, getting everything out of the island is also complicated, that is something else that you just have to deal with”.</i>
6	<i>“It may be more natural for small islands to have an island circular economy because of the historical context of living on a small island you got to reuse and make sure that everything gets the best possible use out of things” and that “The community in Orkney is very diverse, historically there is a sense of opportunism, in terms of things gets washed up, they get used, they get re-used, maybe that is just something of being on an island. There is opportunism because community can be storm-blocked for a couple of weeks, you may not get a boat for a couple of weeks and whether that translated into more circular practices in the modern era, I suspect there is an element of truth in that”.</i>
5	<i>“because we do have a lot of arts and crafts on the islands [...] We have someone working with paper, with glass and they fuse it, and then than goes into the craft hub and get sold to tourists” and ““in particularly when there is house clearance, when people pass away on island or leave the island a lot of stuff goes to the reuse centre. We do make a joke that we continually see the same things in the reuse centre because someone takes things at home, they pass away, or they leave the island and comes back to the reuse centre and then somebody else will take. I am sure that some things have gone around the houses many many times. It is a key thing here to try and think about ways to take what is waste and make it into a product that can then be sold on the island or going into tourism by selling it”</i>
5	<i>“I think going back a few years on the island, they all lived independent because they were, transport was even worse than it is now and so they were very inward looking and self-sufficient and so anything they needed they created it locally and so you didn’t need the other islands”</i>
8	<i>“We know that there are people trying to do things and a lot of people are active this way as an island anyway. You know they are trying to employ their neighbours to do something rather than send somebody to come from off the island because it’s cheaper and more affective”</i>

<b>4</b>	<i>"I think that actually this [referring to CE] has always been in Orkney because of our isolation and the need to make, do and mend. And you know, especially with our difficulties in disposing large items of waste, there is a very much culture of repair here and making do"</i>
<b>4</b>	<p><i>"it's a big tradition on the island [referring to circularity], if has always been that way, if things don't work and we don't collaborate, the island wouldn't thrive if didn't. It has been around here for a very long time, it is just what we have to do in an island community".</i></p> <p>Moreover:</p> <p><i>"I see it as a facilitator [referring to local traditions] because there always been an attitude on the island that you have to make do more with less, speaking by necessity, and this has become part of the community, they get on and do things and fix things themselves, and if they don't know how to fix themselves, they know somebody who does, so yes, I would say that it's a facilitator as well reviving some of the traditional skills as well"</i></p>
<b>4</b>	<i>"I would say that these elements [of traditional circularity] are still there in Mainland too [Mainland Orkney]. Heritage is something that is really strong in Orkney, people are really closely connected to that history, even the living history. They are closely connected to their culture and heritage" and "it comes back to the culture that we would try find a way to make it work and this is a big driver here"</i>
<b>11</b>	<i>"I come from an electronic programming background. So wherever possible I tend to repair things or use items, store them until I need them, and I carry a minimum of stock of whatever is possible to reduce the need for additional freights. Sometime if is a cheap item I buy a second one just to reduce transport costs and trying to make use of things and I have the ability to repair all sort of stuff that a lot of people dump down. I try to repurpose, if someone say, "look can you make use of this?"</i>
<b>7</b>	<i>"if you are in a remote area, or you are on an island and the food needs to be actually transported there, food waste is closer to what they think about, they know the cost of it, if you go in a restaurant in Glasgow, even if someone who is really good at their job, often they don't understand the amount of every year food waste. My experience was different in highlands and islands, not always, you know, higher proportion of people understand what goes into producing food because it has to come a long way"</i>
<b>9</b>	<i>"I think that is the other thing the traditions, that's probably because of the fact that we don't have tech expertise on the island, we don't have that access because the universities aren't there with that. So, the traditional aspects are still there"</i>

**Table 9.17.** Quotes on Community Cohesion as an Enabler to a Circular Tourism Economy

Respondent	Quote
10	<i>“It is a very good community spirit here anyway and COVID-19 enhanced that”</i>
3	<p><i>“We are highly collaborative society here, for instance farmers have always shared”</i></p> <p><i>“Community cohesion is very strong in these islands, but it is very strong, and it works well but you can also get division too but generally it works well”</i></p>
14	<i>“I think there is massive desire for people to collaborate, and for people to connect to other people”</i>
6	<p><i>“North Orkney is far more collaborative than other areas, one of the examples would be the community trust that I mentioned, the community trust on each island, they work together collectively and have done that for a quite number of years predominantly to do things like investing on local wind turbines so for any revenue generated you can do a number of things for the community, and so then they re-invest that money in things like recycling initiatives just to make the waste processes more efficient, but it is really more collecting and shipping it off, there is very little in terms of recycling initiatives”.</i></p> <p>Moreover:</p> <p><i>“I think in terms of collaboration I think it is a general principle that is quite strong in Orkney”.</i></p>
15	<p><i>“There is a social network of community as well, we do know people, I guess that has been one of the calamities of COVID-19, you will still bump into somebody when you go across to a have a few minutes chat. It will come back; it haven’t been lost. I think social networking within each individual islands it works very well, I guess it is slightly more set up on the Mainland [Mainland Orkney]”.</i></p> <p>Moreover:</p>

	<p><i>“we all know each other’s telephone numbers, there is Facebook pages, I think there is four Facebook pages in Shapinsay, the Shapinsay page which is a development trust page, there is the Shapinsay history page, there is the Shapinsay swops exactly dedicated to what we are talking about and there is also a Shapinsay dialect page where you only speak in Orcadian, so there are 5 Facebook pages for an island of just over 500 people. And interestingly the main page has 600 members with people associated with Shapinsay in the past or just needed to communicate”.</i></p>
<b>8</b>	<p><i>“So, I think the fact that people know each other means that they know that there is a potential for somebody locally to supply the service that they may need. So, knowledge I think is useful. Generally, people get on with each other and therefore they are happy to place the work, it is pretty unusual for people to say, “I am not gonna get this job done because I don’t like this person”. They may say, “I like them more than I like them” so I am gonna use that one, so I think knowledge of capacity is an enabler for circularity”.</i></p>
<b>4</b>	<p><i>“but the majority of activities will just be informal based on community relationships”.</i></p> <p><i>“Let’s say, make, do and mend holds us together, they will help each other out, if something is broken but you don’t know how to fix it, he will probably help you out, it is more informal that way”.</i></p> <p><i>“I think there is still that element in Mainland as well, but it is certainly stronger in the smaller islands and I think being smaller community and limit access to services drives that, I think necessity is a key driver as well as that community feeling and the way relationships develops, but necessity is a key driver and you don’t necessary have that necessity in mainland when you got big businesses like Tesco, Aldi, [...] it is much easier in these places that it is here”.</i></p>
<b>11</b>	<p><i>“Social networking is a huge advantage”.</i></p> <p><i>“Heritage is quite interesting and there is a lot to be learned from the previous history, generally the community here is very good in helping each other out and this is gone on for many many years and a lot of people are very proud of being Orcadian and from Westray and that can be very useful, but there are some very blinked people out there”.</i></p> <p><i>“I think the reasons, partly, that we didn’t have any enquires from Orkney is, in my experience of working in Orkney, is that they all know each other anyway. If there has been unexpected surplus from any of food producers in there for example and already know someone who would want this cheese, you know, that would be my expectation”.</i></p>

	<p><i>“But I have a feeling that may be different on Orkney they would know someone who knows someone” and “on the plus side, local networks are much stronger, and they can just do this often without thinking about it”.</i></p> <p><i>“the community is a plus, social networking. People on the islands are maybe what all need to become post-pandemic, you know... they often have two or three jobs, and my wife works with such and such and... they know more people, they are kind of people I have been working with I just got the feeling they know everyone on Orkney. These kinds of social connection, that specifics are usually of very small rural community on mainland or the islands”.</i></p> <p><i>“I think it would be easier to find a community partner on Orkney than in other places because of these connections and because of the size of their community”.</i></p>
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**Table 9.18.** Quotes on COVID-19 and Access to Collaboration as an Enabler to a Circular Tourism Economy

<b>Respondent</b>	<b>Quote</b>
<b>15</b>	<i>“You can see lot of leading forward and on the way and also one of the good consequences [of COVID-19] has been the uptake of technologies allowing six or seven people across Orkney or 20 people in Orkney joining a call. You see far more people from the small islands joining in. reducing the travel for instance from Westray to join a meeting in Kirkwall that turns into six hours journey rather than 2 hours meeting. So, this is a real benefit, a real positive that come out of COVID-19, and I hope it will continue, I think it will continue”.</i>
<b>5</b>	<i>“I think COVID-19 is opening up new ways that will be used because I think it's kind of forcing everybody to jump on and use technology more than they have done previously” and “So, it is forcing people to sell staff online and further afield and not just rely on people visiting the island because that is difficult. We are one of the further north islands of Orkney, so people travel to Orkney and go the Mainland, they might go to one another island but not all of the islands”.</i>
<b>4</b>	<i>“so with COVID everyone started to speak more online and we were able to have meeting and conferences like this, so we are able to be part of it and information flows much quicker between us especially between the different development trusts in Orkney as we have a group Zoom every two weeks now, which before we would meet only twice a year maximum but not we are meeting every two weeks and we just sharing</i>



	<p><i>what happening on our communities, project ideas, what we are working on, what issues we having, sharing information and solutions to get there and it has worked really well and we really want to keep that going and actually something that has come out with it is that Stronsay group they are looking to set up a north isles committee group that we can all get together online to discuss the north isles waste management needs and what that would be we don't yet, but this communication channel have actually improved as a result of COVID”.</i></p>
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## 9.15. Appendix 16 – Relationships Between Barriers and Enablers

**Table 9.19.** Quotes: Relationships Between Barriers and Enablers

	<b>One BARRIER drives/partially drives another BARRIER:</b>		<b>Evidence from semi-structured interviews</b>	<b>Note</b>
<b>BARRIERS</b>	Insufficient inter-island links	Waste collection challenges	<i>“There are definitely more services available in mainland Orkney, especially when it comes to waste management than there is in the outer isles. In the outer isles you have to bring it over in the ferry yourself or pay for it to be brought and that’s a big barrier to solve things responsibly.”</i> [Respondent 4]	Waste collection challenges faced in the islands are further accentuated and/or rooted in the insufficient inter-island links. This is especially an issue for the non-linked islands.
		Limited access to circular skills from outside the islands	<i>“It is very difficult to get people here of an age that can bring these skills [...] it is not very easy to move to an island like here and set up a new business and to know that you gonna make it successful.”</i> [Respondent 5]	The limited access to circular skills from outside the islands – to attract people with skills, either temporary and/or permanently to live on the islands – is further challenged by insufficient inter-island links. This is especially an issue for the non-linked, less connected islands.

		Limited access to circular skills from within islands	<i>“Available skills are a challenge. It is inevitable when you are a small population.”</i> [Respondent 2]	This links to the problem of depopulation that is partly related to the insufficient inter-island links, as reported in Chapter 4 (Context). Depopulation leads to a small active working population on the islands, especially for non-linked and smaller islands.
		Institutional centralisation	<i>“It is just so difficult to travel between the different north isles [...] we don’t have that strong relationship with the local council to really be on the loop.”</i> [Respondent 4]	Insufficient inter-island links hamper the regular presence of public representatives on the “secondary” islands, further accentuating institutional centralisation. This is certainly an issue for the non-linked and most remote islands of the region.
	Insufficient island-mainland links	Challenging access to innovation centres and schemes	<i>“Challenges related to interfirm collaboration is about having access to centres of expertise. If you are an Edinburgh business or a business in the central belt and are looking for new ways of doing things, you want to understand what the latest technologies are and what is innovative in your area, you can reach out quite easily to local universities and other research organisations.”</i> [Respondent 2]	Access to innovation centres and schemes is mainly hampered by the absence of regular island-mainland links to allow time and cost-effective business travel. While this is an issue for all the OI, it is accentuated by greater distances, thus becoming a more relevant issue for the most remote islands of the region.
		High disposal and redistribution costs	<i>“When you work in an island economy, you got to ship products away, so you have got that extra cost for transport, so the margins are tight, is not that they are not willing they just have these costs.”</i> [Respondent 3]	Insufficient island-mainland links accentuate the tourism costs when seeking to dispose and/or redistribute materials for a circular tourism economy, an issue enhanced by greater distances, thus potentially more relevant for businesses with greater distances from other businesses and disposal/repurposing centres.

	High distance from markets	High disposal and redistribution costs	<i>“In mainland Orkney, there is a project called RESTART Orkney and they take old furniture, fix them up and then sell them on the charities but in any other isles you don’t have access to that, you know to take a vehicle on the ferry is 40 pounds return, just for a normal size car, it doesn’t sound a lot, but it’s a barrier for people for doing that.”</i> [Respondent 4]	High disposal and redistribution costs are also accentuated by the distances that exist between the island and the potential market for materials and/or surpluses. This becomes a more relevant issue for those located at greater distances from markets.
	Challenging access to innovation centres and schemes	Limited access circular skills on the islands	<i>“In the more rural areas, one of the challenges is accessing expertise and innovation in the place [...] some of them are well set in an island community in terms of the people that can get on and do it, but the knowledge related to technologies often sets within larger businesses or the university that are not present within the region or within our more rural and island communities.”</i> [Respondent 9]	The availability of skills on the islands may also be affected by the overall access to innovation schemes and centres, which would help their capacity building.
	Limited / unreliable digital connectivity	Collaborative redistribution challenges	<i>The broadband is an issue that affect their ability to partnerships as well.”</i> [Respondent 4]	Given that material redistribution increasingly relies on digital connectivity, limited and/or unreliable digital connectivity tends to accentuate the collaborative redistribution challenges. This appeared to be an issue for the most remote islands with often limited digital connectivity.
		Challenging access to innovation centres and schemes	<i>“Our broadband is an issue as well [...] can be a big issue from being more disconnected and it is actually on the ability for people to gather knowledge, let them be part of conversation, develop new skills.”</i> [Respondent 4]	Issues related to digital connectivity also tend to affect the overall access to innovation centres and schemes, given the increasing number of online-based events, training and webinars.

	Highly competitive environment	Solo working practices	<i>“Accommodation’s providers don’t really work together I guess because they just feel in competition because there so many.”</i> [Respondent 9]	Because of the highly competitive environment existing in the islands, tourism businesses tend to act solo towards a CE. This seems to be a major issue in the smaller and most remote islands that attract a small number of visitors.
	High disposal and redistribution costs	Collaborative redistribution challenges	<i>“Distance... when it comes to anywhere outside to Westray is an issue and again that’s coming back to the logistics of travel and how do you get to these other businesses cost-effectively.”</i> [Respondent 4]	Challenges to material redistributions tend to be mainly related to high costs deriving from the long distances among actors that seek to collaborate.
<b>ENABLERS</b>	<b>One ENABLER drives/partially drives another ENABLER:</b>		<b>Evidence from semi-structured interviews</b>	<b>Note</b>
	Traditional circularity	Circular entrepreneurship	<i>“A lot of people look to repurpose things whatever be scrap metal and small models and selling them in Kirkwall. There are a lot of things that are being used that other would consider rubbish, so either repair or reuse it.”</i> [Respondent 5]	Some traditional circular practices may facilitate circular entrepreneurship or profit-based circular solutions that evolve upon existing circular practices.
	Strong community cohesion	COVID-19: increased informal circularity	<i>“Community connection [...] enables more local exchanges or things. and in a smaller community these connections are there and allow you to have a lot more of sharing of resources and services within the community.”</i> [Respondent 4]	Forms of informal circularity are facilitated and made possible by the existence of strong community cohesion stimulating collaborations, exchange and trust – even without formal agreements.
		Strong tourism industry cohesion	<i>“Everybody here is pretty close together. Being on an island community you do talk amongst each other and share knowledge and ideas.”</i> [Respondent 12]	The existence of a strong tourism industry cohesion is facilitated by the presence of strong community cohesion. Tourism is embedded in the community, and social capital does affect directly the tourism sector.

	Strong pride and identity	Traditional circularity	<i>“Heritage is something that is really strong in Orkney; people are really closely connected to that history, even the living history. They are closely connected to their culture and heritage; it is something that they take pride of, and they want to preserve. And they still use traditional skills.”</i> [Respondent 4]	Strong pride and identity motivate the use of traditional practices in a CE because of the wish to preserve them.
	Tight urban clusters	Strong community cohesion	<i>“Generally, the community here is very good in helping each other out and this has gone on for many, many years.”</i> [Respondent 15]	Strong community cohesion is facilitated by tight urban clusters whereby community members find it easy to interact and be cohesive. This is especially an enabler in the small islands of the region.
		Strong tourism industry cohesion	<i>“Everybody here is pretty close together. Being on an island community you do talk amongst each other and share knowledge and ideas.”</i> [Respondent 5]  <i>“I think, in terms of collaboration, I think it is a general principle that is quite strong in Orkney.”</i> [Respondent 8]	A strong industry cohesion is made possible by the proximity among tourism actors operating within one island. The typical proximity is made possible by tight urban clusters, and it is especially an enabler for the smaller islands.
<b>BARRIERS</b>	<b>One BARRIER drives/partially drives one ENABLER</b>		<b>Evidence from semi-structured interviews</b>	<b>Note</b>
	Insufficient inter-island links	Circular entrepreneurship	<i>“You have to think differently because [...] connections do break down and so it makes you think quite differently how you do things.”</i> [Respondent 1]	Circular entrepreneurship emerges partly from the transport challenges from great distances, costs etc. faced by the community. Circular entrepreneurship is a response to mitigate these challenges by keeping

				materials on the island by finding ways to valorise them.
		Traditional circularity	<i>“Orkney is remote from other centres of population; they had to be self-sufficient.”</i> [Respondent 2]	Traditional circularity has been developed out of necessity from being isolated and, certainly, partly by the lack of mitigating strategies such as the insufficient inter-island links. This is especially relevant for the non-linked and most remote islands of the region.
	Waste collection challenges	COVID-19: improved awareness on waste prevention	<i>“If you are storing all your waste [as it has happened during lockdown] and it is not being taken away on a regular basis, I would become very well acquainted with my consumption of bottles and plastic. Now I consume less than I did before.”</i> [Respondent 14]	Waste collection challenges – especially during the COVID-19 pandemic – have led to more awareness of waste prevention, especially in the islands less served by waste collection services.
		Circular entrepreneurship	<i>“In Stronsay, they are doing a lot of work around recycling and waste management in the island because they don’t have the same services that we do in Westray, they are recycling glass, they make cupboards for cats.”</i> [Respondent 4]	The innovative and circular solutions – often profit-oriented – adopted on these islands are partly the result of the challenges faced by them in terms of waste collection.
	Institutional centralisation	Strong tourism industry cohesion	<i>“I am in a group of B&amp;B in Orkney, so we’re getting together in helping each other and sharing best practices and that type of things. ‘How did you manage to get the grants? Can you help me?’ Widen the net, if you know what I mean? If I weren’t part of that group, I would have been quite isolated in my own trying to apply for grants, you know... the business grants and that type of things.”</i> [Respondent 10]	To mitigate the impact of institutional centralisation, the industry tends to be cohesive and mutually supportive. This seems to be especially an issue for the non-linked islands and the ones more remote from the core island of their region.

ENABLERS	One ENABLER drives/partially drives one BARRIER		Evidence from semi-structured interviews	Note
	Small waste streams	Limited economies of scale for material reprocessing	<p><i>“There is pretty low waste anyway and the only source of waste would be food waste [...] make sure to have somebody to operate it or make travel volunteer to use that machine, it just didn’t work for the amount of cupboard that may be available in such small community.”</i> [Respondent 4]</p> <p><i>A lot of that material is absolutely not at scale [...] you have the challenges of the market you’re selling to but also the market for the waste stream as well.”</i> [Respondent 2]</p>	While small waste streams may be an enabler – as they are more manageable for a CE – they generate limited economies of scale for reprocessing, especially for the islands that lack reprocessing facilities and need to incur extra costs.
		Challenging access to finance	<p><i>“There was one grant recently that was specifically for island shops for them to change to, you know, container style shops where you can refill rather than taking plastic bags [...] it wasn’t actually appropriate for islands businesses because it was too much bigger scale especially for the smaller islands.”</i> [Respondent 4]</p>	Small waste streams also generate challenges towards access to finance, given the current structures of funding mechanisms.
		Limited access to small scale technologies	<p><i>“A lot of that material is absolutely not at scale; we are doing in a small area like Orkney to recycle them, it is just not durable, there is no machineries, the machineries would only be on once a year, with some of these recycling machines that would cope with the volume that we have in Orkney because there are small volumes.”</i> [Respondent 2]</p>	Small waste streams make current mainstream technologies unfeasible for circular processing, as they are costly, time-consuming and usually cannot operate with relatively small waste streams.

