



Short food supply chains and producer-consumer
reconnection: Achieving sustainable territorial
development in the fisheries sector

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Abstract

This thesis concerns the formation of short food supply chains (SFSCs) and the achievement of sustainable territorial development in the fisheries sector. Coastal fishing communities across Europe face significant social and structural changes that have led to a continued decline in income and challenges for social renewal within the sector. This disruption has exacerbated a perceived disconnect or lack of interaction between the sector and the wider local community and business development context: fisheries are now largely seen as national sectors producing commodities for wide-ranging and often distant markets. This research explores the factors associated with the formation of fisheries SFSCs, drawing on a novel fsQCA study of Fisheries Local Action Group (FLAG) areas in the UK and EU, quantitative data obtained from a survey of fisheries producers across Europe and their willingness to participate in SFSCs, and experimental research into consumer perceptions and purchase intentions with regard to locally produced seafood. The project is contextualised within, and contributes to, the broader theory and practice of SFSCs as well as theories of social capital and the integration of sectoral and territorial (place-based) approaches to local development. It contributes to the growing literature on SFSCs and their contribution to local development initiatives, the re-localisation of food, and the reconnection of coastal communities with the fishing sector.

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Acronyms

AFN	Alternative Food Network
CAP	Common Agricultural Policy
CFP	Common Fisheries Policy
CLLD	Community-led Local Development
DEFRA	Department of Environment, Food and Rural Affairs
EC	European Commission
EEC	European Economic Community
EEZ	Exclusive Economic Zone
EFF	European Fisheries Fund
EMFF	European Maritime and Fisheries Fund
EMFAF	European Maritime, Aquaculture and Fisheries Fund
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Funds
EU	European Union
FAO	Food and Agriculture Organisation
FARNET	Fisheries Areas Network
FLAG	Fisheries Local Action Group
FSA	Food Standards Agency
fsQCA	Fuzzy-set Qualitative Comparative Analysis
LAG	Local Action Group
IEO	Individual Entrepreneurial Orientation
IFCA	Inshore Fisheries and Conservation Authority

LDS	Local Development Strategy
LFS	Local Food System
MMO	Marine Management Organisation
MS	Member State of the European Union
MSC	Marine Stewardship Council
NGO	Non-Governmental Organisation
OP	Operational Programme
PLS-SEM	Partial Least Squared Structural Equational Modelling
PO	Producer Organisation
RAC	Regional Advisory Council
SFSC	Short Food Supply Chain
TAC	Total Allowable Catch (quota)
UK	United Kingdom
UNCLOS	United Nations Convention on the Law of the Sea
UP4	Union Priority 4 of the European Maritime and Fisheries Fund

Chapter 1. Introduction

1.1 Rationale

This thesis is concerned with the formation of short supply chains (SFSCs) in fisheries, drawing on the study of fisheries local development areas in the UK and EU, a survey of fisheries producers across Europe and their willingness to participate in SFSCs, and experimental research into consumers' perceptions and purchase intentions of locally produced seafood. The project is contextualised within, and contributes to, the broader theory and practice of SFSCs as well as the integration of sectoral and territorial (place-based) approaches to local development.

Fisheries globally play a vital economic, cultural and social role, supporting human well-being through food production and security (Srinivasan *et al.*, 2010; FAO, 2016), as well as by providing significant employment in fishing and sub-sectors such as processing and retail services (Dyck and Sumaila, 2010; FAO, 2018). This research considers the extent to which the creation of short fisheries supply chains may not only serve to instigate new and sustainable territorial markets and mutually beneficial supplier-buyer-consumer relationships, but also reconnect coastal communities with the fishing sector at numerous points along the supply chain, thus forming the basis for local development and restoring confidence in the industry on an economic and socio-cultural level (Brookfield, Gray and Hatchard, 2005; Urquhart and Acott, 2013; White, 2015; Symes, 2023).

As economic and regional policies continue to be reformulated following Brexit, it is also necessary to find an optimum relationship between territorial and sectoral development approaches. In terms of understanding the factors that embody this relationship, much can be learned from the fisheries case, where the interaction between the EU's Common Fisheries Policy and regional policy has been a longstanding concern (Symes, 2023).

Since 2007 the EU has adopted an experimental approach to this issue through Axis 4 of the European Fisheries Fund (EFF). The Axis provides an innovative approach to the way in which the EU seeks to develop the fisheries sector, placing greater emphasis than previously on the economic and social circumstances of coastal fishing communities through the integration of sectoral and local territorial development (van de Walle *et al.*, 2015). A key element of Axis 4

is the formation of Fisheries Local Action Group's (FLAGs), which seek to support the sustainable local development of fishing industries and their related communities by bringing together local public and private stakeholders. In 2014, this experimental approach to developing Europe's fisheries areas was continued through Community-Led Local Development (CLLD) under the European Maritime and Fisheries Fund (EMFF) (Miret-Pastor, Svells and Freeman, 2020). Up until Brexit in 2020, 18 FLAGs operational in the UK, along with over 300 FLAGs across the EU, each implementing a Local Fisheries Development Strategy and funding a portfolio of projects to address local priorities, including encouragement of SFSCs (Miret-Pastor, Svells and Freeman, 2020). To date there has been no comprehensive academic analysis of FLAGs, so the present research, with its focus on SFSCs, provides the first such study.

The research is especially timely and impactful in informing the European Commission as it reflects on lessons from 14 years of fisheries CLLD and considers future programme development under the new European Maritime, Fisheries and Aquaculture Fund (EMFAF), as well as UK policymakers as they contemplate the future of fishing communities (including the former UK FLAG areas) and continues to develop measures post-Brexit. The author of this thesis has worked extensively with FLAGs in the UK and across Europe as an employee of the EU Fisheries Areas Network (FARNET) Support Unit, which provided technical assistance to both the European Commission and FLAGs in their implementation of the EMFF. Through this connection to the EU FLAG network, the author has been able to access stakeholders in FLAGs and CLLD, enabling the novel collection of samples and access to data used in this study.

Coastal fishing communities across the EU are facing significant social and structural changes that have driven a continued decline in income and challenges for social renewal within the sector (FARNET, 2013a; Gustavsson *et al.*, 2017; Smith, Basurto and St Martin, 2024). This disruption has exacerbated a perceived disconnect, entailing a lack of interaction between the sector and the wider local community and business development context, with fisheries now largely seen as a national sector, producing commodities for wide-ranging and often distant markets (Phillipson and Symes, 2018). However, as business conditions become increasingly difficult due to rising fuel prices, changes in resource and market access, and global

competition, the development of SFSCs and a better relationship between local stakeholders is recognised as a potential opportunity for (re-)integrating the sector as a driver for local territorial development (FARNET, 2013b; Zander and Feucht, 2018).

Such reintegration concerns wider concepts such as *blue justice* – a critical framework that explores the impacts of blue economy and blue growth initiatives on coastal communities and small-scale fisheries worldwide, focusing on how these communities are affected by efforts aimed at promoting sustainable ocean development by institutions and governments (Baggio *et al.*, 2023). Blue justice focuses on social equity and sustainable livelihoods of fisheries areas, as well as the protection of traditional fishing rights within the sustainable development of fishing practices and management (Bennett *et al.*, 2021). *Blue growth* on the other hand aims to promote economic development through sustainable use of marine resources, fostering innovation, job creation, and growth in sectors such as fisheries and aquaculture, and related blue economy sectors (Bennett *et al.*, 2021; Baggio *et al.*, 2023). Viewing both FLAGs and SFSCs through the lens of these two concepts is crucial for achieving sustainable and inclusive development of Europe's marine resources and fisheries areas.

Governments and civil society organisations often assert eight claims regarding SFSCs and local food (Enthoven and Van den Broeck, 2021). Firstly, SFSCs are purported to enhance consumers' access to food that is more nutritious and healthier (claim 1), and consumers are thought to be willing to pay a premium for locally sourced food (claim 2). It is suggested that engagement in local food systems and SFSCs offers producers a strong sense of social recognition (claim 3) and economic benefits (claim 4). Additionally, at the community level, SFSCs are believed to cultivate social bonds (claim 5) and stimulate the local economy (claim 6). Furthermore, SFSCs are considered to be environmentally beneficial due to more sustainable production methods (claim 7) and reduced contribution to climate change (claim 8) (Enthoven and Van den Broeck, 2021).

SFSCs, therefore, often serve as focal points in the local development strategies of FLAGs due to their potential to enhance the value of locally produced seafood. FLAGs, as public-private partnerships, facilitate collaboration and create synergies among local stakeholders in the implementation of CLLD (Miret-Pastor, Svendsen and Freeman, 2020; Freeman and Svendsen, 2022).

This empowerment enables grassroots initiatives through FLAG establishment, offering fishing communities opportunities for territorial development focusing on factors such as amenities, production, and local food systems (Phillipson and Symes, 2015; van de Walle *et al.*, 2015; Phillipson *et al.*, 2024). The innovation in CLLD lies in the transfer of funds and decision-making to the local level, enabling local actors and stakeholders to develop sets of bottom-up actions through the creation of FLAGs (Kah, Martinos and Budzich-Tabor, 2023; Phillipson *et al.*, 2024).

CLLD seeks to bolster the capacity of local actors by enhancing social capital (Christoforou, 2017), through creating networks of shared norms, values and understandings that facilitate cooperation within or among groups (Healy and Côté, 2001). Furthermore, social capital can be conceptualised as consisting of trust, norms and networks that enable communities to act in unison to more effectively pursue shared objectives and developmental goals (Putnam, 2000; Putnam, 2002). FLAGs can hence be seen as a territorial instrument, and when used in conjunction with a single sector policy (i.e. fisheries) they can be a creative way to realise the development of initiatives that benefit the wider community as well as fisheries producers (Budzich-Tabor, 2014). Thus, understanding variations in these interactions and establishing what combinations of factors best lead to economic outcomes – especially those related to short food supply chains and opportunities for sustainable development – requires an understanding of how social capital is mobilised through FLAGs as public-private partnerships.

A central challenge in developing territorial markets for locally caught fish is understanding the motives and behaviours of key stakeholders and the relationship between them. While territorial development may support the ongoing viability of fisheries, it has been suggested that fishers do not always have the motivation to go beyond the act of catching fish and selling at the best price (Gustavsson *et al.*, 2017). As a result, their products may end up moving through complex distribution channels, where much of the value is extracted by a long line of intermediaries. Such lengthening of supply chains due to the multiplication of intermediaries has introduced wide-ranging economic, environmental and social-cultural issues across many food sectors, causing an apparent disconnect between local producers and consumers (Bloom and Hinrichs, 2011; Harrison *et al.*, 2023). As the relationships between buyers and suppliers significantly influence business performance (Gorton *et al.*, 2015), this disconnect presents a

problem for sustainable territorial development. In reducing the number of intermediaries, as well as the spatial distance to market, SFSCs may serve to redistribute value along supply chains and create added value for producers and consumers mutually (Marsden, Banks and Bristow, 2000; Renting, Marsden and Banks, 2003). The building of lasting relationships along supply chains is, therefore, critical to the success of the food industry (Hingley, 2005; Wilhelm *et al.*, 2016).

Theories of supply chain development assert that innovation is key to driving consumer value propositions and nurturing long-term sustainability (Arlbjørn, de Haas and Munksgaard, 2011; Munksgaard, Stentoft and Paulraj, 2014; Neutzling *et al.*, 2018; Cook *et al.*, 2023; Gori and Castellini, 2023). While the development of shorter supply chains often faces problems at the early adoption stage in marketing (Chopra and Meindl, 2013) and demand forecasting (Syntetos *et al.*, 2016), industries witness an increased need to balance short-term profitability and long-term sustainability through innovative supply chain models to achieve long term success (Wu and Pagell, 2011; Peano *et al.*, 2017; Wu *et al.*, 2021). Recent changes in the fisheries sector offer a timely opportunity to explore such supply chain innovations, which may be critical to a sustainable future of the industry and coastal fishing communities more broadly.

Sustainability is not a singular concept, but rather a continuous process involving three fundamentally interconnected core elements: economic growth, social inclusion, and environmental protection (Purvis, Mao and Robinson, 2019); all of which are vital to the survival of coastal areas and fisheries communities (Baggio *et al.*, 2023). By adopting sustainable practices, fisheries communities can safeguard their natural resources, enhance their resilience to climate change, and secure the livelihoods of future generations (Dixon *et al.*, 2024). Thus, such themes are the focal points of many of the objectives of FLAGs and their local development strategies (Phillipson *et al.*, 2024).

Firstly, FLAGs seek to transform and shift interactions with marine resources towards sustainability, through promoting sustainable territorial development (St. Clair *et al.*, 2023; Phillipson *et al.*, 2024). However, this transformation is also a natural outcome of existing social, economic, and political systems (Scherer and Cretella, 2023). There is no key actor or policy that leads towards sustainability. Instead, transformation arises from the combined

effects of incentives, trade-offs, collective actions, and the desire of communities to protect their local resources (Partelow, Hadjimichael and Hornidge, 2023). Such transformation requires the integration of local seafood into food systems and strengthening resilience in local food supply chains (Naylor *et al.*, 2021); factors which are dependent on policies that drive changes in consumer demand, and incorporate diverse species and cultivation methods which lead to more sustainable and diverse economic, social, nutritional, and environmental outcomes (Kelling, Carrigan and Johnson, 2023).

Secondly, FLAGs draw attention to resource management and the adoption of more sustainable consumption practices (Farmery *et al.*, 2022; Scherer and Cretella, 2023). To develop territorial markets for locally caught fish within the fisheries sector, an appreciation of consumer perceptions and purchase intentions is, therefore, imperative, as these are critical to long-term viability (Kelling, Carrigan and Johnson, 2023). In this regard, it is important to consider innovative marketing arrangements to reconnect producers and consumers and to understand consumers' perceptions as to what constitutes 'value' (Sellitto, Vial and Viegas, 2018; de Vries *et al.*, 2023; Nemes *et al.*, 2023; Lacquement and Chevalier, 2024). Identifying such factors is crucial to FLAGs being able to foster lasting sustainable territorial development in fisheries and coastal areas (Kah, Martinos and Budzich-Tabor, 2023).

1.2 Research aims, objectives, and questions

1.2.1 Research aim

This work aims to investigate how the creation of SFSCs impacts on sustainable territorial development in fisheries areas and the reconnection of fisheries producers and consumers.

1.2.2 Research objectives

1. Investigate the specific territorial and sectoral factors that play a role in the creation of fisheries Short Food Supply Chains (SFSCs) within a territory.
2. Explore what conditions, and combinations of conditions, within a FLAG and its territory are optimal for the creation of SFSCs as a means of sustainable territorial development.

3. Identify the challenges perceived by producers in their involvement with fisheries SFSCs, exploring factors such as market access and barriers to participation.
4. Investigate the factors that impact consumer purchase intentions for locally produced seafood, considering variables such as product source and type, perceived trust, and producer recommendations.

1.2.3 Research questions

1. What territorial and sectoral factors contribute to the development of fisheries SFSCs?
2. To what extent are the challenges and solutions in creating fisheries SFSCs unique to an area, as opposed to general to all areas?
3. What do fishers (producers) see as the key challenges to engaging with fisheries SFSCs?
4. What factors influence consumer purchase intentions for locally produced seafood?

1.3 Thesis structure

Following this introductory chapter, the reminder of this thesis consists of the following nine chapters which are summarised below:

Chapter 2 (Territorial development and fisheries) provides an understanding of territorial development in a fisheries context and establishes a working context within which the present research was conducted. The chapter consists of three sections, of which the first examines the literature on models of territorial development in Europe. The second section reviews territorial development in the fisheries context and examines models of fisheries management and development. The third section reviews the literature on social capital theory in relation to territorial development, paying particular attention to FLAGs and European interventional programmes for territorial development.

Chapter 3 (Models of fisheries development) provides an overview of the literature on models of fisheries development. The chapter comprises three sections. The first section examines the literature on neo-endogenous development in fisheries areas, including an overview of the policy and funding concerned with the territorial development of fisheries areas. The second section reviews academic appraisals of fisheries CLLD and FLAGs, before

the third section provides a detailed analysis of FLAG project portfolios and objectives, and the implementation of CLLD funding under the EMFF.

Chapter 4 (Short food supply chains) provides an overview of the literature on SFSCs. The chapter comprises five sections. Following a brief overview of definitions of SFSCs, the second section reviews the literature on local food and local food systems. The third section then examines SFSCs in the fisheries context, including an examination of the UK fisheries supply chain, before reviewing the literature on consumer responses to locally produced food. The fourth section explores producer-consumer relations and ‘food’ reconnection. Finally, the fifth section of this chapter then reviews theoretical perspectives of SFSCs and territorial development.

Chapter 5 (Methodology) establishes the methodology used for this study. It explains the pragmatic approach taken by this study and the mixed methods adopted, which are aimed at gathering and analysing data from different perspectives. Second, it describes the research design, including the data collection techniques used. Third, it addresses the ethical consideration of the research. Fourth, it reviews the reliability and validity of the data gathered. Fifth, it provides a detailed explanation of the data analysis techniques before offering reflections on the methods used.

Chapter 6 (Fisheries Local Actions Groups, social capital and short food supply chains) provides the results of the first study conducted in this research, which assesses the impact of FLAGs and social capital on the presence of SFSCs in fisheries areas. The chapter consists of three main sections. The first section outlines the theoretical framework used in the study. The second section outlines the research design, data, and the methods used. The third section provides a two-part overview of the results and analysis, of which the first part provides an overview of the marketing channels and social capital present in the FLAG areas studied. The second part presents the results of the fsQCA analysis that explores how different types of social capital interact with territorial factors in areas with higher degrees of SFSCs.

Chapter 7 (Fisheries producers, social capital, and antecedents to short food supply chains) presents the results of the second study conducted in this research: on fisheries

producers, social capital and willingness to participate in SFSCs. The chapter consists of three main sections. The first outlines the theoretical framework used in the study. The second section outlines the data and methods used. The third section provides an overview of the data analysis and results. This section is split into three parts. The first part includes the descriptive statistics of the producers in the sample, as well as their traits and engagement with SFSCs. The second part outlines the structural equation modelling (SEM) used to assess the connections between social capital, producer traits, and SFSCs. The final part outlines the effects of internal and external barriers to producers engaging in SFSCs using a hierarchical regression analysis.

Chapter 8 (Consumer perceptions of local seafood and producer-consumer reconnection) presents the results of the third study conducted in this research, which assesses consumer perceptions of locally produced seafood. The chapter comprises three main sections, the first of which is a review of the theoretical framework used in the study. The second section reports the data, methods, and the experimental design used. The third section then outlines the data analysis and results. The third section in turn has three parts, the first details consumer buying habits in the UK. The second part details the effects of seafood product source, seafood type, and producer recommendations. The final part explores the mediation effects of producer recommendations, label trust, and product involvement on consumer purchase intentions for locally produced seafood.

Chapter 9 (Discussion) discusses the main findings of the research. The chapter starts with a discussion of the role FLAGS play in generating social capital in fisheries areas and the impact this has on whether SFSCs are present in the territory. Central to this discussion is an analysis of how breaking down social capital into its component parts can support FLAGS in nurturing SFSCs in their areas as a strategic objective based on their territorial and sector characteristics. This is followed by a discussion on how producer traits related to normative-cognitive social capital effect producers' willingness to participate in SFSCs. The third section then analyses both internal (situational and personal capacities) and external (policy and sectoral factors) barriers to producers engaging in SFSCs. The fourth section discusses seafood marketing, consumer trends and responses to locally produced seafood. The final section of the chapter

assesses whether strengthening producer-consumer connections can contribute to producers engaging in SFSCs and increased consumer purchase intentions of locally sourced seafood.

Finally, Chapter 10 (Conclusion) concludes the thesis across five sections. First, it presents a summary of the findings in the study. Second, it draws out the wider implications of the study. Third, it offers recommendations for fisheries and territorial development policy, fisheries producers, and seafood marketing practitioners. Fourth, it makes a number of suggestions for future research. Finally, it provides a series of reflections on the study, the research experience, and the development of the thesis.

Chapter 2. Territorial development and fisheries

2.1 Introduction

This chapter is divided into three primary sections. Section 2.2 provides an overview of models of territorial development and territorial development policy. Section 2.3 then reviews the literature on social capital theory in relation to territorial development, EU intervention programmes such as LEADER and CLLD, and Local Action Groups (LAGs). Finally, Section 2.4 reviews the literature on fisheries management and policy. It details the historical and political landscapes of fisheries in the UK, followed by an assessment of the Common Fisheries Policy and the regionalisation of fisheries.

2.2 Models of Territorial Development

‘Territorial development’ is a relatively new term (Torre, 2023). When used with or before the word development, territorial as an adjective refers to either the *geographical scale* or the *spatial integration* of development (Pike, Rodríguez-Pose and Tomaney, 2017; Torre, 2019; Gerke and Dalla Pria, 2022). *Geographical scale* refers to the more neutral, overarching sense of territorial development specific to a particular area or portion of a territory which is typically sub-national which can include urban, rural, and regional jurisdiction, but also coastal, watershed and mountainous areas (Gasselin *et al.*, 2023). Early work focused on development processes on a smaller scale instead referred to ‘development from below’ or the term ‘local development’ However, territorial development differs from local development as it involves all stakeholders in a territory and considers both land occupation and use (Torre, 2019; Torre, 2023). Similarly, territorial development differs from regional development as it defines a larger geographical scale, that of a territory as opposed to regions within a territory (Capello and Nijkamp, 2019). Territorial development, therefore, is an umbrella term which is often used to encompass both local and regional development (Gerke and Dalla Pria, 2022). The former being associated as part of regional development or the smaller lowest tier or jurisdiction. The latter refers more to intermediate levels of jurisdiction such as regions, districts, or provinces (Crescenzi *et al.*, 2022). As such, territorial development can denote local development at any geographical scale, depending on an observer’s perceptions.

Spatial integration on the other hand makes no reference to scale and can be applied to local, regional, national, or even transnational development (Sack, 1986; Gerke and Dalla Pria, 2022; Torre, 2023). In terms of territorial development, spatial integration refers to integrated development across an area regardless of its geographical size (Crescenzi and Giua, 2020). It involves multi-sectoral development across a specific territory or portion of a territory (Crescenzi *et al.*, 2022).

In recent years, many European countries have aspired to establish more sustainable models of territorial or local development from a spatial integration perspective of shifting from sectoral to more holistic approaches to animating local economies (Ward *et al.*, 2005; Crescenzi *et al.*, 2022; Torre, 2023). The European Commission, for example, defines ‘local development strategy’ “as a coherent set of operations to meet local objectives and needs” while proposing common provisions for each of the EU’s Structural Funds (EC, 2011, p. 31). According to the Commission, proactive, integrated and bottom-up approaches are needed to foster development at a local level. Moreover, the EU should facilitate a cross-sectoral, multi-dimensional course of action to achieve sustainable local development, implemented through multi-level governance and the development of partnerships and local action groups. While *spatial integration*, with adopted terms such as area-based development, community-led local development, and territorial development, was key to this new approach, *functional geographies* and the embedding of local development in economic and social cohesion strategies was also a central point (EC, 2011; European Court of Auditors, 2022); further adding that it was territorial, instead of local, approaches which were a focus on this new endogenous, as opposed to exogenous, approach to development.

2.2.1 Exogenous development

In post Second World War Europe, models of economic development were focused on exogeneity. In the exogenous model, rural or local territories were treated as economically, technologically and culturally dependant on urban areas with a primary function of providing food for the growing urban population (Lowe *et al.*, 1998). Until the late 1970s, exogenous development approaches to rural areas were widely adopted in many European countries, including the UK; subsidies and taxation incentives were used to attract large national and multinational companies to move parts of their operation to rural areas (Dobson, 1987; Grimes,

1993). As a result, standard measures were applied to areas or territories, regardless of their location or culture. By the late 1970s, the post-war economic boom had collapsed, and policy related to the attraction of large corporations, plants and factories became discredited as they offered the host area little in terms of sustainable local development (i.e. the local reinvestment of profits, the transfer of skills, fostering local entrepreneurship in the sector) (Amin and Thrift, 1994). Moreover, through the dominant influences of national government and external large-scale firms, local values often become lost in models of exogenous development and small-scale operators marginalised due to the decline of local markets (Pieterse, 2010). As such, the endogenous model was criticised and disregarded by many European countries as a *distorted* approach, which focused on certain areas, single sectors, and certain types of economic activity, often leaving behind other non-economic aspects of rural ways of life (Ward *et al.*, 2005). As such, it was also criticised for being *destructive* development as it removed the cultural and environment differences between rural areas, erased due to the influences of outside planners and experts focused on standardisation (Ward *et al.*, 2005; Pieterse, 2010).

2.2.2 Endogenous development

In contrast, the endogenous approach to development considers that structural change and economic growth are a territorial phenomenon as opposed to a functional issue (Friedmann and Weaver, 1979; Aydalot, 1986). By definition, *endogenous* development is based on local resources (Picchi, 1994). The endogenous approach became prominent in the early 1980s (Stöhr, 1981; Stöhr, 1990; Lowe, Murdoch and Ward, 1995; Maillat, 1995), and assumes that the “specific resources of an area – natural, human and cultural – hold the key to its sustainable development” (Lowe, Murdoch and Ward, 1995, p. 91). Endogenous approaches are based on the hypothesis that different territories should build upon their own unique resources and assets, so that a “territory is no longer simply a place where resources and economic activities are located” (Vázquez-Barquero and Rodríguez-Cohard, 2016, p. 1137). For Bryden and Dawe (1998, p. 5), the endogenous model is preferable because it favours “local control and direction and more integrated strategies based on combined and sustainable economic, social and environmental development”. Following the crisis of the 1970s, there was increased competition in both national and international markets which significantly altered the economic and social environment in Europe (Judt, 2005). A move towards endogenous approaches to local development in European countries was aimed at stimulating the creation of both local

companies and jobs, and thus the creation of economic recovery of territories, regardless of scale or type (Stöhr, 1990; Vázquez-Barquero, 2002). Moreover, there was an emphasis on “the critical role of regional institutional arrangements, social structures and cultures in successfully negotiating relationships between the region and the globalising economy” (Hudson *et al.*, 1997, p. 365).

However, the endogenous development approach has also been seen to possess several weaknesses. For Brugger (1986), and later Slee (1994), there are significant gaps in the theory of endogenous development. Slee (1994, p. 191) argues that “endogenous development is not so much a concept with clearly defined theoretical roots but more a perspective”, further adding that these perspectives are largely “underpinned by value judgements about desirable forms of development.” According to Brugger (1986), the gaps in endogenous development theory can be overcome through an analysis of practical social experiences, particularly in informing policy-making. However, Lowe *et al.* (1995) argue that social theory had largely been unsuccessful in providing models useful in informing endogenous development approaches.

Nevertheless, Vázquez-Barquero (2002) identifies four theoretical roots of endogenous development in Europe (Table 1). The first of which is territorial development theory, which focuses on local initiatives and the development of local processes (e.g., the LEADER programme and CLLD), as well as the resource potential of an area and the flexibility of labour markets. The second theoretical origin of endogenous development is centred on dualistic growth theory which is associated with the accumulation of capital through growth processes and the development in an institutional context (Martin and Sunley, 1998; Gasselin *et al.*, 2023). The third is dependence theory, which like theories of exogenous development in Europe, explains the circumstance of peripheral economies and the impact of their technological and cultural dependence on restricting growth. Dependence theory posits that better connections with the urban ‘economic centre’ promote the growth of peripheral economies (Amin and Thrift, 1994). The fourth and final origin, as argued by Vázquez-Barquero (2002), is high development theory, which focuses the externalities in territorial economies and how they bring increasing returns to scale.

Table 1: Theoretical roots of endogenous development

Endogenous development characteristics	Territorial development theory	Dualistic growth theory	Dependence theory	High development theory
Potential for development				
<i>Resources</i>	Yes	Yes	Yes	Yes
<i>Indivisibilities</i>	-	-	-	Yes
Capital accumulation				
<i>Application of surplus</i>	-	Yes	Yes	Yes
<i>Innovation</i>	-	Yes	Yes	Yes
<i>Flexible labour market</i>	Yes	Yes	Yes	-
External economies of scale				
<i>Organisation of production</i>	-	-	-	Yes
<i>Networking</i>	-	-	-	-
<i>Urban relations</i>	-	-	Yes	-
Institutional context				
<i>Institutional flexibility</i>	-	Yes	Yes	-
<i>Organisation of society</i>	-	Yes	Yes	-
Local action				
<i>Local initiatives</i>	Yes	-	-	-
<i>Local control of development</i>	Yes	-	-	-

(Source: Vázquez-Barquero, 2002)

Given the diversity of the European Union (EU) and its regions, the literature on endogenous development attempts to broaden the concept. Keane (1990) outlines two main differences between endogenous and exogenous approaches to development. Firstly, he argues that endogenous development is not only an economic concept, but that is rather a concept dealing with the whole human condition, placing equal importance on the human, social and cultural aspects of development. Secondly, Keane argues that endogenous development differs from exogenous because it accepts multiple conceptions of development, placing an emphasis on those with appropriate objectives at a local level. In other words, endogenous development represents a shift from investments in physical capital and production, to investments in human capital, developing the skills, knowledge and abilities of local populations (Keane, 1990).

According to Shortall and Shucksmith (1998, p. 75) “development is not just about increasing goods and services provided and consumed by society. It also involves enabling communities

to have greater control over their relationship with the environment and other communities.” Accordingly, this approach involves development institutions playing key roles in empowering local communities, increasing capacity building in the territory, and supporting their role as social animators. Picchi (1994) argues that political-institutional arrangements can support endogenous development approaches, such as through their planning mechanism, providing local administration for economic sectors, and providing networks, both in terms of services and interconnection between local actors. Thus, empowering local communities and increasing their capacity. Examples of this including Local Actions Groups under the LEADER programme and later Fisheries specific Local Action Groups under the EMFF CLLD programme (Capello and Nijkamp, 2019).

2.2.3 Neo-endogenous development

While exogenous and endogenous development can be regarded as a dualism, some authors have noted that the challenge is to establish a synthesis between the two approaches, arguing that European local territories include a mix of exogenous and endogenous forces and that it is not practical for local actors to have no interaction or influence from non-local forces (Lowe, Murdoch and Ward, 1995; Ray, 2001; Lowe *et al.*, 2019; Eversole and Campbell, 2023; Qu and Zollet, 2023). Ray (2001, p. 4) refers to this synthesis as neo-endogenous development, which is “endogenous-based development in which extra-local factors are recognised and regarded as essential but which retains a belief in the potential of local areas to shape their future.” Neo-endogenous (or ‘networked’) development, therefore, is characterised by a mix of exogenous and endogenous forces; it is based on territorial resources but also requires the dynamic interaction between a local area and its wider environment (Lowe *et al.*, 1998; Qu and Zollet, 2023). Moreover, the crux of neo-endogenous development, as argued by Ray (2001, p. 4), is that disadvantaged areas can take action in order to “ameliorate their condition.”

Table 2 illustrates the difference between exogenous, endogenous, and neo-endogenous models of territorial development. While each of the three models have emerged in the context of rural studies, they are also applicable to other local territories (Bosworth *et al.*, 2016; Linke and Siegrist, 2023). For example, many fisheries areas, while not necessarily rural, can be contextualised using the neo-endogenous model of local development (Linke and Siegrist,

2023). The same principles can be applied to marginalised coastal areas across Europe, many of which are largely urban as opposed to rural (Salmi and Svells, 2023).

Table 2: Models of rural development

	Exogenous development	Endogenous development	Neo-endogenous development
Key determinants	Economies of scale and concentration	Harnessing local (natural, human, and cultural) resources for sustainable development	Maximising the value of local resources; competitiveness based on local assets; the interaction between global and local forces
Dynamic forces	Urban growth poles (drivers exogenous to rural areas)	Local initiative and enterprise	Globalisation: networks of local actors connected to external influences (i.e., the state acts as a facilitator)
Functions of local areas	Aiding urban areas; primary products and food for the expanding economies of urban areas	Diverse self-sufficient/'enclosed' economies	Participation of local actors in local and external networks and Development processes: interdependent – urban demand remains critical for services and traditional sectors
Main territorial development issues	Low productivity and peripherality	Limited capacity of areas/groups to participate in economic activity	Low service provision; Unbalanced communities - ageing and inequality; remoteness, isolation, and lack of critical mass
Focus of development	Agricultural modernisation; encourages the mobility of labour and capital	Local capacity-building (skills, institutions, infrastructure); overcoming exclusion	Holistic approach to include local empowerment, capacity building, adding values to local resources, enhancing connectivity, and promoting innovation, overcoming exclusion
Limitations and criticism	Dictated and dependant development, distorted and destructive development through its focus on standardisation	Has proven to be impractical in contemporary Europe	Operates with insufficient empirical evidence

(Source: Own elaboration following on from Lowe *et al.*, 1998; Ward *et al.*, 2005; Hubbard and Gorton, 2011; Bosworth *et al.*, 2016; Lowe *et al.*, 2019)

2.2.4 Territorial development policy

The founding goals of the European Economic Community (EEC), established in the 1950s, was to introduce measures aimed at reducing regional disparities, promoting balanced

economic growth, and fostering multi-level governance and partnership approaches (Cejudo and Navarro, 2020). As the EEC expanded in the 1970s and later transitioned to the EU in the early 1990s, promoting balanced, place-based growth remained a central goal of European policy (Capello and Nijkamp, 2019). Furthermore, the formation of the EU in 1993 introduced the principle of subsidiarity, which asserts that the EU should intervene only when Member States cannot adequately achieve objectives and when EU-level action offers added value (Lacquement and Chevalier, 2024). More broadly the idea of 'subsidiarity' is rooted in a societal perspective where responsibilities are influenced by the proximity of people's connections (Spicker, 1991). It suggests that interventions at higher levels of society should be considered secondary to the responsibilities of smaller social units (Spicker, 1991). This principle ensures that decisions are made as close as possible to EU citizens, with continual assessments to justify EU-level actions against what can be achieved at national, regional, or local levels (Moodie, Salenius and Wøien Meijer, 2022). In territorial development policy, EU subsidiarity aims to support more targeted, efficient, and effective interventions that foster sustainable and inclusive growth across regions while empowering local decision-making (Lacquement and Chevalier, 2024).

In local areas, the shift from a sectoral to territorial development strategy has been largely focused on neo-endogenous approaches based on the hypothesis that local individuals and communities working at a regional level are best placed to tackle the challenges faced in their regions and identify their area's endogenous capacities (Ray, 1999; Shucksmith, 2010; Lowe *et al.*, 2019; Georgios, Nikolaos and Michalis, 2021; Torre *et al.*, 2021; Torre, 2023). A central challenge of socio-economic development in Europe in recent decades has been to include and involve local stakeholders in decision-making processes. The traditional role of nation states has been in decline and the hierarchical top-down models of government are seeing a shift towards territorial bottom-up approaches which ascend through multiple actors (Jessop, 1997; Lacquement and Chevalier, 2024). A bottom-up approach also allows for an areas-based process, placing an emphasis on vast differences between regions and their political, social and cultural conditions (Rhodes, 1996; Cejudo and Navarro, 2020). Local development policies in Europe first arose towards the end of the 1970s when governments began to change economic policy, reducing industrial strategies and instead assign more central roles to macroeconomic

policies which left restructuring and problem solving to local actors and governments (Chrisholm, 1990; Cejudo and Navarro, 2020).

Since the late 1990s, it has been acknowledged that there is a need to explore different forms of capital as a central part of the development of regional territories (Camagni, 2008). From a governance perspective, this includes both tangible and intangible forms of capital. In other words, while a territories fixed material capital is important, there is growing evidence that social capital contributes significantly to achieving sustainable development (Evans, 1996; Grootaert, 1998; Pisani *et al.*, 2017). Sustainable development, by definition, is the process of future generations having equal to, or more than, the capital per capita in a given region compared to that available to the current generation (Serageldin, 1996). Traditionally, this has only included tangible forms of capital: physical or produced, natural and human capital (Grootaert, 1998). Combined they constitute the wealth of a region or state and are the foundation of economic development and growth (Evans, 1996).

The term social capital has been used in many ways to cover a wide range of phenomena from an economic perspective (e.g., Grootaert and Van Bastelaer, 2002; Durlauf and Fafchamps, 2005; Wollebæk and Selle, 2010). However, many economists have focused on institutions (e.g., governments, markets, organisations, households) and often ignore the networks and personal relationships that knit communities, regions and states together (Fafchamps, 2006). Furthermore, Putman (2000) suggests that social capital is created through face-to-face interactions in ‘horizontal’ networks. As such, these social factors, networks, and relationships form a horizontal foundation of local actors in bottom-up development processes. Local actors are better placed to work together in identifying and developing an area’s potential, its social and political relations, and with reduced levels of administration and bureaucracy (Ray, 1999).

Due to the uniqueness of regional territories, and their diversity across Europe, the ‘soft’ assets of a territory, such as business cultures and characteristics, the skills and capabilities of local workforces, and the quality and nuances of local institutions and governance are all significant in rural areas reaching their full potential (Copus *et al.*, 2011). As rural areas and their challenges across Europe vary considerably, what constitutes rural development policy also differs between European nations; a variety of approaches are pursued, and the objectives of

rural development policy are understood in different ways. In a scoping exercise in the late 1990s, Baldock *et al.* (2000) identified that there was a strong feeling in many European countries that they should be empowered to design and implement their own programmes which best suit their own specific needs and situation, rather than being forced to follow a one size fits all EU model. Following the general European trend, in the UK there was a shift towards territory-based development throughout the 2000s. In 2012, a report by Lord Heseltine, which set out a series of recommendations to improve the UK's economy and ability to create wealth, stated that: "Every place is unique. Local leaders are best placed to understand the opportunities and obstacles to growth in their own communities. Policies that are devised holistically and locally, and which are tailored to local circumstances, are much more likely to increase the economy's capacity for growth" (Heseltine, 2012, p. 31).

Copus *et al.* (2008) note that new types of production and new forms of organisation have succeeded in some European regions while failing in others, and this is owing to the sociocultural characteristics of an area known as the 'regional milieu', which are difficult to quantify. While more conventional indicators such as comparative and competitive advantage are important factors, the development of new opportunities, such as tourism for example, does not rely entirely on these factors. The regional milieu of an area is an important factor in whether the introduction and adoption of new types of production in an area will be successful (Copus, Skuras and Tseggenidi, 2008).

Projects within the EU, those which focus on localised development, combining sustainable spatial and territorial cohesion at all levels has become known as 'local governance' (Lidström, 2007; Stead, 2014; Sørensen, 2018). In most European countries, the early 2000s were a period of debate as to how territorial governance should be reshaped and reformed. These changes included the strengthening of lower levels of self-government and the redefinition of the role of national states (Lidström, 2007). In 1996, the Cork Declaration outlined a need for introducing a clearly defined territorial dimension to rural policy; that a multi-sectoral approach was required in achieving the sustainable development of rural areas. Point 5 of the Declaration, for example, states that rural policy 'must be as decentralised as possible and based on partnerships and co-operation between all levels concerned' (EC, 1997).

These changes can be seen in initiatives such as LEADER which has been implemented in the EU since the early 1990s (Marcianò, Romeo and Cozzupoli, 2015; Lacquement and Chevalier, 2024). LEADER is based on the concept of governance that starts from a defined territory and is undertaken by and managed by local actors. It is a territorial (as opposed to sectoral) approach which places an emphasis on local partnerships between private, public and voluntary sectors (Budzich-Tabor, 2014; Linke and Bruckmeier, 2015; Linke and Siegrist, 2023). LEADER seeks to harness the capacity of local stakeholders, giving them a voice and encouraging them to design and implement locally-appropriate development interventions (Ray, 1999), moving away from top-down processes of sectoral methods (Linke and Bruckmeier, 2015; Linke and Siegrist, 2023). The initiative is largely based on endogenous principles and introduced ‘vertical’ measures to territorial development in the EU, as opposed to more traditional, ‘horizontal’ economic sectors (Ray, 2000).

A key difference of the LEADER method, setting it apart from other rural development initiatives, is its focus on local systems of development and in the animating participation, cooperation and networking of local actors (Dax and Oedl-Wieser, 2016; Lacquement and Chevalier, 2024). One of the many criticisms of sectoral governance is its failure to reach all local stakeholders and interest groups. LEADER, first introduced as a community initiative, sought to address this failure through its emphasis on bottom-up methods of governance (Budzich-Tabor, 2014). The official rationale of the European Commission behind the LEADER programme is offered in the following manner:

“the main concept behind the LEADER approach is that, given the diversity of European rural areas, development strategies are more effective and efficient if decided and implemented at local level by local actors, accompanied by clear and transparent procedures, the support of the relevant public administrations and the necessary technical assistance for the transfer of good practice” (EC, 2006, p. 8).

Aligned with the principles of neo-endogenous development, the LEADER approach has the following seven principles:

1. **Area-based:** taking place in a small, homogeneous socially cohesive territory.

2. **Bottom-up:** elaboration and implementation of strategies. local actors design the strategy and choose the actions.
3. **Local public-private partnerships:** LAGs are balanced groups involving public and private-sector actors, which can mobilise all available skills and resources.
4. **Innovation:** giving LAGs the flexibility to introduce new ideas and methods.
5. **Integration:** Integrated and multi-sectoral actions.
6. **Networking:** allowing learning among people, organisations, and institutions at local, regional, national, and European levels.
7. **Cooperation:** among LEADER groups, for instance to share experiences, allow complementarity or to achieve critical mass (EC, 2006).

In top-down, exogenous methods, authorities at European, national, or regional level define both expenditure measures and often project selection criteria which are assessed and implemented through development grants. LEADER, as a bottom-up approach, is widely acknowledged as an attempt to substitute such hierarchical interventions with a new system characterised by area-based endogenous approaches to knowledge exchange and networked relationships (Kováč, 2000; Torre *et al.*, 2021). How rural development could be achieved through such networked relationships and how they connect with wider networks and markets reflects neo-endogenous theory and offers an alternative to the dualism of top-down and bottom-up approaches. LEADER, therefore, was not initially part of the mainstream and was instead introduced as an innovative programme designed to form new ways of thinking about the development of rural areas at local level, and as a way of embracing ‘extra-local’ forces while retaining local control over decision making and over the direction of an areas development (Ray, 2001, p. 4). LEADER as a philosophy is, therefore, about adding value to the rural development programmes and an institutional way of promoting endogenous, territorial approaches, which is summarised in the following statement from the EU Court of Auditors:

“The expectation behind the LEADER approach is that there is an added value compared with traditional top-down management of EU funds. [...] Local groups should be best placed to identify integrated local solutions to local problems and can be more responsive as well as bring new solutions to local development (“innovation”).

Participation in local decision-making should generate enthusiasm and increased commitment and can thereby result in better, more sustainable, local rural development.” (2022, p. 6).

There have been several phases of the LEADER since it was introduced in 1991 (Table 3). Its name originates from a French acronym: *‘liaisons entre actions de développement de l’économie rurale’* (links between actions for the development of the rural economy) and was established in the context of the first reform of the structural funds between 1989 and 1993. In 1991, LEADER was introduced as a Community Initiative aimed at testing new concepts and methods with the perspective of eventually integrating them into mainstream development programmes (Kah, Martinos and Budzich-Tabor, 2023). The LEADER Community Initiative (now often referred to as LEADER I) was targeted towards rural areas in decline, those with a GDP of lower than 75% of the EU average (under Objective 1), or areas with low levels of socio-economic development (under Objective 5a). The initial experimental phase of LEADER between 1991 and 1993 was piloted in rural areas (Kah, Martinos and Budzich-Tabor, 2023). In the UK, the LEADER I programme was confined to Cornwall in the England alongside areas in Wales, Scotland, and Northern Ireland.

The LEADER II programme (1994 and 1999) continued pilot initiatives aimed at promoting the exchange of knowledge and know-how between different territories to improve the development potential of rural areas. While the focus of LEADER II remained on disadvantaged and underperforming rural territories (Objective 1), it also introduced a new Objective (5b) which focused on ‘fragile’ rural areas opening up the programme to many previous ineligible areas in the UK. The targeting approach of the programme was not based on the extent of an area’s GDP deficit, but more on local capacity building which included:

- Education and training,
- Support for Small and Medium sized Enterprises and craft businesses,
- Rural tourism,
- Environment and living conditions,
- Basic services,
- Adding value to farming, fisheries, and forestry products (EC, 2006).

Newly eligible areas under the new Objective 5b in England included the territory often referred to as the Northern Uplands which covers parts of Northumberland, County Durham, Cumbria, North Yorkshire, and Lancashire. Also eligible were parts of Lincolnshire, the Southwest, and parts of Eastern England. Despite this new eligibility, in some areas there was a lack of organisation and leadership which resulted in some areas not putting together a partnership bid for the LEADER II programme, including Northumberland. Cornwall was not an eligible Objective 5b area but continued to receive support under the Objective 1 programme (Lacquement and Chevalier, 2024).

In 2014, Community-Led Local Development (CLLD), a revised form of the LEADER Community-Initiative, was introduced to reinforce the perspectives ability to expand the scope and effectiveness of rural development. As of 2014, CLLD became a common term for initiative used to animate and involve local actors in fostering territorial cohesion and developmental objectives across multiple ESIFs (EC, 2014). For the first time under CLLD, there were LAGs and FLAGs funded under the European Regional Development Fund (ERDF) and the European Social Fund (ESF) along with the EAFRD and EMFF (EC, 2014). An overview of the key characteristics of LEADER programmes is provided in Table 3.

Table 3: Key characteristics of LEADER programmes since 1991

LEADER Programme	Key Characteristics
LEADER I (1991-1993)	• 217 LAGs in total. • Funding: £442m. • An initial two-year pilot programme. • The first programme marking the beginning of a new approach to rural policy.
LEADER II (1994-1999)	• 906 LAGs. • 21 LAGs in England. • Funding: 1.755bn. • An initial two-year pilot programme. • The first programme marking the beginning of a new approach to rural policy.
LEADER+ (2000-2006)	• 1,153 LAGs. • An initial two-year pilot programme. • Funding: 2.11bn. • The first programme marking the beginning of a new approach to rural policy.
LEADER Axis (2007-2013)	• 2,402 LAGs. • 310 FLAGS. • Funding: 6.32bn. • The first programme marking the beginning of a new approach to rural policy.
CLLD (2014-2021)	• 2,800 LAGs (EAFRD). • 229 LAGs (ERDF+ESF). • 367 FLAGS. • Funding: 9.18bn. • Became a mainstream approach accounting for 6% of the EAFRD budget. • Community-Led Local Development (CLLD) became a cross-fund policy (including the EAFRD, EMFF, and ESF).

(Source: European Court of Auditors, 2022)

There have been extensive research evaluating LEADER since its introduction, on its capacity to achieve sustainable territorial development (Bosworth *et al.*, 2016; Nordberg, Mariussen and Virkkala, 2020; Torre, 2023; Lacquement and Chevalier, 2024). Of the seven principles of LEADER, it is the second, third and fourth concepts that draw the most criticism. There is little

doubt that LEADER, and now more broadly CLLD, offers and innovative area-based approach to local development, and that it stimulates cooperation and networking (Torre, 2023). How LEADER bridges sectoral and territorial approaches and achieves a truly bottom-up approach are areas put more into question.

The second of the seven key concepts of the LEADER method, the bottom-up approach, urges an expectation of LEADER being more capable of involving average citizens on the ground than other programmes. However, in practice a bottom-up approach can ultimately result in a lopsided representation of a society or community and asks questions of whether LEADER is inclusive, or if it instead results in elitism (Thuesen, 2010). Shucksmith (2000, p. 215) argues that area-based endogenous initiatives have a tendency to “favour those who are already powerful and articulate, and who already enjoy a greater capacity to act and to engage with the initiative.” Shucksmith (2000) questions whether more marginalised groups are able to participate and engage in such programmes, and suggests that such groups are less likely to be empowered unless specific attention is given to their inclusion. In extreme cases, Shucksmith (2000, p. 215) argues that the exclusion of marginalised groups can lead to a “capturing of the initiative by elites or sectional interests”. The composition of Local Action Group (LAG) boards and how its impact on project selection and thus territory-based endogenous development is central to many evaluations of LEADER and other territorial development programmes (Geddes, 2000; Thuesen, 2010; Freeman and Svendsen, 2022; Salmi and Svendsen, 2023).

2.3 Social capital and territorial development

The main underlying objective of LEADER and territorial development programmes is the building of social capital (Georgios, Nikolaos and Michalis, 2021). The effectiveness of local action any neo-endogenous development approach is closely tied to the capacity to initiate and sustain social network connections and relations which is intricately linked to concepts of social capital (Nardone, Sisto and Lopolito, 2010; Ierapetritis, 2019; Gerke and Dalla Pria, 2022). While social capital does not have one clear and undisputed meaning, generally speaking, it refers to the value of social networks – in particular, the *bonding* of similar people and *bridging* between diverse people, with norms of reciprocity (Prosperi *et al.*, 2022; Kustepeli *et al.*, 2023).

Social relationships and norms of reciprocity are not new have been studied for some time within the field of sociology (e.g., Durkheim, 1897). However, it was the (re)introduction of the concept by Bourdieu (Bourdieu, 1983) and Coleman (1988; 1994), and later Putnam (1994; 2000) which increased attention towards social capital theory. Since Putnam's (2000) influential research on social capital, the concept has been explored across several fields including labour and institutional economics, education, entrepreneurship, as well as models of territorial development. Most studies describe social capital as *value* – which can be economic or social value for either and individual and/or a group (Coleman, 1994; Putnam, Leonardi and Nanetti, 1994; Putnam, 2000). This value derives from resources made available through access to social networks or through the development of social relationships (Coleman, 1994). The most widely accepted and used framework for understanding social capital is that of Nahapiet and Ghoshal (1998), who first put forward distinctions between structural, normative-cognitive and network governance social capital (Eagle, Macy and Claxton, 2010; Westlund and Adam, 2010; Pisani, 2017). Each of the forms of social capital can be further broken down further into several sub-dimensions (Vongvisitsin, Huang and King, 2024).

According to Krishna and Shrader (2002), structural social capital instead refers to (1) structure of horizontal networks, (2) collective decision-making processes, (3) accountability of leaders, and (4) collective action. For normative-cognitive social capital, they identify (1) shared values (including reciprocity and solidarity), (2) social norms (e.g., trust), (3) behaviours, and (4) attitudes. The third dimension of social capital, referred to as relational social capital or network governance relates to decision-making. As governance and social capital are interrelated, network governance is particularly important when analysed in the context of network-based, public-private multisector organisations which are based on collaboration (i.e., LAGs and FLAGs) (Secco and Burlando, 2017).

Despite the distinct connections between governance and social capital, there is limited knowledge on how governance is related to social capital (High and Nemes, 2007; Górriz-Mifsud, Secco and Pisani, 2016; Christoforou, 2017), and whether it fosters innovation and favourable economic and social outcomes (Secco and Burlando, 2017). Four key dimensions of network governance are outlined by Pisani *et al.* (2017) which are: (1) decision-making

processes, (2) efficiency and effectiveness, (3) organisational culture and capacity, and (4) vertical structure of the organisation.

2.3.1 Structural social capital

It is generally agreed in the literature that structural social capital is tangible and more easily observed than the other dimensions (Pisani *et al.*, 2017; Gerke and Dalla Pria, 2022). The term structural relates to the properties of the social system or network and describes how links and ties are configured between actors, and how they are supported by roles, rules, and procedures which facilitate mutually beneficial collective action. In the context of territorial development, structural social capital encompasses the sub-dimensions of (1) the members of the network and their qualities (2) the horizontal structure of the network, (3) the relational properties (i.e., the interpersonal relationships) of the network, and (4) the accessibility and transparency of the network (Pisani *et al.*, 2017).

2.3.1.1 Horizontal structure

How social networks shape the economic development of an area are often synthesised in the distinction between bonding, bridging, and linking social capital (Narayan, 1999), and how these types of linkages combine can impact on the productive capacity of a group or area (Burt, 2005; Nardone, Sisto and Lopolito, 2010). Bonding relations refers to ties and attachment between individuals with a relatively high degree of network closure (Nardone, Sisto and Lopolito, 2010). As such, bonding social capital is often associated with local communities or groups where there is high network closure (many people knowing many other people with the group); this can be described as the *horizontal ties* of a network as opposed to *vertical ties* which refers to connections with external groups and influences (Lin, 2012). Within closed networks, individuals are bonded through strong social norms, trust, and the use and access to similar network assets (Christoforou, 2017).

Bridging relations refers to ties between individuals which are relatively more socially distant (Narayan, 1999). Bridging social capital is, therefore, related to ties between and across different groups and how resources are transferred and mutually shared. This can be described as *vertical ties* and thus is interconnected to governance and social capital as in the context of LAGs, as it relates to how groups operate through formal hierarchical structures (Lin, 2012).

Lastly, linking relations refers to connections between individuals or groups of different social standing (Narayan, 1999; Burt, 2005). In other words, it refers to interactions across formal and institutionalised gradients of society, and is, therefore, often argued as being the same as definitions of bridging relations (Franke, 2005).

Franke (2005) developed a framework for identifying what social capital does in practice, highlighting the role of network-based organisations and social networks in supporting social capital. Furthermore, Franke argues that in supporting bridging structures, policy can more efficiently and effectively achieve developmental goals. LAGs can be considered as bridging structures under endogenous development policies. As public-private partnerships, LAGs allocate public funding (at EU, national and local levels) which support the development of a territory, while also facilitating and animating network members and beneficiaries (Budzich-Tabor, 2014).

The horizontal structure of a LAG is, therefore, an important consideration when analysing structural social capital. Putnam outlines the importance of network structure arguing that horizontal structures promote social capital, while vertical structures inhibit it (Putnam, 2000). This raises questions regarding the role of LAGs in being able to bridge and combine horizontal and vertical structures; how are LAGs perceived in terms of their level of structural social capital, and what impact does this have on economic outcomes such as the development of SFSCs? In some cases, LEADER and CLLD specifically have been criticised for being overly elitist in some areas through being overly exclusive (bonding connections) as opposed to inclusive (bridging relations) (Thuesen, 2010).

Particularly, from an economic perspective, finding a balance between bonding and bridging relations in a LAG is key to an area or community maintaining control over their development trajectory while also tapping into the opportunities and benefits provided by other groups and extra-local forces (Phillipson and Symes, 2015); the crux of the neo-endogenous approach to development (Ray, 1999; Ray, 2000). LAGs as hybrid networks, including both public and private actors, provide a good case for the identification of factors which influence the horizontal structures of networks (Pisani, 2017). However, how LAGs achieve a balanced

approaching to developing social capital in their areas, and furthermore, how this impacts upon economic activities such as the creation of SFSCs remains under researched.

2.3.1.2 Network members

Drawing on previous frameworks for measuring social capital (Borgatti, Jones and Everett, 1998; Krishna and Shrader, 2002), Franke (2005) developed a theoretical framework for understanding the characteristics of the members in a network and draws links to the bridging structures of the organisations. Franke separates the determinants of social capital into *inputs*, *activities*, *outputs*, and *outcomes*. In the framework, *inputs* are identified as the specific characteristics of the members involved in the network at both the individual (demographics, attitudes, participation, trust) and group levels (combined experience and knowledge, mandate of the group, and its reputation). Activities refers to the actions which lead to creation of a network. These activities relate to static and dynamic processes. Static processes refers to the specific structure of the network such as its size, density, and diversity of the network. For example, the degree of diversity of the members of a network and provides an idea of the type of resources that circulate within the network. The more the members of a network have varied profiles, the greater the chance that their resources will be diverse. Dynamic actions refers to specific interactions within the network such behaviour and attitudes, and social norms. *Outputs* refers to the products of the social capital and includes the greater access to resources and information, as well as reinforced positive behaviour and solidarity. Lastly, *outcomes* refers to the combined effects of social capital on improving social and economic performance.

Similar to horizontal structures, there is strong parallels with the both the structure and purpose of LAGs and the determinants of social capital (Georgios, Nikolaos and Michalis, 2021). Using Franke's (Franke, 2005) framework, Da Re *et al.* (2017) argues that the network members of LAGs can be evaluated using the following criteria: (1) The LAG's resources and the composition of its board and members, (2) the type and number of beneficiaries and (3) the sectors they represent, (4) the LAG managers perception on the LAGs capacity to mobilise its resource and the network, and (5) the LAG managers perceptions on the LAGs ability to build relationships.

Furthermore, to understand the value of social capital, a key measure of social capital relates to the *outcomes* resulting from the LAGs network members and their activities (Franke, 2005). These outcomes can be specific to a LAGs local development strategy but can include economic outcomes such as the creation of SFSCs with a territory. Thus, to fully evaluate social capital within an area, both the mechanisms put in place through a LAG and the developmental outcomes of those mechanisms (e.g., the degree of seafood through SFSCs) are critical to assessing the impact of an increase in social capital (Franke, 2005; Christoforou, 2017; Westlund and Larsson, 2021).

2.3.1.3 Network properties

To form an understanding of the structural social capital in an area and any impact it may have on specific developmental goals, it is important to contextualise the properties of the social systems which form a network (Vongvisitsin, Huang and King, 2024). This includes how an organisation such as a LAG accepts members, the opportunities offered to those members, the common characteristics and knowledge shared by members, and the relational benefits observed and exchanged between members (Christoforou, 2017). Combined these factors provide an indication of a *stock of relational goods* that a network provides (Pisani, 2017). An important distinction is that within structural social capital network properties relates to *systems* and not the *quality* of the network, which is instead a component of normative-cognitive social capital (Secco and Burlando, 2017; Westlund and Larsson, 2021).

2.3.1.4 Accessibility and transparency

The transparency of a network and whether the resources, funding, and social capital it generates are accessible to all potential actors in an area is an important dimension of structural social capital (Kustepeli *et al.*, 2023). While transparency, accessibility and even accountability are interconnected with the governance view of social capital, information sharing is also applicable to understanding the structure of a LAG as it is a primary function of the network (Kah, Martinos and Budzich-Tabor, 2023). Factors such as the LAGs provisions (both human and financial) for communication activities and interactions with potential and actual project promoters and beneficiaries are paramount, as is the transparency and accessibility of the FLAGs strategic objectives and decision-making processes (Da Re, Castiglione and Burlando, 2017).

2.3.2 Normative-cognitive social capital

Due to its reference to the norms and values within a network (or organisation) and how they strengthen ties and cooperation, normative-cognitive social capital is often considered the least tangible side of social capital (Krishna & Shrader, 2002). However, it is these elements of a network and the actors within them that form many of the gaps associated with structural social capital (Westlund and Larsson, 2021). These gaps are often the missing links to fully understanding social capital within networks, particular when forming comparisons between networks. For example, two LAGs may have very similar structures and types of network members, but the norms and values of those members may differ greatly, resulting in differing outcomes, both economically and socially. Without considering norms and values, appraisals of social capital may be the same, but its outcomes diverse. Hence, Durlauf and Fafchamps (2005) argue that structural social capital explains both everything and nothing. The normative-cognitive dimension of social capital compensates for the gaps in the structural dimension, by providing information on the content of both norms and values, network interactions, and sources of conflict (Rostila, 2011).

Given the associations of trust and shared values between actors in SFSCs, considering normative-cognitive social capital separately and in combination with structural social capital is particularly important (Gerke and Dalla Pria, 2022). While the LAG may structure social relations, normative and cognitive values may explain how social relations work in practice in producing specific outcomes. There are five key sub-dimensions of normative-cognitive social capital in the context of LAGs and territorial development. The first is trust and reciprocity among network actors. The second is shared values and norms across the network. The third is the ability of the network to avoid and deal with conflict. Fourth is the quality of the network and its set up. Finally, the fifth is the quality of participation in the network and its activities (Christoforou, 2017; Da Re, Castiglione and Burlando, 2017).

2.3.2.1 Trust and shared values

Trust is an extensively debated topic regarding both social capital and SFSCs. Several authors point to the importance of trust in building economic ties and in improving performance (Knack and Keefer, 1997; Rostila, 2011; Fisher, 2013). For SFSCs to flourish in fisheries areas, trust between supply chain actors and between producers and consumers is a key factor (FARNET,

2013b). Trust is considered in the present research in two forms: interpersonal and institutional trust. Importantly, interpersonal trust can have negative consequences within closed networks, such as imposing pressure to engage in risky behaviour, exchanging wrong information or excluding other members, impeding them from accessing the network's social capital (Arturo, Concetta and Luigi, 2010; Rostila, 2011).

Social norms also play an important role in connecting trust to the building of social capital. Notions of trust are often based around honesty, fairness, and goodwill, yet in some cultures this is not always the case. For example, Siegelman *et al.* (2019) found that trust in small-scale fishers can be built around lies and fabrication. Such lies and fabrication leads to the sharing or misinformation as noted by Rostila (2011), and thus closing access to both a network's social capital as well as community-led funding (Siegelman, Haenn and Basurto, 2019). In a sector where competition and longstanding relationships are at play between producers and larger buyers (Greenwood, 2019), trust is a particularly important consideration in fisheries areas.

As with interpersonal trust, institutional trust is also of particular relevance to LAGs and fisheries areas. It is possible that the cultural and traditional shared values within an area are the foundation of trust between actors in a LAG network (Christoforou, 2017). Cultural norms and traditions are intangible factors that facilitate the building of trust with a territory and include aspects such as perceptions towards the capacity of network members to keep to agreements in the network, avoid opportunistic behaviour, and respect of rules, regulations and norms (Pisani, 2017).

2.3.2.2 Network quality

Networks are important as an effective strategy to accessing information and decision-making (Pisani, 2017). Particular in the case of the sharing of information in uncertain markets, such as fisheries, and, moreover, SFSCs in fisheries. While there are conflicting theories on social capital, one agreed principle is that social structures provide capital that can create a competitive advantage, and that better connected individuals and groups should enjoy increased returns for their engagement in social structures (Burt, 2000; Brass, 2014).

Burt (2000) outlines that four processes form the basis of information sharing across networks: Namely: (1) cognition, (2) prominence, (3) brokerage and (4) closure. According to Burt (2000), cognition refers to how actors in a network observe the behaviours of others and imitate their decision-making choices. Prominence refers to actors following the of behaviours and decision-making of those in power. Brokerage is facilitation of information across the network, and closure refers to the density of the network. In dense networks, actors are highly interconnected and thus receive information (or knowledge) relatively quickly and evenly. In thinly spread networks (e.g., LAG areas which span large geographical areas with few actors), brokerage is may be more important, as receiving information early may become a competitive advantage. In smaller LAGs areas, dense networks (closure) may facilitate close peer reviewing which limits the potential for unscrupulous behaviours as identified in the share values dimension of normative-cognitive social capital.

2.3.2.3 Participation quality

CLLD under the EMFF is playing an increasingly important role in supporting a participatory approach to fisheries' areas development in Europe (Budzych-Tabor, 2014; van de Walle *et al.*, 2015; Miret-Pastor, Svets and Freeman, 2020). From a network perspective, participation is associated with modes or interaction, particularly with reference to social and civic participation (Babb, 2005; Foxton and Jones, 2011), or systematic participation (e.g., through organised structures such as LAGs and FLAGs) (Babb, 2005). Participation can also be defined as political or community engagement (Lowndes, Pratchett and Stoker, 2006). While definitions and concepts of participation vary, it is a core element of a network and its economic and social outcomes (Da Re, Castiglione and Burlando, 2017).

2.3.2.4 Conflicts

A largely omitted concept from the normative-cognitive social capital literature is that of conflict and conflict resolution (Jennings and Sanchez-Pages, 2017). While concepts of conflict cover varying perspectives, the study of LAGs allows for its analysis from a network perspective. The diverging assessments of conflict are centred around whether it has a positive or negative effect on social capital. While conflict may reduce cooperation and linkages between actors (Crowfoot and Wondolleck, 2012), there is also evidence that bonding ties between actors may be strengthened when external factors threaten a group as a sense of

togetherness and internal unity is formed (Jennings and Sanchez-Pages, 2017). Given the high levels of conflict cited in the fisheries sector (Greenwood, 2019), it is deemed an important consideration in the present study, particular in the contextualisation of other factors such as trust. For example, a LAG's ability to identify, examine, and resolve conflicts could explain the other measures used such as why trust in the network is low or high, why the LAG favour certain objectives or beneficiary categories over others, and how these factors interact in achieving the outcome of interest (i.e., local actors working together in SFSCs). In particular, conflict is an important consideration in the role of social capital in terms of innovative processes and alternatives to the status quo (De Clercq, Thongpapanl and Dimov, 2009), such as actors working together in alternative food systems.

2.3.3 Network governance and social capital

An additional consideration to the dimensions of social capital, particularly from the perspective of LAGs, is the connections between social capital and governance at a local level. Pisani *et al.* (2017) argue this to be the missing link in the vast majority of studies evaluating the impact of LAGs and bottom-up development programme such as CLLD. While many of the dimensions of structural and normative-cognitive social capital have substantial crossover with governance, there are distinct elements of consideration missing which are critical to the understanding of economic and social outcomes such as (1) decision-making process of the LAG, (2) the LAGs efficiency and effectiveness, (3) the LAGs organisational culture and capacity, and most importantly, (4) the vertical structures within the LAG such as linkages to external influences (Da Re, Castiglioni and Burlando, 2017).

Often these additional factors are missing from social capital evaluations as the crossover and relationship between governance and structural or normative-cognitive social capital is difficult to measure (Secco and Burlando, 2017). Despite the important role social capital, network governance and the innovation produce have on supporting new approaches to territorial development, few studies have looked at the facets of social capital and governance on local development initiatives, and even less so how governance relates to the specific types of social capital despite a clear acknowledgement of their interconnectedness (Bosworth *et al.*, 2016; Secco and Burlando, 2017; Lacquement and Chevalier, 2024).

By definition, governance is broadly defined as ways and means of governing, and includes the taking and implementation of decisions which empower actors (Rhodes, 1996; Kjær, 2004). The concept of governance generally refers to a shift to inclusive processes of involving diverse actors in decision-making, those which involve modes of interaction between government and non-government actors from civil society and the private sector are referred to as network governance (Sørensen and Torfing, 2007). Where horizontal structures typically refer to those within the same institutional or organisational level, hence forming part of structural social capital (Kjær, 2004), vertical structures refer to multi-level governance which coordinates actions across local, national, and international levels (Van den Brande, 2014). Both react to address changes in relation to markets, communities, and civil society and the private sector, but with a different impacts on social capital and its social and economic outcomes (Van den Brande, 2014). Network governance and its impact on social capital across the LAG network can be considered across four key areas: (1) vertical structure of the network (i.e., its integration at multiple levels). (2) the decision making processes of the network (3) the culture and capacity of the network and (4) the efficiency and effectiveness of the network (Pisani *et al.*, 2017).

2.3.3.1 Vertical structure

An organisation that is well-integrated at multiple levels of administration can benefit from the varying participation of sectors which are representative of the local economic and social context (Secco and Burlando, 2017). The vertical structure of the LAG is related to the multi-level nature of governance and its impact on social capital. The vertical structure of a LAG includes two main elements: (1) how the LAG is linked with external bodies and the nature of these relationships (e.g., national authorities, regional authorities, and municipalities, paying agencies) (Kjær, 2004; Greenwood, 2019), and (2) how the LAG is linked with other LAGs and/or FLAGs. While cooperation between external LAGs is not strictly a vertical structure, such ties have been included to analyse all possible linkages that may have impacted on the successful implementation of the LAGs local development strategy and, therefore, also impacted on the SFSCs developing in the area (Budzich-Tabor, 2014). Furthermore, influence with vertical structures may enhance the ability of the LAG to both influence outcomes in policy and programme development. As multi-sectoral networks, LAGs and FLAGs rely on

integration within a territory as a key feature for achieving and ensuring the effectiveness of its strategy (FARNET, 2013a; FARNET, 2015; van de Walle *et al.*, 2015).

2.3.3.2 Decision making processes

Put plainly, governance refers to ways of governing (Bevir, 2009), such as the ways in which decisions are taken, implemented and put into force (Kjaer, 2023). From a network governance perspective, governance refers to decision-making through partnerships, participation, negotiation, and cooperation (Secco and Burlando, 2017). For fisheries governance to be effective, the inclusion of stakeholders is a key principle, along with mutuality and the distribution of responsibility and proficiencies among actors (Spijkers *et al.*, 2023). Building group cohesion, trust, respect, honesty, and tolerance among stakeholders, such as the actors in a LAG network, along with the importance of shared learning and listening to others who think differently, is crucial to participatory approaches (Trimble and Lázaro, 2014; Lacquement and Chevalier, 2024). While governance, participation, and increasing the profile of producers in decision-making is an objective of many LAG strategies (Budzich-Tabor, 2014), it is often a secondary priority when compared with other local development objectives (Miret-Pastor, Svells and Freeman, 2020).

2.3.3.3 Culture and capacity

Good governance within the LAG or FLAG should result in a culture of learning across the network which enables knowledge transfer, collaboration, and mutual growth (Secco and Burlando, 2017; FARNET, 2021a). It is possible that such elements are the starting point of structural social capital, yet missed from its measurement (Pisani *et al.*, 2017). The culture and organisational capacity of the LAG refers to two specific elements of governance at local level. The first relates to the LAG managing local development processes (i.e., internal competencies in carrying out LAG roles and tasks). The second refer to knowledge transfer (i.e., how the FLAG builds capacity within its members), and the LAGs ability to support social innovation (FARNET, 2021a). Factors such as the LAG manager's ability to monitor initiatives, seek and integrate additional funding sources, communicate effectively, and support innovation are also important factors (Salmi and Svells, 2023). Combined, the culture and capacity of the LAG considers the LAGs ability to promote social capital in its territory, as opposed to the results

of social capital as measure on the other two dimensions of structural and normative-cognitive (Pisani *et al.*, 2017).

2.3.3.4 Efficiency and effectiveness

Good governance requires two crucial and elements: efficiency and effectiveness (Kjær, 2004). This is particularly relevant to LAGs as multi-actor partnerships (Budzych-Tabor, 2014), and both elements are closely associated with the culture and capacity of the LAG. An efficient and effective LAG is one that is well integrated throughout a territory, and one that is well integrated with external influences such other institutions and wider networks (FARNET, 2010; FARNET, 2021a). For example, how a FLAG is integrated with other FLAGs, through the Fisheries Areas Network (FARNET) could possibly increase its efficiency and effectiveness in delivering its local development strategy (Freeman and Svendsen, 2022). More generally, an efficient and effective FLAG is one that communicates well to both its members, but also potential promoters and beneficiaries in its territory (FARNET, 2021a).

2.4 Fisheries management and policy

2.4.1 Fisheries management

According to Bromley (1991), the governing of fisheries, or the management of any natural resource, is defined as a structure of rights and duties that characterise the relationship between individuals in respect of open access environmental resources. With open access resources, there is often a misconception of ‘everybody’s and nobody’s property’. In other words, there are no owners of a resource that comes from a common pool available to anyone (Bromley, 1991). Thus, at the centre of any resource management regime is the concept of property rights and the relationship between users (Bromley, 1991), which in the context of fisheries, refers to the rights to the resources within territorial waters (Nandan, 1987).

Access and the rights to European waters has changed significantly over the past 50 years, transforming the industry. As have perceptions of property rights to ocean resources which have changed drastically from open access to the introduction of 200 nautical mile (nm) economic exclusion zones (EEZs) managed by individual states, the natural resources from which are the property of the nation. The introduction of EEZs and the regionalisation of

fisheries management has largely been based on sustainability in an environmental and economic context; the focus of fisheries management and policy has been directed at protecting marine environments and bringing fishing stocks back to sustainable levels. In terms of territorial development and developing a theory of fisheries management, little focus has been placed on the “rights and duties” of the fishers”, excluding them and other local actors from the process (Urquhart *et al.*, 2014, p. 5). The social and cultural aspects of fisheries policy and management have been largely ignored, which has serious consequences for many fisheries communities, their livelihoods, and more broadly the development of their local areas (Symes and Phillipson, 2009; Urquhart *et al.*, 2011; Urquhart *et al.*, 2014). Many fishing communities face adverse consequences as a result of the omission of socio-cultural objectives from fisheries policy (Symes and Phillipson, 2009), including economic difficulties, outmigration, higher levels of unemployment and weak or lacking community structures (Urquhart *et al.*, 2014).

2.4.2 Historical context of UK fisheries

To understand territorial development in the fisheries context, it is necessary to start with how the UK’s fisheries sector has developed over the past 50 years, where much has changed since the UK joined the EU in 1973. In the late 1960s and early 1970s, at the time when talks of the UK’s accession to EEC were underway, the UK’s fisheries industry had three broad sectors (Symes, 2023). Firstly, an inshore fleet comprising of smaller boats, typically under 10 metres in length. Secondly, a larger fleet of over 10 metre trawlers fishing in the North Sea and finally a distant waters fleet fishing in the Northern waters around Iceland and the Barents Sea. The latter used large nomadic vessels which freely roamed previously unfished waters, providing vast catches of haddock and cod which served the UK’s domestic market. It was a highly commercialised fleet with many vessels having the freeze facilities and was at the time without doubt the UK’s most profitable fishery (Symes, 2005a; Symes, 2014; Symes, 2023).

The UK’s distant waters fleet was heavily dependent on an open seas policy which the UK actively promoted (Kurlansky, 1999). In 1952, Iceland took steps to challenge the open seas policy by pronouncing a four-mile exclusion zone of its coastal waters. While the four-mile exclusion zone declared by Iceland in 1952 was not formally opposed by the UK, it did have market implications through the UK banning Icelandic trawlers from landing catches in British ports, essentially closing off Iceland’s primary export market. Iceland’s ability to develop

alternative export markets resulted in the UK accepting the four-mile exclusion zone in 1956 (Thór, 1992; Jóhannesson, 2007).

Later in 1958, Iceland's intention to extend its exclusion zone to a 12-mile limit was met by a formal objection by the UK, resulting in what is often referred to as the first of three Cod Wars, an era of dispute between Iceland and the UK over rights to fish in the Northern Atlantic. (Steinsson, 2016). Each of the three Cod Wars began with Iceland extending its fishery limit, with each ending in Iceland's favour. In 1961, the UK accepted Iceland's 12-mile limit which was further extended to 50-miles in 1973, before a 200-mile exclusive economic zone (EEZ) was established in 1976 under the United Nations Convention on the Law of the Sea (UNCLOS) in its Article 61, a unilateral agreement between states which introduced the idea of fishing being limited by EEZs, areas over which a state has an exclusive right to marine resources (Waterman, 1987). Under Iceland's new EEZ, the UK's distant water fleet was restricted to limited and temporary access to the fishery on which it depended and ultimately resulted in the fleet's demise. Before its closure in 1976, approximately half of the UK's distant fleet catch came from Icelandic waters (Kerby, Cheung and Engelhard, 2012); its loss proved costly to the UK's trawling industry, in particular to the local economies of Hull, Fleetwood and Grimsby, where large proportions of the British distant fleet landed and were based (Jóhannesson, 2007).

The underlying driver for Iceland's desire to extend its fishing territory was largely economic. By extending its territorial waters, Iceland was able to exclude competition and allowed for an increase in catches; both of which were important to its economy which was largely dependent on the fishing industry. Removing competition would have a significant impact on Iceland's GDP, employment, wages and standard of living (Kurlansky, 1999). Moreover, through excluding completing vessels, Iceland was able to increase catches while also conserving the long-term sustainability of the fishery and its stocks, which through the opens sea policy were in a state of decline. Protecting the over exploitation of its fish stocks allowed Iceland to take control of territorial waters and their conservation, preventing economic losses long-term (Steinsson, 2016).

Contrastingly, the UK's economy was not dependant on the fishing grounds in the same way. Icelandic waters were important to the UK's trawling fleet but to a lesser extent the national economy. Therefore, decision-makers in the UK faced pressure from interest groups organised by its distant waters fleet as opposed to public opinion or legislation from Parliament (Gilchrist, 1978). As such, the UK was unwilling to accept the terms offered by Iceland on the disputed fishing grounds, terms which were favourable in comparison to the eventual outcome – a full exclusion from fishing the waters. While the driver for Iceland was economic, for the UK the driving force behind opposing the exclusion zone was more political and based on how the Icelandic exclusion zone would set a precedent for EEZs becoming more commonplace globally, ending the UK's long held support for an open seas policy (Welch, 2006).

As of 1982, other coastal states were able to follow the Iceland precedent and declare an EEZ of 200-miles through the UNCLOS agreement. The international agreement, which formally came into force in 1994, allowed states to stake a claim to the 'sovereign right' to resources in its territorial waters. As such, EEZs differ from a state's 12-mile in that the latter refers to full sovereignty over the water while the 200-mile EEZ refers only to that which lies beneath the surface of the sea. In other words, an EEZ refers only to the economic value of fisheries and other natural resources beneath the water as opposed to full jurisdiction over the surface area of the sea (Nandan, 1987).

2.4.3 The Common Fisheries Policy

The Common Fisheries Policy (CFP) of the EU was formally established in 1983 (Holden, 1994). In its early form, the CFP remained closely linked to the agricultural objectives of the Treaty of Rome (1957: Article 38), through the long-drawn-out negotiation and development of three regulations referring to markets, structures and conservation measures respectively (Wise, 1984; Symes, 1995; Phillipson, 2002; Symes, 2023). The creation of the initial CFP was significantly influenced by the impending accession of the UK and three other coastal states, Ireland, Denmark and Norway (the latter subsequently declined accession to the Union through a national referendum) (Symes, 1995; Symes, 2023). This accession process highlighted disparities in bargaining power between founding and prospective members, with the former establishing policies based on equal access to fishing waters. (Lequesne, 2004). Much like

other established policies, the CFP's implementation was non-negotiable for new members, serving as a prerequisite for accession (Greenwood, 2019).

In 1992, an interim policy revision attempted to combine the three separate regulations through a series of modest changes, establishing a supposedly more integrated common legal framework and a revised CFP (Leigh, 1983; Holden, 1994; Symes, 1995; Phillipson, 2002). 'Council regulation 1992/3760' (1992) revised the policy and outlined aims "to protect and conserve available and accessible living marine aquatic resources, and to provide for rational and responsible exploitation on a sustainable basis, in appropriate economic and social conditions for the sector, taking account of its implications for the marine eco-system, and in particular taking account of the needs of both producers and consumers". The new objectives were heavily focused on biological and economic priorities, largely due to the policy being built on and driven by maximising sustainable and economic yields (Symes and Crean, 1995). Little to no weight was placed on the social or environmental objectives which the policy reform failed to define and, in many ways, ignored. Moreover, while at first glance the new objectives appeared to offer a more rounded approach, they lacked specificity; there was only limited linkages between the various policy elements and little prioritisation (Symes, 2023).

According to Symes (1995, pp. 30-31), the initial CFP was largely steeped in failure and outlined three fundamental shortcomings: "a lack of clear objectives; an illogical and inefficient system of decision making within the EU; and the subsequent fragmentation of management responsibilities. All three weaknesses are strongly interconnected." For Symes, these inadequacies led to a severe loss in confidence in what was a largely ineffectual policy framework which overtly encouraged malpractices and non-compliance. Criticism of the CFP was widespread. The European Commission's own review of the CFP in 1991 described widespread non-compliance with the management system, overfishing, the over-capacity of fishing fleets and a general sectorial crisis. (EC, 1991). Similarly, a UK-based CFP Review Group outlined the inadequacies of the CFP and an urgent need to improve the management of fisheries highlighting "endemic problems of over-fishing, reducing profitability in the fishing industry, and associated socio-economic and environmental problems" (Common Fisheries Policy Review Group, 1996, p. 10).

The CFP initially was characterised by a lack of participation in governance at a territorial level and from user groups. Criticism stems from this shortage of user group involvement, and the tendency for approaches to governance being over-centralised and laden with bureaucracy (Jentoft, 1989; Symes, 1997). Moreover, the initial CFP's dependence on a Total Allowable catch (TAC) quota system¹ as a primary intervention mechanism promoted further resource exploitation and overcapitalisation as opposed to alleviating them (Phillipson, 2002). Symes (1996) described the situation as a series of governance crises: a crisis of 'institutions', referring to bureaucratically over-heavy centralised policy-making systems succeeding more traditional forms of management and the exclusion of fishers playing an active role in such systems; a crisis of 'property rights' referring to the redefinition of established perceptions of fishing grounds and marine resources; a crisis of 'markets', denoting the marginalisation of local producers within a globalised seafood supply chain; a crisis of 'production' owing to depletion of fish stock, overfishing, and the increasing regulatory constraints placed on fishers, restricting their traditional freedom; and lastly a crisis of 'confidence' in the management system by the various stakeholders in fisheries and its ability to command respect and sustain social order.

Towards the turn of the century, fisheries management had developed a strong focus on the need for alternative frameworks including systems of co-management (Jentoft, 1989; Sen and Raakjaer Nielsen, 1996; Wilson, Nielsen and Degnbol, 2003), leading to a broadening of an overarching notion of fisheries governance; referring to the actions and ways in which fisheries are managed (Kooiman *et al.*, 2005; Symes, 2007). At the time, there was growing recognition for the need for user groups to become more actively involved in fisheries management for it to be both legitimate and effective (Sen and Raakjaer Nielsen, 1996). In particular, this involved promoting more sensitive and less bureaucratic approaches to policy which involve increased participation from varying stakeholders (Phillipson, 2002).

¹ Total Allowable Catch (TAC) is a quota system used to establish the maximum fishing limits for different species during a certain timeframe. In the EU, the European Commission recommends TACs based on scientific advice, with the final decisions made by the EU Council of Fisheries Ministers. These TACs are subsequently distributed to EU Member States as national quotas (Elvestad and Bjørndal, 2023).

The European Commission's own review of the CFP recognised the need for increased participation from economic agents and fishermen's organisations, also stating the need to "minimise socio-economic upheaval by appropriate accompanying measures, taking account of the geographical concentration of fishing and fish-related activities" through a more appropriate distribution of management responsibility (EC, 1991, p. iv). In 1999, a European Parliament Committee on Fisheries further restated the need for participation, arguing that fishers were more likely to support and adhere to decision-making that they are actively involved in, leading to a more realistic and effective management system. Following protracted consultations, including several rounds of stakeholder meetings, 'Council regulation (EC) 2002/2371' (2002) revised the CFP incorporating three key changes. Firstly, it put in place the opportunity to replace the mechanism of restricting fishing by quotas to a supposedly more flexible system based on the allocation of days at sea.

Secondly, in an attempt to provide improved stability and continuity to fisheries management systems, multi-annual management plans were introduced to replace annual stock assessments. This included the establishment of the European Fisheries Control Agency (EFCA) aimed at ensuring the transparent, fair, and effective monitoring of European fish stocks. Concurrently, a new initiative aimed at making fisheries management more effective was put in place in the form of sustainability certification by the Marine Stewardship Council (MSC).²

Finally, the reform introduced possibilities for moderating fisheries management at a regional level, giving user groups a greater say in decision-making through the creation of Regional Advisory Councils (RACs) which would consist of fishers, industry representatives from sectors associated with fisheries and aquaculture, regional and national authorities, scientific experts, environmental group, as well as consumers (Symes, 2005a). Seven RACs were put in place between 2004 and 2008, five of which are based on geographical and biological coherent zones such as the North Sea, and two RACs based on the exploitation of specific fisheries,

² The Marine Stewardship Council is an NGO which began certifying fisheries in 2000. It was jointly established by the WWF and food production company, Unilever. Unilever is the owner of the Birdseye/Iglo brands and is a prominent seafood producer in the UK and Central Europe (Greenwood, 2019).

namely pelagic stocks in European Community waters (with the exception of the Baltic and Mediterranean Seas) and high-sea fisheries outside of Community waters (EC, 2008). As noted by Symes (2005a), the overarching policy objectives of the 2002 reform did not differ greatly from the 1980s and 1990s iterations. However, what did change was the interpretation of the objectives and how they would be achieved, particularly in terms of the regionalisation of EU fisheries.

2.4.4 Regions and the regionalisation of fisheries

The establishment of Regional Advisory Councils (RACs) was one of the formative steps towards the regionalisation of Europe's fisheries in the lead up to the 2013 reform and the current CFP. Due to the complex physical and political geographies of European waters, regionalising the CFP was seen by many commentators as an essential part of the reform process (Raakjær and Hegland, 2012). The objective of a regionalised approach to fisheries management is to move away from the 'one size fits all' mentality often associated with centralised policy-making (Symes, 2005b). The regionalisation of fisheries management and governance was a political process starting with the 2002 CFP reform (Council regulation (EC) 2002/2371) which provided a legal basis for the RACs later introduced under the current CFP (Council regulation (EU) 2013/1380) (Eliassen, Hegland and Raakjær, 2015).

Criticism of the 2002 reform was widespread, coming from scientists, environmentalists, and civil society through a series of public consultations. In 2007, Sissenwine and Symes submitted a review of the 2002 reform to the European Commission, which was subsequently leaked, having been initially intended for internal use only. Central to the report's agenda was the need for the regionalisation of Europe's fisheries. Sissenwine and Symes (2007) stated that the CFP was failing to achieve several of its core objectives. The problems included continued overcapacity and overfishing; issues affecting previous manifestations of the CFP. The report also outlined problems of poor and uneven enforcement and implementation practices, poor profitability, and a lack of legitimacy among stakeholders. Essentially, the report criticised the CFPs preference for a one-size-fits-all approach and advocated the need for regionalisation. In particular, Sissenwine and Symes (2007) were critical of lack of social objectives in the CFP, stating regionalisation as potential solution or improvement:

“There is no evidence that social considerations are systematically taken into account in the formulation of policy proposals within the Commission, though there may be circumstantial evidence to support the argument that such considerations probably do influence Council decisions. Social factors only come to the fore when dealing with the outcomes of fisheries policy and in this DG Fish plays only a minor role. Moreover, it is left to MS and regional initiatives to map out detailed strategies for restructuring a contracting industry and redirect efforts to maximise wealth creation from the limited fishing opportunities” (Sissenwine and Symes, 2007, p. 55).

Similarly, Raakjær (2009) also argued that the CFP was failing and that fisheries management in Europe was in state of crisis; also advocating the need for regionalisation. Raakjær describes a fragmented sector as a central argument for regionalisation, that regions in Europe have significantly different eco-systems with few commonalities, and that a devolved results-based management system was required. Both Sissenwine and Symes (2007) and Raakjær (2011) supported the development of co-management as a strategy, reducing the ‘distance’ between policy and those subjected to it through regionalisation. Raakjær and Hegland (2012, p. 2) refers to regionalisation as having two basic elements: “the ‘moving down’ and the ‘moving out’ of fisheries management and decision-making authorities currently held at the centre by EU institutions. ‘Moving down’ refers to the fact that regionalisation responds to the concern of the limited efficiency and effectiveness of the CFP by relieving the central EU level institutions of tasks by enabling lower-level authorities to step in and design more tailor-made management for particular areas. Similarly, ‘moving out’ refers to the potential of regionalisation to increase the involvement of stakeholders in the fisheries management process by transferring authorities from pure public institutions to public-private cooperative institutions or the fisheries sector itself, which indicates that regionalisation might have a potential to make the CFP more inclusive than it is at the present.”

2.5 Summary

This chapter has focused on the key aspects of territorial development covered in the literature to enable a better understanding of how fisheries SFSCs can be used as a means of territorial development in the fisheries sector. The chapter started by examining models of territorial development and how they relate to territorial development policy. It then discussed theories

of territorial development and the types of social capital at play in LAG and FLAG areas. Finally, it discussed fisheries management and policy to form connections to the historical contexts associated with fisheries development at local level. This review highlights some key gaps in the literature. Firstly, the territorial and sectoral conditions within an area which are optimal for economic outcomes, such as the creation of SFSCs, are under-researched. Secondly, academic assessments of the role of FLAGs in bridging territorial and sectoral factors in achieving economic outcomes are limited. Better insights into the role of social capital are required to enhance understandings of how FLAGs can influence the creation of SFSCs as a means of territorial development.

Chapter 3. Models of fisheries development

3.1 Introduction

Chapter 3 presents an overview of models of fisheries development in the EU, divided into three sections. Section 3.2 offers an assessment of neo-endogenous development in fisheries areas, related policy, and provides a summary of the UK's CLLD delivery system. Section 3.3 then reviews the academic literature and appraisals of fisheries CLLD and FLAGs. Finally, section 3.4 provides a detailed analysis of FLAG project portfolios and objectives – an assessment that includes data collected and analysed by the author of this thesis on behalf of the Fisheries Areas Network (FARNET) Support Unit.

3.2 Neo-endogenous development in fisheries areas

The development of Europe's fisheries over the past 40 years is an example of how local development has been informed by a philosophical shift from exogenous to endogenous approaches. The post-war exogenous model of economic development was driven from outside local communities, and was focused on economies of scale and concentration, putting industrialisation at the heart of development and transforming fisheries (Phillipson and Symes, 2015). The key principles of the exogenous philosophy in Europe included the development of technology and infrastructure; sectoral development, emphasising the importance of competitiveness and sustainability, including incentivising companies to relocate to rural areas and encouraging both farmers and fishers to leave their industries (Lowe *et al.*, 1998; Ward *et al.*, 2005). Such sectoral development was prominent in the fisheries sector through the development of the CFP which focused on the sustainability, social renewal, and competitiveness of the industry from a European policy perspective. As such, it was a model “exogenous to the particular dynamics, contexts and influences of local territories.” (Phillipson and Symes, 2015, p. 345).

The criticism of the exogenous model in Europe, which became apparent in the early 1980s, aligns with the widespread censure and failure of European fisheries policy which was based on remote, controlled, and centralised decision-making (van de Walle *et al.*, 2015). As such, it was a model which largely ignored the effects an exogenous approach to development had on spatial and local communities and smaller-scale fisheries which were cast aside and excluded

(Symes, 2014; Symes, 2023). The fisheries case was, therefore, a strong example of Ward et al.'s (2005) description and criticism of the exogenous development model (Table 1). It was criticised as '*dependant development*, reliant on continued subsidies and the policy decisions of distant agencies and boardrooms' (Ward et al., 2005, p. 4). It was also criticised for encouraging *distorted development*, which boosted certain types of businesses in selected areas and focused on single sectors, and was seen as *destructive development* which 'erased the cultural and environmental differences of rural areas' (p. 4). Lastly, the exogenous development approach was considered to be '*dictated development* devised by experts and planners from outside local rural areas' (p. 4).

Symes (2023) notes that the social aspect of fisheries development is often elusive and overlooked yet hidden in the CFP's structural and investment policy which first came into force in 2007 through Axis 4 of the European Fisheries Fund (EFF). Axis 4 introduced a new approach to the way it supports its fisheries sectors (van de Walle et al., 2015). Encouraging what Phillipson and Symes (2015) refer to as a 'middle way', Axis 4 combines elements of territorial and sectoral development at a local level. Drawing on the experience of the LEADER programme it seeks new ways of integrating EU fisheries sectors with the wider economy (Symes, Phillipson and Salmi, 2015), placing greater emphasis on the economic and social circumstances of coastal fishing communities through the integration of sectoral and territorial approaches (van de Walle et al., 2015). As argued by Phillipson and Symes (2015), the European Commission has often avoided handling the socioeconomic issues of fisheries, but at times has acknowledged the significant negative impact the CFP may have on fisheries communities (EC, 2002). With the exception of the PESCA initiative (operational between 1994-1999) which focused on community development and the diversification of fisheries employment (Coffey, 2000), Axis 4 represents the most concerted application of an integrated, multi-sectoral, approach to the economic and social development of local EU fisheries (Phillipson and Symes, 2015; Symes, Phillipson and Salmi, 2015).

3.2.1 Axis 4 and Fisheries Local Action Groups

Axis 4 of the EFF, UP4 of the European Maritime and Fisheries Fund (EMFF) as of 2014, initiates the formation of Fisheries Local Action Groups (FLAGs) to develop territorial fisheries areas within the CFP to primarily benefit the EU's coastal and small-scale fisheries

sectors (Phillipson *et al.*, 2024). FLAGs seek to support the sustainable local development of fisheries and their related communities by bringing together local public and private stakeholders in the joint design and implementation of integrated local development strategies (LDS) (FARNET, 2010). As such, FLAGs represent an instrument of territorial governance and involve a greater plurality of local actors coming from private, public and non-profit sectors with a focus on CLLD and modelled on the LEADER area-based approach (van de Walle *et al.*, 2015).

In many regards, FLAGs are positioned at the intersection between sector and territory, from exogenous approaches and sector to those which are endogenous and based on territory (Phillipson and Symes, 2015; Symes, Phillipson and Salmi, 2015; van de Walle *et al.*, 2015). In bridging sectoral and territorial approaches locally, Phillipson and Symes (2015, p. 345), therefore, argue that “the test facing FLAGs is to marry what continues to be a top-down, exogenously driven sector, with a bottom-up endogenous approach to local development. To do so they must become effective neo-endogenous intermediaries.” FLAGs as a vessel for neo-endogenous or networked development are well placed to acknowledge the driving forces external and internal to their territories, allowing for a dynamic approach to mobilising internal capacities in response to external policies, actions and processes (van de Walle *et al.*, 2015).

As argued by Ward *et al.* (2005), such units of intervention are vital in positioning local economies both economically and politically; that extra-local connections of community groups, households and local businesses are critical to this positioning. Thus, as Budzich-Tabor (2014) suggests, Axis 4 (and FLAGs) can be viewed as a *territorial instrument*, and when applied within a single sector policy (i.e. fisheries) can be an innovative solution to making possible the development of activities that present benefits to both fishers and the wider community (Budzich-Tabor, 2014). Budzich-Tabor (2014, p. 191) further adds that in many cases FLAGs also “contribute to strengthening the vertical links within the fish distribution chains”, placing an emphasis on wider value an area-based approach brings to a territory. The EU has consistently acknowledged the importance of communities ‘dependant’ on fisheries by implementing various measures aimed at modernising and developing production structures (Gallizioli, 2014). Axis 4 (through FLAGs) placed an importance of the wider communities in

coastal areas, and those with more relative, as opposed to absolute, dependency on fisheries (Phillipson and Symes, 2015).

3.2.2 The European Maritime and Fisheries Fund (EMFF)

In 2014, the EMFF was introduced to replace the EFF which continued the support of the areas-based approaches in the form of CLLD through FLAGs. Article 6 of the EMFF outlines the implementation of the CFP and its contribution to the *Europe 2020* strategy of the European Commission. Article 6 of the EMFF establishes six Priorities for the sustainable development of EU fisheries (including aquaculture):

1. Promoting environmentally sustainable, resource-efficient, innovative, competitive, and knowledge-based fisheries.
2. Fostering environmentally sustainable, resource-efficient, innovative, competitive, and knowledge-based fisheries.
3. Fostering the implementation of the CFP.
4. Increasing employment and territorial cohesion.
5. Fostering marketing and processing.
6. Fostering the implementation of the Integrated Maritime Policy (IMP).

From these six Union Priorities, Union Priority 4 (UP4) covers the territorial development of fisheries and aquaculture areas which is implemented through CLLD. Through ‘Council regulation (EU) 2014/508’ (2014), UP4 of the EMFF pursued the specific objective of “increasing employment and territorial cohesion by pursuing the following specific objective: the promotion of economic growth, social inclusion and job creation, and providing support to employability and labour mobility in coastal and inland communities which depend on fishing and aquaculture, including the diversification of activities within fisheries and into other sectors of maritime economy.” Under the EMFF, 367 FLAGs across 20 Member States, were active in the EU, each implementing a Local Development Strategy (LDS) and funding a portfolio of projects to address local priorities, including the encouragement of SFSCs

(FARNET, 2021b) (see map in Figure 1).³ This represented an increase in the total number FLAGs compared to the EFF which had a total of 312 (FARNET, 2015).

Figure 1: Location of FLAGs across the EU as of 2021



(Source: Own interpretation based on FARNET, 2021b)

The central aim of a FLAG's LDS was ensuring the sustainable development of its territory in social, economic and environmental terms (Marcianò and Romeo, 2016), with decision-making coming from a consortium of stakeholders from the area's local community; bringing together the private sector, local authorities and civil society organisations (Kah, Martinos and Budzich-

³ In 2020, the United Kingdom left the European Union. This decreased the official number of FLAGs to 350 across 19 MSs. Despite leaving the European Union, the UK FLAGs remain operational, fulfilling their LDSs until the end of the 2014-2020 programming period.

Tabor, 2023). The regulation highlights five broad funding objectives used to support the delivery of measures outlined in a FLAG's LDS:

1. Adding value to local produce, promoting innovation, and creating employment at all stages of the fisheries supply chain.
2. Diversification of commercial fishing activities, inside or outside of the industry, focusing on lifelong learning, knowledge exchange, and the creation of jobs in fisheries areas.
3. Utilisation of an area's natural resources and the enhancement and capitalisation of the environmental assets of fisheries areas, including efforts to mitigate climate change.
4. Promotion of social wellbeing and cultural heritage in fisheries areas, with a focus placed on enhancing fisheries and maritime cultural heritage to strengthen the role of fisheries communities in the local development process.
5. Increasing the involvement of the fisheries sector and fisheries stakeholders in local fisheries governance.

While only the first of these objectives explicitly mentioned the innovation and development of fisheries supply chains, each objective encompasses factors which contribute to territorial development (Miret-Pastor, Svets and Freeman, 2020).

3.2.3 The European Maritime, Fisheries and Aquaculture Fund (EMFAF)

In July 2021, the EC introduced the EMFAF under regulation '(EU) 2021/1139' (2021), the most recent incarnation of the European Commission's endogenous development approach, which will be implemented by four of the five European Structural and Investment Funds between 2021 and 2027, namely the Agricultural Fund for Rural Development (EAFRD), the European Regional Development Fund (ERDF), the European Social Fund (ESF), as well as the EMFAF. The development of fisheries CLLD in the EU is summarised in Table 4.

Table 4: Summary of the development of CLLD in the EU

Initiative	Timeframe	Fund	Budget (€)	No. of FLAGS
Axis 4	2007-13	EFF	559m	312 (EU-21)
CLLD	2014-20	EMFF	548m	367 (EU-20)
CLLD	2021-27	EMFAF	<i>TBC</i>	<i>TBC (EU-18)</i>

(Souces: European Court of Auditors, 2022; Kah, Martinos and Budzich-Tabor, 2023)

The EMFAF differs significantly from the EMFF in terms of its design, with more freedom and responsibility given to the Member States to decide how they want to achieve their development goals (Kah, Martinos and Budzich-Tabor, 2023). In terms of CLLD and FLAGS, a key change between the EMFF and EMFAF is the greater emphasis placed on aquaculture activities and the wider Blue Economy (EC, 2023a). Under the EMFAF, FLAGS strategies are to focus on fostering a sustainable Blue Economy intended to allow for a more comprehensive approach to local development in coastal and fisheries-dependent areas (EC, 2023a). While there is a further decrease in the number of Member States choosing to implement the EMFAF (EU-18 as opposed to EU-20), the total number of FLAGS is expected to increase. Both Denmark and Sweden did not continue to implement fisheries CLLD under the EMFAF, the UK left the EU, while Belgium reintroduced CLLD under the fund.

3.3.4 FLAGS and the UK delivery system

There were 18 FLAGS operational in the UK in the 2014-2020 programming period, six of which are in England (FARNET, 2021b). In England, the managing authority for CLLD is the Marine Management Organisation (MMO), which is an executive non-departmental public body, sponsored by the Department for Environment, Food and Rural Affairs (Defra). Through licenses, regulations and marine planning, the MMO is responsible for the management of marine activities in the seas around England, acting as the accountable body for the six FLAGS in England, and is the managing authority through which applications are made to the EMFF. Each FLAG in England comprises of a board of local stakeholders from both the private and public sectors forming a non-for-profit partnership. The FLAG board supports the implementation of the FLAGS LDS and project calls and the selection of applications with the help of a full-time FLAG manager or *animateur* (Phillipson and Symes, 2015).

As with other EU Member States, the Operational Programme (OP) for support from the EMFF in the UK is aimed at achieving both national development objectives along with wider *Europe 2020* priorities. The UK's OP objectives fall under four main policy goals:

1. The adaptation of the UK's fisheries sector in line with the requirements of the reformed CFP and the development of the EU's Integrated Maritime Policy (IMP). As such, the objective focuses on a transition to sustainably managed and discard-free fisheries, and the innovation of the UK's fishing fleet.
2. Fostering growth across all aspects of the seafood supply chain, including fisheries, aquaculture, and processing through on and offshore infrastructural investments, and supporting innovation.
3. Supporting and developing the economic, environmental, and social sustainability of the supply chain and the sector as a whole; achieved through the efficient use of natural resources, supporting policies and initiatives that attract and maintain people coastal populations, and improving local governance.
4. Fulfilling the UK's data collection and enforcement obligations through the development of systems and technologies that support the control and enforcement of the reformed CFP, while also improving the traceability of fisheries products (DEFRA, 2014).

The total 2014-2020 OP budget for the UK was £309,993,892, 78% of which comes from the EMFF (£243,139,437), the remaining 22% being a national contribution. Funding priorities for the UK OP are centred around the six Union Priorities, UP4 being the source of funding for CLLD and FLAGs in the UK which specifically focuses on supporting fisheries and aquaculture dependent communities at a territorial level in both diversifying their economies and bringing added value to their fishing activities through developing improved marketing of local seafood and improved supply chain logistics (DEFRA, 2014). UP4 only accounts for 6% of the UK's total OP budget, equating to £13,538,640 (Table 4).

There were 18 FLAGs operational in the UK under the EMFF, a slight reduction in the 22 FLAGs under the EFF. The total budget of the programme was also reduced under the EMFF compared to the EFF from €24.7M to €18.1M. While there was just one national programme for all UK FLAGs, due to the devolved nature of governance in the UK, CLLD was implemented in accordance with the local specificities of the four nationals. As such, while the budget for CLLD reduced between periods in England, Wales and Northern Ireland, in Scotland it was increased. Hence the disparities between the funding received between FLAGs in the EMFF (Table 5). Of the 18 UK FLAGs, eight were located in Scotland, six in England, three in Wales, and one in Northern Ireland (see Figure 2).

The six FLAGs in England had comparable budgets with the exception of the Hastings FLAG which in the 2014-2020 programming period had a budget of €1,996,303. The other five FLAGs operate under a standardised budget put in place by the MMO which uses an EMFF contribution of approximately €700,000. Of the six FLAGs in England, five are coastal. The characteristics of the UK FLAG areas are summarised in Table 5. While there have been several recent studies on FLAGs in the EU context, little attention has been given the UK CLLD programme and FLAGs. Furthermore, no study has yet focused on the economic outcomes, such as SFSCs, associated with FLAGs their impact on territorial development.

Table 5: UK FLAG characteristics

FLAG	Budget (€)*	Territory (km ²)	Population	Employment (FTEs)**
Argyll and Ayrshire	920 000	9 833	151 399	730
Cardigan Bay	317 855	1 684	44 559	40
Cleddau	412 130	1 071	86 694	100
Cornwall and Scilly	939 485	149	532 300	800
Dorset and East Devon	926 908	560	103 000	127
Dumfries and Galloway	745 137	6 436	150 830	857
Forth	917 299	201	40 000	199
Hastings	1 996 303	30	90 300	98
Highlands and Morey	1 292 427	15 316	138 393	1 620
Holderness	936 000	249	60 199	195
Northeast Scotland	1 846 140	7 250	102 911	7 700
North of Tyne	920 000	751	72 728	156
North Thames	920 000	98 185	32 834	45
Northern Ireland	1 863 238	491	12 170	973
Orkney Islands	619 235	974	21 350	587
Outer Hebrides	678 332	3 070	27 684	762
Shetland Islands	544 946	1 468	23 167	914
Swansea Bay	440 774	3 334	419 593	169

*Programming period (2014-2020) **Fisheries, aquaculture and processing full time equivalents (FTEs) combined. (Source: Own interpretation adapted from FARNET, 2021b)

Figure 2: Location of UK FLAGs



3.3 Appraisals of fisheries CLLD and FLAGs

Research into the role and impact of FLAGs has grown over the 2014-2020 and programming period. Academic studies of FLAGs under Axis 4 of the EFF were limited to case studies of specific FLAG areas, such as van de Walle *et al.* (2015) assessment of the Pays d’Auray FLAG, France, and its impact on the sustainable development of local fishing interests in the area. In

the UK, Phillipson and Symes (2015) use a case-study of the Cornwall and Isles of Scilly FLAG as a case study for exploring the ‘early experiences of bridging sectoral and territorial development.’ The work of Phillipson and Symes (2015) and van de Walle *et al.* (2015) are complementary, the former assessing relatively new FLAG and the latter being one of the more mature FLAGs in Europe. At a national level, studies into the impact of FLAGs under Axis 4 were conducted in Sweden (Linke and Bruckmeier, 2015), and Poland (Kurowska, Kryszk and Gwiazdzinska-Goraj, 2014). No such study has been conducted on the impact of the UK FLAGs.

As for CLLD under the EMFF, further case studies of individual FLAGs have emerged such as an appraisal of the Thau FLAG in France and its role in normative reframing (i.e., framing how one sees the world), and preserving and promoting cultural heritage in the area (Schnyder, 2023). Several studies have now focused on the impact of specific FLAGs on their territories in countries such as Denmark (Thuessen and Nielsen, 2014), Finland (Salmi and Svets, 2023), Sweden (Linke and Siegrist, 2023), Spain (Miret Pastor and Sigalat-Signes, 2019), and Italy (Marcianò and Romeo, 2016; Romeo, Careri and Marcianò, 2016; Romeo and Marcianò, 2019). Other studies have compared the CLLD models used across two countries. For example, Salmi *et al.* (2022) compare small-scale fisheries experience through FLAGs in Finland and Sweden, Piñeiro-Antelo *et al.* (2019) compare the use of CLLD in Spain and Portugal, while Piñeiro-Antelo *et al.* (2018) analyse the differing impacts of FLAGs in Spain and Ireland.

Some studies have begun to look at the broader impact of FLAGs and the initiatives they fund. Miret-Pastor, Svets and Freeman (2020) developed a typology of projects funded by FLAGs across eight countries. Freeman and Svets (2022) assessed the impact of FLAGs on women’s empowerment in fisheries across several countries as well as a detailed case study comparison of areas in Croatia, Estonia, and Spain. One study assesses the impact of FLAGs by sea basin, reviewing the impact of fisheries CLLD in the Mediterranean (Ceccacci, Mulazzani and Malorgio, 2022).

At EU level, there have been two studies of note. The first assesses the impact of FLAGs on small-scale fisheries (van de Walle and Van Soetendaal, 2017), and the second analyses the support FLAGs provided to women in fisheries and aquaculture (Freeman, van de Walle and

Budzich-Tabor, 2018). Both studies highlight the support FLAGs provide to their territories through the EMFF in terms of budget spend and number of projects.

By theme and in terms of impact, research into FLAGs has assessed the role of FLAGs through the lens of Blue Justice and an investigation of justice matters related to FLAGs (Bugeja-Said *et al.*, 2022). The study found that in certain instances, the implementation of the FLAG system has been criticised for being overly focused on specific sectors, neglecting the potential for broader local involvement of small-scale fisheries, suggesting that how FLAGs are governed plays an important role in enhancing the overall sustainability and inclusivity of the fishing sector (Bugeja-Said *et al.*, 2022). Linke and Siegrist (2023) also focus on FLAG governance in the Swedish programme and the alignment of top-down and bottom-up development approaches, concluding that fisheries CLLD in Sweden reflects a path-dependent trajectory characterised by the marginalisation and disempowerment of local fisheries interests, hindering the potential for endogenous development. However, many argue in favour of FLAGs empowering local communities in order to harness their fishing interests and in taking control of their own developmental trajectories (Linke and Bruckmeier, 2015; Piñeiro-Antelo, Felicitades-García and O’Keeffe, 2018; Piñeiro-Antelo, Felicitades-García and Lois-González, 2019; Piñeiro-Antelo, Felicitades-García and O’Keeffe, 2020; Freeman and Svells, 2022). Freeman and Svells (2022) and Gustavsson (2021b) discuss the role FLAGs shedding light on the often ‘invisible’ role of women and how CLLD funding can both empower and disempower women working in fisheries and aquaculture areas depending on the context – suggesting that impact of FLAGs on empowering specific groups to be multifaceted. Salmi and Svells (2023) pay particular attention to the role of the FLAG managers in being *reflexive intermediaries* of the neo-endogenous development process; that it is the FLAG manager, through their role, expertise and commitment to networking, who are able to remedy failures of governance systems.

Other studies have shown that FLAGs can increase socioeconomic development in fisheries areas (Kurowska, Kryszk and Gwiazdzinska-Goraj, 2014), that they foster and improve social innovation (Piñeiro-Antelo, Felicitades-García and Lois-González, 2019; Piñeiro-Antelo and Lois-González, 2019), and that they are uniquely placed to perform and integrate macroeconomic analyses of small-scale fishing fleets into local development strategies

(Romeo, Careri and Marcianò, 2016; Romeo and Marcianò, 2019). However, some outline that the efforts of FLAGs, through cooperating at networking at local level, is significantly hampered due to their limited geographical coverage and a lack of critical mass in terms of the number of FLAGs across the EU (Felicidades García and Piñeiro Antelo, 2020), and a scarcity of funding and limited influence on local administrations (Piñeiro-Antelo, Felicidades-García and Lois-González, 2019).

Linke and Bruckmeier (2015) assess the role of FLAGs in establishing co-management models and argue that the co-management requires empowerment, stakeholder participation and knowledge sharing. While these factors are prominent among the objectives of FLAGs and their LDSs, the authors acknowledge that the current experience is inadequate to fully assess the role of FLAGs in supporting the transformation of fisheries management but argue that the adaption of FLAGs to local requirements help in developing a learning culture, transforming the management of fisheries into a system of learning.

Several studies have assessed FLAG projects related to fisheries diversification through tourism activities and highlight a positive effect on new opportunities for fisheries producers (Pawlewicz, Szamrowski and Pawlewicz, 2014; Szamrowski, Pawlewicz and Pawlewicz, 2014; Padín, Lima and Pardellas, 2016; Mulazzani *et al.*, 2017; Miret-Pastor *et al.*, 2018; Kyvelou and Ierapetritis, 2020; Miret-Pastor *et al.*, 2020; Miret-Pastor *et al.*, 2021). Of these studies, only one study considers the impact of FLAGs on gastronomy tourism and consumer responses (Cortese *et al.*, 2021a). Cortese *et al.* (2021a) outline how local fish products from seaside villages, and how they are perceived by consumers, have shaped the local development strategy and diversification efforts of the “Stretto Coast” FLAG in Italy. Finally, Prosperi *et al.* (2022) analyse adaptive business arrangements in small-scale fisheries areas in the UK, Italy and Greece, and assess the impact of FLAGs and social capital on resilience.

3.4 Analysis of FLAG project portfolios and objectives

In 2018, for the first time, the EC began collecting data on FLAG projects supported under UP4 of the EMFF. According to ‘Council regulation (EU) 2014/508’ (2014), UP4 had two clear output indicators: the number of local development strategies selected (i.e., FLAGs), and the number of operations selected (i.e. projects). Under Article 97 (1)(a) of ‘Council regulation

(EU) 2014/508' (2014), Managing Authorities (MAs) are required to report data on the operations they selected for funding on a yearly basis. Reporting data related to spending under the EMFF as a Structural Fund is a requirement of Commission implementation regulations '(EU) 2014/1242' (2014), '(EU) 2014/1243' (2014) and '(EU) 2017/788' (2017), which outline the types of data, structure, and frequency required. The reporting system and database used for the EMFF is commonly referred to as "Infosys" (FAME, 2019).

Table 6 offers a breakdown of the implementation for CLLD programme by MS, upon which the Infosys system is based (EC, 2022). There is variance in the total CLLD budget between Member States, which is largely accounted for by the size of the country and its number of FLAGs. The average FLAG budget also varies under each Member State national programme. The UK FLAGs had an average budget of €1M, which is on the smaller side compared to €3.5M and €3M allocations in Estonia and Spain respectively. There is also a significant difference in the share of funding to CLLD as a percentage of a Member State's total EMFF budget. In some cases, the percentage share of the total EMFF budget to CLLD is as high as 20% (Bulgaria, Romania, Slovenia). The UK's share to CLLD of the total EMFF budget is on the lower side at just 6%.

Table 6: Implementation for CLLD programme by MS

Country	Number of FLAGs	CLLD budget [M€]	Share of EMFF Budget	MS co-funding [M€]	Total funding [M€]	Average FLAG budget [M€]
UK	18	13.6	6%	4.5	18.1	1.0
Bulgaria	9	17.2	20%	3.0	20.3	2.3
Croatia	14	24.8	10%	10.6	29.2	2.1
Cyprus	3	5.3	13%	1.8	7.0	2.3
Denmark	10	7.5	4%	8.1	15.7	1.6
Estonia	8	23.6	23%	4.2	27.8	3.5
Finland	10	3.9	5%	5.5	9.4	0.9
France	23	22.6	4%	22.6	45.2	2.0
Germany	29	20.9	10%	3.7	24.6	0.8
Greece	33	59.9	15%	10.6	70.5	2.1
Ireland	7	6.0	4%	6.0	12.0	1.7
Italy	53	45.6	8%	45.6	91.3	1.7
Latvia	6	12.8	9%	2.3	15.0	2.5
Lithuania	12	10.4	16%	1.8	12.2	1.0
Poland	36	79.7	15%	14.1	93.8	2.6
Portugal	15	35.0	9%	6.2	41.2	2.7
Romania	22	37.4	22%	12.5	49.9	2.3
Slovenia	4	5.0	20%	1.7	6.7	1.7
Spain	41	107.7	9%	19.0	126.7	3.1
Sweden	13	8.3	7%	8.3	16.7	1.3

(Source: Own interpretation and analysis adapted from EC, 2023b)

In reporting CLLD activities, MAs are required to report on the funding of FLAGs in two capacities. Firstly, under the ‘Common provisions council regulation (EU) 2013/1303’ (2013), MAs are required to report the running and animation costs of FLAGs. Article 35(1) of the regulation specifically describes the following operations:

- (a) Running costs linked to the implementation of the Local Development Strategy (LDS).
For example: Operating costs of the FLAG, personnel costs, training costs, costs linked to public relations, financial costs or costs linked to monitoring and evaluation of the LDS.
- (b) Animation costs. For example, to facilitate exchange between stakeholders, to provide information, to promote the strategy, or to support potential beneficiaries with a view to developing operations and preparing applications.

Secondly, MAs are required to report funding linked to preparatory costs and funding related to the strategic objectives of the programme as set out under Articles 62-64 of ‘Council regulation (EU) 2014/508’ (2014). Preparatory support and costs related to the setting up of and implementing CLLD strategies, and FLAG running and animation costs in fisheries areas are covered by Article 62 of the regulation and are reported separately in the Infosys system. Projects that aid cooperation between two or more FLAGs are also reported separately under Article 64 of the regulation. This includes any cooperation, whether national or transnational and also covers cooperative projects with partners outside of the EU.

Articles 63 of the EMFF regulation covers operations which specifically relate to FLAG local development strategies. When reporting FLAG projects to the Commission, MAs must assign a code of each individual project identifying which of the five UP4 objectives the project relates to. The ‘types of operations’ under Article 63 can be attributed by MAs to the following categories:

- Adding value (code 106)
- Diversification (code 107)
- Environmental (code 108)
- Socio-cultural (code 109)
- Governance (code 110)
- Running costs and animation (code 111)
- Preparatory support (code 112) (FAME, 2019)

Adding value projects correspond to Article 63(a) of ‘Council regulation (EU) 2014/508’ (2014b) (2014, p. 38) which is the objective of “adding value, creating jobs, attracting young people and promoting innovation at all stages of the supply chain of fishery and aquaculture products.” The category includes projects related to producer and product certification, developing the processing, marketing, and distribution of fisheries products, investment in fishing activities and infrastructure, and building the capacity of current and potential fishers to engage with and carry out these activities.

Diversification projects correspond to Article 63(b) and include “diversification inside or outside commercial fisheries, lifelong learning and job creation in fisheries and aquaculture areas” (2014, p.38). The diversification of fisheries activities is a key strategic objective of many FLAGs as it allows for the bridging of sectors, which is often deemed as important in achieving the wider objectives of UP4 of creating jobs and territorial cohesion. Article 63(b) covers activities which provide alternative and/or additional sources of income to fishers, fisheries communities, or the wider territory. For individual fishers this can include operations related to fisheries, which may include new methods of production (i.e., catch methods resulting in the landing of new species), and processing. For both fishers and the wider territory, diversification includes projects which may focus on activities which go beyond the fisheries sector, and into other industries such as recreation, tourism, hospitality, and gastronomy.

Operations that enhance and capitalise “on the environmental assets of the fisheries and aquaculture areas, including operations to mitigate climate change” corresponds to Article 63(c) of the EMFF (2014, p. 38). This category includes projects linked to raising environmental awareness among fishers and local fisheries communities, and the protection and valorisation of environmental assets. For-profit and not-for-profit projects are included under Article 63(c), and activities covered under this objective are focused on mitigating and minimising the negative impact of fisheries and aquaculture on the environment and the climate.

FLAGs projects associated with socio-cultural objectives are coded under 109 in the Infosys database. Such operations correspond to Article 63(d) of the EMFF and the promotion of “social well-being and cultural heritage in fisheries and aquaculture areas, including fisheries, aquaculture and maritime cultural heritage” (2014, p. 38). Socio-cultural projects cover a wide range of operations targeted towards fisheries communities including improving services and preserving and promoting fisheries services. While there is a crossover with the capacity building objectives of Article 63(a), socio-cultural projects also encompass developing skills within fisheries communities. This can include addressing the social exclusion of vulnerable groups such as minority groups, migrants and the long-term unemployed, as well as initiatives targeted towards generational renewal and the role of women and youth in fisheries areas.

Finally, projects which strengthen “the role of fisheries communities in local development and the governance of local fisheries resources and maritime activities” (2014, p. 38), which corresponds to Article 63(e) of the EMFF are coded under 110 when reported by MAs to the Commission. This category is related to operations which raise the profile of fishers and producers in the community, and those which help fishers to participate in local resource management and have a stronger voice in local decision-making. Projects supporting co-management activities and the management of natural resources typically fall under this category.

Table 7 provides a breakdown of the implementation of CLLD programme by MS and showing how the funding has been committed in relation to each of the reporting categories and corresponding articles of UP4 of the EMFF. As previously mentioned, some countries remain at an early stage of implementing CLLD. For example, Bulgaria, Croatia, and Greece are yet to select any projects under Article 63 for funding and have only committed funds to as preparatory support or running and animation costs. Despite being over halfway through the programme, Bulgaria and Croatia have reported no costs relating to FLAGs administration and animation, having only reported funding under Article 62 for preparatory support to the programme. In Greece, no projects have been selected for funding while running costs and animation are high at €9.8 million.

Table 7: FLAG and CLLD programme implementation funding

Country	CLLD budget (€)	Commitment (€)	Expenditure (€)	Commitment (%)	Expenditure (%)
<i>UK</i>	<i>13,600,000</i>	<i>12,471,615</i>	<i>10,954,575</i>	<i>91.7</i>	<i>80.5</i>
Bulgaria	15,792,775	12,873,151	6,881,255	81.5	43.6
Croatia	23,548,850	34,890,310	7,104,789	148.2	30.2
Cyprus	4,935,000	5,986,052	3,173,776	121.3	64.3
Denmark	20,499,300	6,829,375	5,130,797	90.8	68.2
Estonia	26,282,074	23,245,933	19,545,403	88.4	74.4
Finland	3,986,734	4,191,418	3,872,671	105.1	97.1
France	20,430,353	16,719,011	8,613,971	81.8	42.2
Germany	20,499,300	18,208,204	14,018,987	88.8	68.4
Greece	59,925,000	100,529,427	7,951,646	167.8	13.3
Ireland	6,000,000	5,941,727	5,941,728	99.0	99.0
Italy	42,713,074	40,673,953	22,495,014	95.2	52.7
Latvia	21,477,120	24,423,745	14,204,434	113.7	66.1
Lithuania	9,875,783	7,787,431	4,599,321	78.9	46.6
Poland	79,700,000	82,361,927	54,135,845	103.3	67.9
Portugal	32,710,066	33,579,428	18,744,824	102.7	57.3
Romania	37,428,646	43,361,513	25,852,672	115.9	69.1
Slovenia	5,809,593	5,854,484	4,514,780	100.8	77.7
Spain	106,832,761	103,355,020	67,669,427	96.7	63.3
Sweden	8,343,266	7,772,006	6,402,638	93.2	76.7

(Source: Own compilation based on EC, 2023b)

As of 2023, the UK had reported that it had committed just under €12.47 million (91.7%) of its total fisheries CLLD budget of €13.6 million. €1.66 million of the UK's reported spending was attributed to preparatory support and running costs. For strategic projects under each of the UP4 measure, the UK reported a total budget commitment of €10.7 million. To date, the UK has reported no projects under Article 64 for national or international cooperation.

Table 8 shows how the projects reported by each Member State corresponds to each UP4 objective under Article 63. The UK reported a total of 434 projects over the five objectives, 171 (39.4%) for projects related to adding value, 58 (13.4%) under diversification, 59 (13.6%) environmental projects, 91 (21%) correspond to socio-cultural objectives, and 38 (8.8%) projects which increase participation in local governance. Projects which focus on adding value to local fisheries produce, the creation of jobs, and promoting innovation and at all stages of the fisheries supply chain are the most prominent amongst the UK FLAGs with a committed budget of €2 million. At 39.4%, projects reported under this category are higher than the

programme average of 29.5%. UK FLAG projects related to diversification and socio-cultural objectives are also lower than those of the EU average at 13.4% and 21% respectively. In terms of environmental projects and those increasing participation in local governance, the UK reported a higher number of projects when compared to the other Member States. This is particularly the case for governance projects where the UK has reported 38 of the 138 projects across the whole programme (5.3% of all reported projects under the EMFF).

Table 8: Projects reported under each of the five UP4 objectives of the EMFF

Country		Adding Value	Diversification	Environmental	Socio-Cultural	Governance	Total
UK	No	171	58	59	91	38	434
	%	39.4	13.4	13.6	21.0	8.8	
Bulgaria		39	17	23	81	1	165
		23.6	10.3	13.9	49.1	0.6	
Croatia		117	13	29	169	10	352
		33.2	3.7	8.2	48.0	2.8	
Cyprus		11	21	0	6	0	51
		21.6	41.2	0.0	11.8	0.0	
Denmark		116	88	11	21	2	322
		36.0	27.3	3.4	6.5	0.6	
Estonia		430	375	24	266	0	1096
		39.2	34.2	2.2	24.3	0.0	
Finland		157	60	57	43	2	341
		46.0	17.6	16.7	12.6	0.6	
France		142	33	85	72	14	516
		27.5	6.4	16.5	14.0	2.7	
Germany		59	6	5	65	2	167
		35.3	3.6	3.0	38.9	1.2	
Ireland		83	12	0	744	2	841
		9.9	1.4	0.0	88.5	0.2	
Italy		406	96	61	55	24	742
		54.7	12.9	8.2	7.4%	3.2	
Latvia		24	160	106	73	0	374
		6.4	42.8	28.3	19.5	0.0	
Lithuania		38	20	18	36	9	122
		31.1	16.4	14.8	29.5	7.4	
Poland		364	962	264	1220	23	3 013
		12.1	31.9	8.8	40.5	0.8	
Portugal		20	324	0	11	0	384
		5.2	84.4	0.0	2.9	0.0	
Romania		131	83	62	79	10	390
		33.6	21.3	15.9	20.3	2.6	
Slovenia		36	9	3	1	21	78
		46.2	11.5	3.8	1.3	26.9	
Spain		763	837	295	92	138	2 590
		29.5	32.3	11.4	3.6	5.3	
Sweden		77	13	60	19	0	177
		43.5	7.3	33.9	10.7	0.0	
Total		3666	3478	1235	3611	583	12 573
		29.2	27.7	9.8	28.7	4.6	

(Source: Own compilation based on EC, 2023b)

The UK had a high number of projects under these three categories which aligns with the specific objective of the UK's operational programme which is the "promotion of economic growth, social inclusion and job creation, and providing support to employability and labour mobility in coastal and inland communities which depend on fishing and aquaculture, including the diversification of activities within fisheries and into other sectors of maritime economy" (DEFRA, 2014, p. 59). The objective echoes the adding value, diversification, and socio-

cultural funding objectives of UP4, but omits reference to the environmental and governance dimensions of the regulation which is reflected in the project portfolios of the UK programme.

FLAGs, however, are not limited by the objectives of the UP4 or the specific objective set out in their national operational programme. They are free to develop their local development strategy based on their areas own specific needs, prioritising the UP4 objectives according. In 2015, and throughout the programming period, the Fisheries Areas Network (FARNET) surveyed the FLAGs based on their local development strategies and how they prioritised the areas in which they planned to work and make calls for projects. The author of the present thesis conducted this research and analysis on behalf of the FARNET Support Unit – the collaborative partner of this PhD. The study received a response rate of 97% (n = 357). 18 of the 19 FLAGs in the UK responded to the survey and provided data on their local development strategies – the 19 missing FLAG ultimately never became operational. As part of the exercise, FLAGs were asked to prioritise the five CLLD objectives of Article 63 in relation to their local strategies, rating on a five-point Likert-type scale with endpoints very low- and very high-priority.⁴ Table 9 outlines the priority levels of FLAGs for each of the five CLLD objectives.

⁴ A Likert-type scale refers to a five-point scale which was used to answer a single question. This differs to a standard Likert scale which uses a five-point scale across a series of statements to explore several dimensions of a construct (Field, 2018).

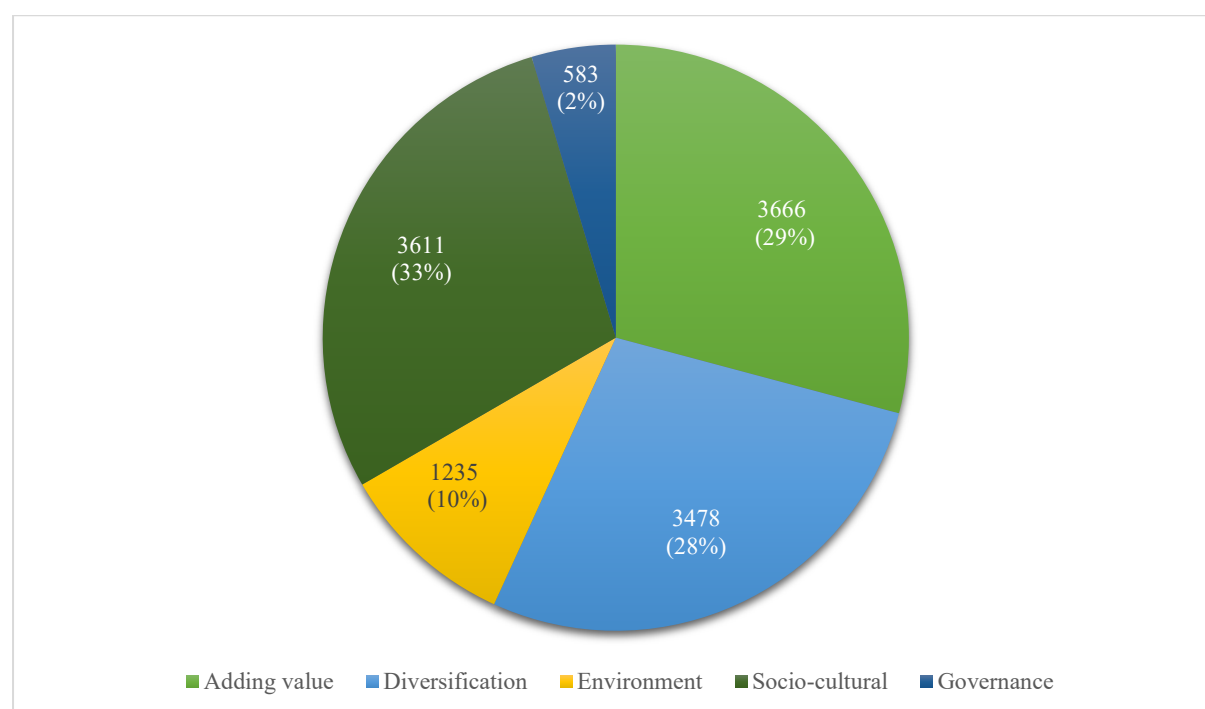
Table 9: FLAG prioritisation of CLLD objectives

MS	Number of FLAGs	Adding Value	Diversification	Environment	Socio-cultural	Governance
<i>UK</i>	18	4.65	3.94	3.24	3.06	3.65
<i>Bulgaria</i>	8	4.57	3.57	2.86	3.29	3.86
<i>Croatia</i>	14	4.38	2.29	2.14	3.43	2.64
<i>Cyprus</i>	3	4.33	3.67	2.00	3.00	4.67
<i>Denmark</i>	10	4.80	3.70	1.89	1.50	2.85
<i>Estonia</i>	8	4.57	4.43	2.86	3.14	3.29
<i>Finland</i>	9	4.67	3.44	2.67	2.33	4.00
<i>France</i>	22	4.27	3.38	3.19	2.35	3.28
<i>Germany</i>	28	4.32	3.43	2.46	3.81	3.33
<i>Greece</i>	33	4.36	4.09	2.73	3.00	2.66
<i>Ireland</i>	7	5.00	3.86	1.57	3.14	2.29
<i>Italy</i>	48	4.40	3.64	3.50	3.49	3.36
<i>Latvia</i>	6	4.00	4.00	3.83	4.50	4.00
<i>Lithuania</i>	12	4.92	3.25	1.33	3.58	1.71
<i>Poland</i>	36	3.94	4.18	2.53	3.88	1.81
<i>Portugal</i>	15	4.93	4.33	3.33	3.57	3.33
<i>Romania</i>	22	4.29	4.21	3.07	3.29	3.08
<i>Slovenia</i>	4	4.00	3.50	2.50	4.00	3.00
<i>Spain</i>	41	4.73	3.94	2.78	2.97	2.75
<i>Sweden</i>	13	4.69	3.50	3.23	3.17	2.92
Total	n = 357	4.49	3.72	2.70	3.29	3.13

(Source: Own analysis based on FARNET, 2021b)

As shown in Table 9 all FLAGs placed a high priority on projects related to adding value when compared to the other four UP4 objectives. Figure 2 illustrates the percentage of FLAGs which identified each of the five objectives as a high priority at the beginning of the programme (> 3.00) and shows that 85% of all FLAGs identified adding value to local fisheries produce and innovation along the fisheries supply chain as a priority and a significant area of work. Only 5% of FLAGs regarded adding value as a low priority. Considerably fewer FLAGs indicated diversification and socio-cultural projects as a high priority which does not correlate with the percentage split of projects reported to the EC by managing authorities where higher numbers of projects are reported under these categories (Figure 3).

Figure 3: FLAG projects reported under the five CLLD objectives



(Source: Own compilation based on EC, 2023b)

Even less clear is the priority FLAGs placed on to increasing the involvement of the fisheries sector and fisheries stakeholders in local fisheries governance, particularly across the UK FLAGs where this was identified as a high priority, as least on a par with diversification and higher than environmental and socio-cultural objectives. While local governance is of lower priority to the other UP4 objectives with the exception of environmental, it is still identified as a central area of work in most FLAG local development strategies. This, however, is not reflected in projects approved for funding where only 583 of 12,573 projects are reported under this category as of April 2023.

Through analysing the data systematically, a number of important factors can be consider as to why projects reported differ from FLAG priorities. Firstly, the reporting categories and system are open to interpretation. It is the managing authority which categories the projects and not individual FLAGs. As such, managing authorities may report projects in line with their specific operational programme objectives as opposed to those of individual local development strategies or the wider objectives of CLLD under the EMFF. While the projects reported by the UK show some uniformity across each of the five objectives, the data for other countries is

less consistent. For example, Ireland reported 88.5% of all projects under the socio-cultural category, 744 of a total of 841 projects. Looking at the objective priorities of the Irish FLAGs, and the Irish operational programme, it would appear unlikely that such a high percentage of projects would be focused in this area. Such discrepancies highlight how projects can serve multiple objectives. Particularly in the case of the socio-cultural category where it can be argued that any project focused on adding value or diversification could or should have a socio-cultural impact. Such crossover can make the primary objective of a project difficult to identify.

Even less clear is the priority FLAGs placed on to increasing the involvement of the fisheries sector and fisheries stakeholders in local fisheries governance. This was particularly so across the UK FLAGs where it was identified as a relatively high local development priority, as least on par with diversification and higher than environmental and socio-cultural objectives. One possible explanation is how projects are reported in line with the required output indicators listed under Article 63 (European Court of Auditors, 2022). The Infosys reporting systems only allows Managing Authorities to state one objective per operation. Should a secondary category be added to the reporting criteria, it would seem probable that governance would be a supporting objective to many, if not all, projects. As increasing local governance is a widespread objective across the whole programme, having it as reporting category for FLAG projects, when only objective category can be selected, many Managing Authorities may regard it as superfluous.

Secondly, there is a temporal factor to this analysis. Many MSs reported an early stage of implementing their CLLD programmes. It could be the case that the categorisation of projects across the five objectives might change substantially in the final Member State evaluations of the programme due in 2024. FLAG objectives vary between countries based on two main factors, the local development strategies of individual FLAGs, and the specific objective of national operational programmes. The operational programme of the EMFF in the UK outlined a clear aim to foster economic growth, enhance social inclusion, and generate employment opportunities (DEFRA, 2014). It also aimed to bolster employability and facilitate job mobility in fishing and aquaculture dependent communities (DEFRA, 2014). This included encouraging diversification within the fisheries sector and expansion into other maritime economy sectors.

This objective encompassed all operations related to fisheries supply chains, and as such, is the focus of the following analysis of the CLLD programme.

3.5 Summary

This chapter has focused on a review of models of fisheries development. It started by examining models of territorial development and how they relate to territorial development policy. It then reviewed the literature on appraisals of fisheries CLLD providing the status quo of the research conducted on FLAGs. Finally, it provided a detailed overview and analysis of the objectives of FLAGs under the EMFF and the projects they have funded. The key takeaway from this analysis and review is that academic assessments of the impact of FLAGs to date are very limited, particularly in the context of SFSCs and local food system research. While this review identifies adding value to local products as a main strategic objective of many FLAGs, how this is achieved, and how it contributes to territorial development is under-researched.

Chapter 4. Short Food Supply Chains (SFSCs)

4.1 Introduction

Chapter 4 provides a review of the literature on SFSCs and is divided into five main parts. Section 4.2 first reviews definitions of SFSCs, before section 4.3 provides an overview of local food systems, including definitions of local food and a review of the literature on alternative food networks. Section 4.4 then reviews SFSCs in the fisheries context. Following that, section 4.4 discusses the literature on producer-consumer relationships. Finally, section 4.5 provides an overview of the theoretical perspective associated with SFSCs and alternative food networks.

4.2 Defining SFSCs

There are many definitions of SFSCs in the literature, with one of the most widely accepted being that of the Council of Europe, which defines SFSCs as “channels made up of a limited number of economic agents, committed to cooperation, local economic development and socio-economic relations between producers and consumers in a nearby geographical area” (Kneafsey *et al.*, 2013, p. 23). Examples of SFSCs include farmers’ markets and farm gate sales, box schemes and home delivery, community-supported initiatives and public community schemes operating within defined geographical areas (Kneafsey *et al.*, 2008; Kneafsey *et al.*, 2013). In their various forms, SFSCs play differing roles across different locations and socio-cultural contexts. Two main criteria are used to classify a supply chain as ‘short’; the first is the distance between the point of production and the point of sale, and the second is the number of intermediaries between the producer of the food (i.e. the farmer or fisher) and the end consumer (Marsden, Banks and Bristow, 2000; Renting, Marsden and Banks, 2003; Ilbery and Maye, 2005b; Aubry and Kebir, 2013; Kneafsey *et al.*, 2013). On the second criterion, SFSCs are supply chains that have as few links as possible between the food producer and consumer (Augère-Granier, 2016). The foods involved should be traceable to a farmer or a fisher, and the number of intermediaries should be ‘minimal’ (Ilbery and Maye, 2005b).

In an EC policy report assessing the state of play of the socio-economic characteristics of SFSCs, Kneafsey *et al.* (2013, p. 26) maintain that “the number of intermediaries between farmer and consumer should be ‘minimal’ or ideally nil.” Kneafsey *et al.*’s definition of an SFSC emphasises a close connection between producer and consumer, so that consumers as

well as producers are actively engaged in the supply chain. In 2015, the EC's European Innovation Partnership for Agriculture Productivity and Sustainability (EIP-AGRI) conducted a focus group of SFSCs which reported that the word 'citizen' is appropriate in referring to consumers in SFSCs, arguing that the term reflects how consumers are active participants in food systems (EIP-AGRI, 2015). These are broad definition of SFSCs, considering the social as well as the geographical dimension, while many other definitions deal only with geography and distance. This is particularly the case in France, where the ministry of agriculture officially defines SFSCs as those with at most one intermediary (Aubry and Chiffolleau, 2009; ENRD, 2012).

A body of work referred to as the French school of proximity promotes the idea that the actors in an SFSC should have both geographical and social proximity (Torre and Gilly, 2000; Carrincazeaux, Lung and Vicente, 2008; Kebir and Torre, 2013; Praly *et al.*, 2014). As Praly *et al.* (2014) argue, to be considered 'short', supply chains have to conform to four specific dimensions: a dimension of interconnection between supply chain actors; a geographical dimension which aims to reduce the spatial distance between food production and consumption; a functional dimension aimed at the good and appropriate delivery of produce from the producer to consumers via participants in the system; and finally an economic dimension that supports the economic viability of market exchanges for stakeholders in the supply chain.

The French school of proximity offers a good overarching definition of how SFSCs should impact both producers and consumers. While its four dimensions offer a good basis for assessing SFSCs, however, some supply chain types by definition only capitalise on social or spatial proximity, regardless of the number of intermediaries in the chain. For example, including direct sales as an SFSC mechanism becomes problematic. While direct sales reduce the number of intermediaries to nil, adhering to the official French definition, they often involve little to no social proximity between the producer and consumer. Moreover, the geographical producer/consumer proximity can differ significantly depending on the industry and product. Social proximity between local stakeholders, by definition, is an important aspect of developing social ties and connections in an area, and thus sustainable territorial development (Aubry and Kebir, 2013).

Whether or not it is necessary to include both social *and* spatial proximity when defining SFSCs is contended. The original definition of SFSCs by Marsden *et al.* (2000), which is referenced by many researchers, considers the social *and/or* spatial aspects. As such, for Marsden *et al.* (2000), an SFSC is an umbrella term with four defining characteristics that go beyond the more mainstream definitions of SFSCs; in particular, they expand on issues associated with distance in the conventional definitions. They argue first that SFSCs should have the capacity to “re-socialise” and/or “re-spatialise” food, allowing consumers to make informed and value-based decisions on food, and its desirability, based on their own experiences, perceptions, and culture. Second, the relationship between producers and consumers should be redefined, with clear indications and exchanges as to the origin of food. Third, through the development of new relationships, the public image of a territory and its producers should be enhanced so that the region becomes known as a source of quality food. Such new relationships create new local markets, supply and demand, and criteria linked to the creation of quality. Finally, they content that SFSCs emphasise the producer-consumer relationship as a means of constructing value and meaning, as opposed to just the type of product or its attributes (Marsden, Banks and Bristow, 2000, p. 426). Moreover, they argue that SFSCs allow consumers to make informed value-based judgements about food based on the embeddedness of information: “It is not the number of times a product is handled or the distance over which it is ultimately transported which is necessarily critical, but the fact that the product reaches the consumer embedded with information.” This adds a social aspect to the definitions of SFSCs, implying that the ‘social distance’ in an SFSC is as important as the geographical (distance) and number of intermediaries.

Marsden *et al.* (2000), later extended by Renting (2003), outline three main categories of SFSCs that go some way to connecting food producers and consumers: *face-to-face*, *proximate* and *spatially extended* SFSCs (Figure 4). Face-to-face SFSCs involve consumers buying directly from food producers through, for example, farm shops, local markets and events. The face-to-face nature of the interaction builds trust and authenticity; as well as the physical product, the consumer takes away information about the product, its heritage, and its connection to a place. In this type of SFSC, personal contact forms over time a relationship of trust between producer and consumer. Renting (2003) largely attributes this category to an early and loose definition of direct sales.

The second category of proximate SFSCs involves products that are produced and sold within a given region but are not limited to direct interactions between producers and end consumers. This category can be further broken down based on two different relations of proximity: social and spatial. It includes products that are retailed but where consumers are aware of the ‘local’ nature of the product.

SFSCs in the third category are ‘spatially extended’, referring to how the information about a product’s origin and its producer are transferred to consumers through labels, certifications and endorsements, such as by restaurants. Spatial extension is particularly important when a product is delivered outside a given region of production to consumers who may have no experience or knowledge of the region. The main examples of spatially extended SFSCs include Protected Geographical Indication (PGI) and Protection of Designated Origin (PDO) (Barham, 2003). However, while such systems help to protect the origins of a product, and to an extent the associated cultures and traditions, such supply chains offer little in terms of developing social ties and thus regional development. As Kneafsey (2013, p. 24) notes, the system of PGI and PDO certifications, which is legally enforced, “sidesteps the whole problem of defining ‘the local’”, because such products do not have to be retailed locally. Instead, their ‘local’ attributes are used for marketing across wide geographical areas, including internationally.

Figure 4: SFSC mechanisms extended through time and space

Face-to-face	Proximate	Extended
Farm shops Farmers markets Roadside sales Pick-your-own Box schemes Home deliveries Mail orders e-commerce	Farmers' market groups Regional hallmarks Consumer cooperatives Community supported agriculture Thematic routes (articulation in time) Local shops, restaurants, tourist enterprises 'Dedicated' retailers (for example wholefood, speciality, dietetic shops) Catering for institutions (canteens, schools) Sales to emigrants	Certification labels Production codes Reputation effects

(Adapted from Renting, Marsden and Banks, 2003)

Conflicting definitions of SFSCs can hinder the classification of a particular supply chain as 'short'. For example, under the French definition, spatially extended chains are not considered short as they often fail to reduce the physical distance between producers and consumers. However, for Renting (2003, p. 398): "these global networks are still 'short' food supply chains: it is not the distance over which a product is transported that is critical, but the fact that it is embedded with value-laden information when it reaches the consumer, for example, printed on packaging or communicated at the point of retail. This enables the consumer to make connections with the place/space of production and, potentially, with the values of the people involved and production methods employed."

The key difference between the two definitions is the importance placed on 'embeddedness' and the differences between embedded information and social embeddedness. Social embeddedness conveys principles of trust, reciprocity, social connectivity and community (Hinrichs, 2000; Sage, 2003); many of these are general principles of trade, but they often rely on social interactions (Ilbery and Kneafsey, 1999). In the context of supply chains, social embeddedness falls under definitions of face-to-face and proximate SFSC types, while spatially extended SFSCs rely on embedded information. In spatially extended SFSCs, reciprocity,

social connectivity and community are lost. While some variety of trust can be preserved, maintained or embedded through certification labels and reputation effects, personal trust created through social interactions, according to the French school of proximity, is not possible via spatially extended supply chains.

4.3 Local Food Systems

In Europe, the need for a culturally heterogeneous regional food market has become the focus of the European Commission's approach to local development (Marsden, Banks and Bristow, 2000; Hinrichs, 2003; Kneafsey *et al.*, 2008; Kneafsey *et al.*, 2013; Enthoven, Skambracks and Van den Broeck, 2023; Gori and Castellini, 2023). Attempts to achieve this objective have centred on investing in the increased production and consumption of local food at both EU and national levels, and these efforts have largely focused on researching consumer-producer relationships and different types of shorter supply chains (Morris and Buller, 2003; Kneafsey *et al.*, 2008; Gori and Castellini, 2023). The emergence of the local food concept is a reaction to the consolidation of the EU's food retailing sector, which is dominated by large multi-market retailing chains that develop through economies of scale (Olsen, Harmsen and Friis, 2008). For example, the UK's food retailing sector is monopolised by four large retail chains who account for over 55% of the market (Mintel, 2023b).

The term 'local food' is often explained through a geographical lens, implying short distances between consumers and producers (Roininen, Arvola and Lähteenmäki, 2006; Sims, 2010). Developing the local food concept in the UK, a 2002 Policy Commission on the Future of Farming and Food advised that 'once local food becomes more established, DEFRA, the Food Standards Agency and FFB (Food from Britain) will need to devise an enforceable definition of "local" [as] a necessary first step for the full benefits of local branding to be realised' (DEFRA, 2002, p. 46). The report identified the need for such a definition as the first step towards realising the full potential of 'local' as a form of branding. Following the Policy Commission's recommendation, DEFRA, in a report on food miles, offered a clear definition of local food as 'food produced and sold within the same relatively limited area, without having any distinctive quality' (DEFRA, 2005, p. 2). The report also made some clear distinctions between local and 'regional' food, asserting that regional food is that which has specific

geographical provenance and can be marketed outside of its area of production. 'Local', on the other hand, according to the report refers to food produced and marketed locally.

In addition to the definitions of local offered by DEFRA in 2005, in the same year the IGD (Institute for Grocery Distribution) found that most consumers in the UK defined local as from within a 50 km radius of where they purchased the product. Furthermore, and adding to the differentiation of the two terms, the same research identified that consumers see a difference between local and regional. Regional was considered to characterise a large area, for instance the North-East or South-West of England. The majority of consumers, on the other hand, define local as their county as opposed to their wider region (IGD, 2005). As such, At the other extreme, and given the international nature of much food supply, local food is even sometimes taken to mean food produced in the same country as the one in which it is consumed (Morris and Buller, 2003; Edwards-Jones *et al.*, 2008).

In 2006, a survey conducted by the Food Standards Agency (FSA) found that up to 40% of UK consumers define local as being from within a 10-mile (16-km) radius, while 20% see it as coming from the same region as the consumer, 20% from within the same country, and 20% from a number of neighbouring countries – suggesting that the geographical locality of consumers' perceptions of 'local' vary significantly (Davies and MacPherson, 2010). Due to these significant differences in consumer perceptions of local food, DEFRA concluded that it would not be possible to offer a definitive definition for regulatory purposes.

Kneafsey *et al.* (2008) outline three overlapping modes of local food. The first asserts that local food is defined by the attributes of the product, process, and place. This approach attributes foods to a geographical location based on distinguishable attributes such as local skill and knowledge, and thus unique processes, topography, climate, soils, and species. Three schemes are used across the EU to protect such geographical indications and traditional attributes: Protected Designation of Origin (PDO), Protected Geographic Indication (PGI), and Traditional Specialities Guaranteed (TSG) (Tosato, 2013). Based on the legal framework provided by Council Regulation (EU) 2012/1151 (2012), products registered under one of the three schemes are labelled, helping producers to protect the authenticity of their local products. The fact that such products do not have to be sold locally shifts the definition away from a

geographical point of sale. Well-known examples in the EU include Champagne from France and Parmigiano Reggiano from Italy. UK fisheries products covered under the schemes include Arbroath Smokies, Cornish sardines, Fal oysters and Lough Neagh eels (DEFRA, 2019).

Kneafsey *et al.*'s (2008) second mode is local food that is produced, processed and sold within a specific geographical area whose size is open to much interpretation, ranging from as small as a few kilometres to as large as a country. In 2012, a Campaign for the Protection of Rural England (CPRE) report on a five-year national research project adopted a radius of 30 miles (50 km) around a core study area spanning 2.5 miles (4 km) when defining local food. To be regarded as local in the survey, which focused on 19 locations across England, foods must be either grown or produced within 30 miles of the point of purchase in a town or city. The National Farmers Retail and Markets Association (FARMA) includes the 30-mile radius in its certification criteria for farmers' markets, but argues that this can be extended to 50 miles (80 km) in the case of large urban areas, cities, remote regions and coastal areas (FARMA, 2016). Large UK retailers Waitrose and ASDA also adopt this distance. The CPRE definition also requires local food to be 'raw or lightly processed', for example cheese, sausages, pies and other baked goods (CPRE, 2012, p. 2).

The third mode offered by Kneafsey *et al.* (2008) is a definition centred on local benefits. In this context, local food is defined based on the economic, environmental, and social benefits it brings to a given locality. The Soil Association, for example, subscribes to this definition, offering that local food is "a system of producing, processing and trading, primarily of sustainable and organic forms of food production, where the physical and economic activity is largely contained and controlled within the locality or region where it was produced, which delivers health, economic, environmental and social benefits to the communities in those areas" (Soil Association, 2001, p. 7). In other words, purchasing locally produced food achieves a process of engagement that connects producers and consumers, and creates local economies (Soil Association, 2001; Sustain, 2002).

The CPRE (2012) report also adds to Kneafsey *et al.*'s (2008) modes of local food by drawing on US Congress research into SFSCs in the US farming sector which argues that 'local' can also be based on the type of outlet. In this definition, local refers to both 'direct-to-consumer

outlets' such as on-farm sales (farm shops), farmers' markets and roadside stands, and 'intermediated outlets' such as restaurants, grocers and regional distributors. (Johnson, Aussenberg and Cowan, 2012).

It is also essential to distinguish SFSCs from local food networks or local food systems (LFSs). The terms are often incorrectly used interchangeably, despite their distinct differences; SFSCs are not always local, while LFSs may not always involve SFSCs (Enthoven and Van den Broeck, 2021). Like SFSCs, there is no universally accepted definition of local food systems due to differing interpretations of what constitutes 'local'.

LFSs are food systems based on the flow of food produced, processed and consumed within a defined area (Wharton and Phillips, 2016). Due to the complexity of contemporary LFSs it can be difficult to define local food, even in systems which include relatively simple food products. Examples of LFSs include farmers' markets, farm gate sales, community-supported procurement and box delivery schemes, which source food from defined geographical radius (Kneafsey *et al.*, 2013). There is a growing interest in local food among consumers, politicians, and researchers alike, as it is often claimed to be fresher, healthier, and produced and supplied in more ecological and socially responsible ways (La Trobe and Acott, 2000; Marsden, Banks and Bristow, 2000). As such, local food has seen a rise to prominence in recent decades as a counterpoint to globalised mass-produced food (Hinrichs, 2003).

In recent years there has been extensive research on alternative food systems or alternative food networks (AFNs), described as food systems with characteristics either counteractive to, or different from, conventional forms of food provisioning (Tregear, 2011). AFNs are generally focused on territorial-based practices and typically focus on sustainability, promoting socio-economic networking and inclusion, and fostering improved producer-consumer connections (Feenstra, 1997; Renting, Marsden and Banks, 2003; Tregear, 2011; Veen and Derkzen, 2012; Duncan and Pascucci, 2017; Fonte and Cucco, 2017; Cirone *et al.*, 2023). As such, the perceptual nuances of the specific terms used in the sale and marketing of local food can impact consumer responses (Tregear, 2001). Demand for local food may increase if consumers believe that locally produced food has local benefits or supports the local economy. In the UK there has been considerable academic research on local food, although this often focuses on

definitions and typologies as opposed to the mechanisms leading to the development of local food networks (Murdoch, Marsden and Banks, 2000; Morris and Buller, 2003; Weatherell, Tregear and Allinson, 2003; Ilbery and Maye, 2005b; Tregear and Ness, 2005; Ilbery and Maye, 2006; Khan and Prior, 2010; Oglethorpe and Heron, 2013; Cortese *et al.*, 2021b; Enthoven and Van den Broeck, 2021). However, often such studies focus on providing definitions and typologies as opposed to the mechanisms which lead to their development raising questions several questions related to the factors which lead to their development. The key differences between conventional and alternative food systems are outlined in Table 10.

Table 10: Differences between ‘conventional’ and ‘alternative’ food supply systems

Conventional	Alternative
Modern	Postmodern
Disembedded	Embedded
Processed	Fresh
Manufactured	Natural
Monoculture	Biodiversity
Mass-production (large-scale)	Craft or Artisanal (small-scale)
Intensive	Extensive
Standardised	Diverse
Hypermarkets	Local markets
Homogenisation	Regional differences
Rationalised/ fast	Traditional/ slow
Quantity	Quality
Costs externalised	Cost internalised
Unsustainable?	Sustainable?

(Adapted from Murdoch, Marsden and Banks, 2000; Hinrichs, 2003; Ilbery and Maye, 2005a)

Hinrichs (2000) argues that the perceived embeddedness of local food, in the context of behavioural processes and social economics, is an underlying factor for consumer purchases. By this reasoning, consumers look not only to obtain additional information about the food they purchase, but also to develop and sustain personal relationships and ties with retailers and producers. Hinrichs (2000, p. 296) asserts, however, that “social embeddedness has become convenient shorthand for social ties, assumed to modify and enhance human economic transactions.” In other words, local food systems can transcend typical models of business and marketing and are deep-rooted in particular places, capable of enhancing social ties, and

economically viable for producers and consumers (Cirone *et al.*, 2023). As such, Hinrichs is cautious about assumptions around social embeddedness and local food, suggesting that a mutual producer-consumer appreciation of a local food system, its familiarity and convenient proximity, are as much at play as the embeddedness of information and culture. Using the example of farmers' markets, Hinrichs argues that their role as a food system is comparable to multiple retailers as a point of exchange. Her standpoint on embeddedness is therefore nuanced, asking whether farmers' markets are "fundamentally social institutions based on community and trust or are they markets like any other, but with the gloss of *Gemeinschaft*?"⁵ (Hinrichs, 2000, p. 298).

Important intermediaries in many LFNs are local restaurants and food outlets, whose presence can blur some definitions of SFSCs (Enthoven, Skambracks and Van den Broeck, 2023). The inclusion of local food on the menus in local restaurants, for instance, maintains the definition of a LFN but removes the direct link between producers and consumers that characterises SFSCs. Several studies have revealed emerging consumer interests in eating local food in local restaurants (Schubert *et al.*, 2010; Alonso *et al.*, 2013; Campbell and Dipietro, 2014; Lillywhite and Simonsen, 2014; Contini *et al.*, 2017; Bacig and Young, 2019).

4.4 SFSCs in Fisheries

The vast majority of literature on alternative food systems and SFSCs is grounded in agricultural and rural contexts (Venn *et al.*, 2006; Kneafsey *et al.*, 2013). There are important distinctions between agriculture and fisheries, however, which affect how we think of food systems. These include the mobile and wild nature of fisheries resources compared to domesticated land-based food resources. While some freshwater fisheries are privately owned, most sea fisheries resources also differ from other resources due to the common property nature

⁵ *Gemeinschaft* denotes a sociological classification wherein personal relationships adhere to traditional social norms. Such relationships entail direct, face-to-face interactions guided by natural emotions and sentiments. Conversely, *Gesellschaft* represents contemporary societies shaped by rational will, marked by government bureaucracies and large industrial entities. In *Gesellschaft*, self-interest and calculated actions erode traditional normative bonds observed in *Gemeinschaft*, resulting in more impersonal and indirect relationships that prioritise efficiency and economic or political concerns (Dimitrovski, Joukes and Scott, 2024).

of fish stocks. While the literature on local or sustainable food has seldom focused on fisheries, the approaches applied in an agricultural context are applicable to enhancing consumer access to locally sourced seafood. However, as AFNs that include shorter seafood supply chains emerge, and given their significant economic, socio-cultural, and institutional differences compared with agricultural food systems, several questions remain unanswered regarding how fisheries AFNs operate and are structured (Olson, Clay and Pinto Da Silva, 2014; DesRivières, Chuenpagdee and Mather, 2017).

Many of these questions relate to the types of SFSCs which operate within fisheries AFNs. While some supply chain mechanisms remain the same, many do not transfer between sectors, especially given the uniqueness of the fisheries case. For example, the farm shop and pick-your-own mechanism outlined by Renting (2003) do not transfer well to the fisheries sector. Moreover, due to the nature of the UK fisheries industry, some mechanisms shift between one SFSC type and another, inviting further criticism of our ability to define supply chains as ‘short’ or ‘long’. For example, fisheries box schemes rarely support a face-to-face relationship between the fisher and the end user. Typically there is at least one intermediary in the supply chain – often a fishmonger or specialist shop. For seafood, therefore, box schemes, home deliveries and mail orders shift towards the proximate typology of SFSCs in terms of both space and time (Figure 5).

Figure 5: SFSC mechanisms in the fisheries sector extended through time and space

Face-to-face	Proximate	Extended
Fish markets Festivals/events Box schemes Home deliveries Mail orders e-commerce	Fishers' market groups Regional hallmarks Consumer cooperatives Community supported initiatives Thematic routes (articulation in time) Local shops, restaurants, tourist enterprises 'Dedicated' retailers (fishmongers) Catering for institutions (canteens, schools)	Certification labels Production codes Reputation effects

(Adapted from Marsden, Banks and Bristow, 2000; Renting, Marsden and Banks, 2003)

Some shellfish producers do sell directly using e-commerce, but such direct sales via often involve little to no face-to-face interaction and so they too are more suited to the proximate SFSC definition. Fundamentally, as Marsden *et al.* (2000, p. 424) argue, interests in more 'local' food, regardless of SFSCs typology or mechanism "offers the potential for shifting the production of food commodities out of their 'industrial mode' and to develop supply chains that can potentially 'short-circuit' the long, complex and rationally organised industrial chains."

In Europe and other highly industrialised economies, major supermarket chains dominate the food sector (Pulker *et al.*, 2018; Helander *et al.*, 2024). The retail grocery sector in the UK includes 13 nationwide retailers, in addition to thousands of independent and franchise convenience stores (Mintel, 2023b). The 'big four' leading supermarket chains in the UK – Tesco, Sainsbury's, Asda, and Morrisons – account for 64.8% of the market, with the discount chains, Aldi and Lidl, holding a further 18% (Statista, 2024). Thus, the leading six supermarket chains in the UK hold 82.8% of the market, indicating a highly concentrated sector. Furthermore, the retail grocery sector grew significantly in 2023 across the five leading economies in Europe—Germany, Spain, France, Italy and the UK—and is forecast to grow further in 2024 (Mintel, 2023a). This growth is largely due to their ability to offer and

communicate attractive price points to consumers during the cost-of-living crisis⁶ stemming from the COVID-19 pandemic (CMA, 2023). Such market concentration gives these big retailers significant power and influence, both in terms of sourcing and pricing (Helander *et al.*, 2024), particularly in the seafood category where many producers rely on the security of long-term supply relationships offered by large retailers (Harrison *et al.*, 2023).

4.4.1 The UK fisheries supply chain

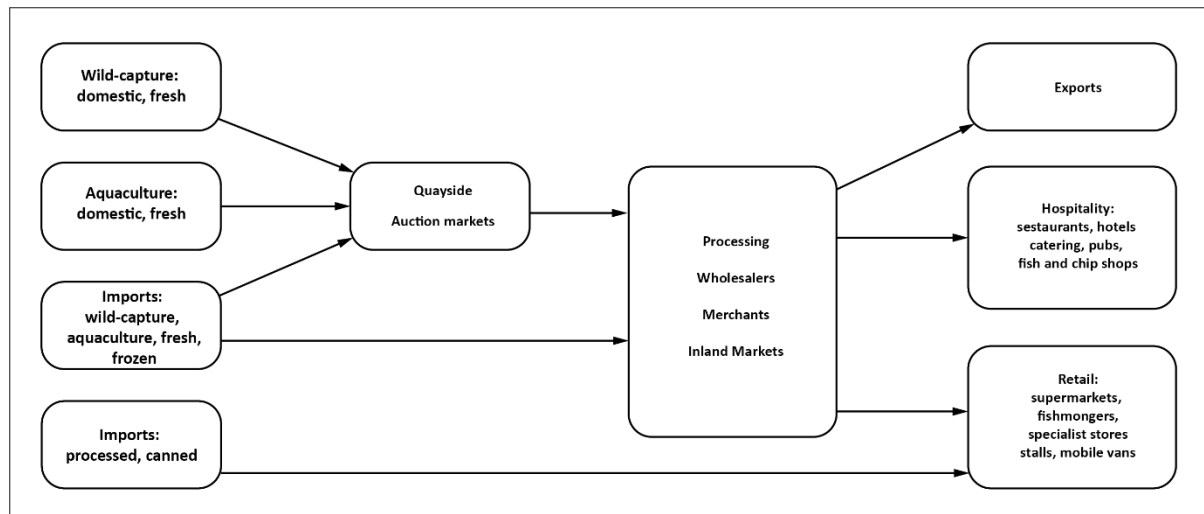
The UK's seafood supply chain has changed dramatically over the past 40 years in line with the CFP, notably the introduction of EEZs. Prior to Brexit, UK waters were classified under the CFP depending on the distance from the shore in nautical miles. Inshore waters, between 0 and 6 nm from the shore, are fished largely by small vessels using a variety of fishing methods to catch a diverse range of species. The UK's territorial waters are classified as between 0 and 12 nm; some larger vessels operate in the 6 nm beyond the inshore zone, but target species remain the same. In both inshore and territorial waters, non-UK vessels are only permitted to fish if they have historical access or neighbouring agreements (MMO, 2022).

The third classification was the UK's EEZ which extends to 200 nm. Under the CFP, fishing in the EEZ was not exclusive to the UK, with all EU member states having equal access to fish with the 12 to 200 nm limit (Symes and Phillipson, 2019). Post-Brexit, the UK became an independent coastal state and fully responsible for managing fisheries within its 200-mile EEZ according to the United Nations Convention on the Law of the Sea (UNCLOS) III (UN, 1982), and no longer part of the EU's CFP (Dixon *et al.*, 2024). Such changes have had a significant impact on the UK's supply chain. Over the past 20 years, UK fisheries exports have steadily increased, and imports have largely remained the same (Seafish, 2022). While the UK remains a net importer of seafood, post-Brexit, these trends have altered with imports increasing and exports decreasing between 2019 and 2023 (Statista, 2023).

⁶ A cost-of-living crisis refers to a situation where the expenses required to maintain a basic standard of living, including housing, food, energy, and healthcare, rise significantly and outpace income growth. The recent cost of living crisis which began in 2021 and continued into 2024 was driven by a combination of COVID-19-related disruptions, inflation, energy price surges, and geopolitical tensions (CMA, 2023).

In 2023, the UK fishing industry was estimated to be worth £1.04 billion to the UK economy through over 4,225 businesses (Statista, 2023). It is part of a complex supply chain burdened by a lack of conformity between harvesting activities (i.e. fishing) and the rest of the supply chain (Greenwood, 2019). As argued by Symes and Phillipson (2019), while such complexity is not uncommon in food chains generally, the seafood supply chain offers a clearer case for assessing how the unconformity between producers and downstream links can impact supply chain effectiveness. The dysfunctionality of the UK seafood supply chain is largely due to a lack of formal discourse between the industry's harvesting sector and the downstream links (Hopkins *et al.*, 2024). The two ends of supply chain have contrasting perspectives: fishers focus on the allocation of quotas and the ability to land a good catch, while downstream operators are preoccupied with securing both domestic and export markets (Kemp *et al.*, 2023). Figure 6 shows a simplified illustration of the UK seafood supply chain, outlining its three main aspects. The supply chain starts with domestic wild-capture and aquaculture production, plus global imports. Imports from abroad or landed by foreign vessels account for approximately 68% of the UK seafood value chain and 53% by volume (MMO, 2022).

Figure 6: The UK seafood supply chain



(Adapted from Greenwood, 2019; Symes and Phillipson, 2019)

The value of seafood imports into the UK has risen by over £1 billion over the last 10 years (St. Clair *et al.*, 2023). In 2022, total imports exceeded exports by 316 thousand tonnes, a trade deficit of £2 billion (MMO, 2022). As such, consumption of seafood in the UK depends largely on imports. Total exports stood at 330 thousand tonnes; by key species, the UK is a net exporter

of herring, mackerel, nephrops (langoustine), and scallops (Seafish, 2023). However, UK fish consumption is largely driven by the *big five* species (cod, haddock, salmon, tuna, and prawns), and per-capita consumption remains lower than the amount recommended by health professionals (MMO, 2022). Approximately 66% of the seafood consumed in the UK is produced through retail (Seafish, 2022). While it is not a new trend, prepacked seafood – both frozen and chilled – accounts for the vast majority of retail sales (MMO, 2022). In 2019 the volume of prepacked seafood was 91% (Seafish, 2022). In 2020, this grew to 96%, and 2021 stood at 97% (Seafish, 2022). An overview of the seafood market in the UK and supply chain types is outlined in Table 11.

Table 11: The seafood market in the UK

Categories and species	Producing country	Format / Process	Supply chain type	SFSCs
Wild capture				
Whitefish – haddock and cod	Norway, Iceland, Russia	Frozen (nearly always at sea), smoked, ready meals	Restaurants (including fish and chip shops), foodservice, fishmongers, major retailers, online	No
Mixed – including other whitefish (i.e., whiting, pollock), seabass, plaice, monkfish, sole	UK, Norway, Iceland, Russia	Frozen, chilled, ready meals	Restaurants, foodservice, fishmongers, selected major retailers, online	Yes
Pelagic – mackerel, herring	UK, Norway, Iceland, Russia	Chilled, cured, smoked, pâté	Major retailers, selected foodservice, selected online	Yes
Preserved fish – mackerel, salmon, tuna, anchovy, sardine	Global	Jarred; canned	Retail, online	No
High-value fish – tuna, grouper, kingfish, salmon	Global	Chilled	Restaurants, fishmongers selected foodservice, some online	No
Nephrops (langoustine)	UK	Chilled, scampi	Some restaurants, some fishmongers, few retailers, few foodservices, some online	Yes
Prawns (cold water)	UK, Greenland, Canada, Norway	Frozen, chilled, cooked, ready meals, sandwiches	Restaurants, fishmongers retail, foodservice, online	Yes
Shellfish – lobster, crab, scallops, mussels, oysters	UK	Live, chilled, cooked	Restaurants, fishmongers retail, foodservice, online	Yes
Aquaculture				
Salmon	UK, Ireland, Norway, Chile	Frozen, chilled, cooked, ready meals, sandwiches	Restaurants, fishmongers retail, foodservice, online	Yes
Trout	UK	Chilled, ready meals	Fishmongers retail, foodservice, online	Yes
Seabass, sea bream	France, Greece, Turkey	Chilled, ready meals	Restaurants, fishmongers retail, foodservice, online	No
Tilapia, pangasius	Global	Chilled	Retail, some foodservice	No
Prawns (warm water)	Southeast Asia	Frozen, chilled, ready meals	Retail, foodservice	No
Shellfish – scallops, oysters, mussels	Global	Live, chilled, cooked	Fishmongers, retail, food service	Yes

(Sources: Hambrey and Evans, 2016; FAO, 2018; Greenwood, 2019; MMO, 2022)

How the UK's supply chain and local food systems can and will adapt in response to Brexit is a major point of concern (Symes and Phillipson, 2019). This is especially so in the case of seafood, given that the UK imports most of the fish it processes or consumes and exports most of the fish it catches, and that a third of imports and two-thirds of exports are respectively from and to the EU (Parliament. House of Lords, 2017; Seafish, 2021c). The seafood supply chain in the UK, and the connection between producers and end consumers, has changed drastically over the past 40 years (Harrison *et al.*, 2023). As Symes and Phillipson (2019) note, while the basic structure has remained relatively unchanged, the sophistication of the sector's operation and its sourcing of suppliers have changed dramatically. In this changing environment, it remains unclear how far supply chains, patterns of consumer demand, market access, and fishing fleets will adapt, reset, and diversify to satisfy new market opportunities post-Brexit (Dixon *et al.*, 2024). As policies are reformulated through Brexit, it will also be necessary to find an optimum relationship between territorial and sectoral development approaches (Phillipson and Symes, 2018; Kemp *et al.*, 2023).

To develop territorial markets for locally caught fish within the fisheries sector, an appreciation of consumer perceptions and purchase intentions is therefore imperative, as these are critical to long-term viability and suitability of SFSCs (Greenwood, 2019; Martino *et al.*, 2023). In this regard, it is important to consider innovative marketing arrangements to reconnect producers and consumers and to understand consumers' perceptions as to what constitutes 'value' (Sellitto, Vial and Viegas, 2018). Though there is little previous research confirming this, it is suggested that SFSCs may be more achievable when producers and consumers share similar social, economic and environmental values (Mundler and Laughrea, 2016) and that a closer connection to producers, the industry, heritage and community are factors consumers may perceive as adding greater value to a product (Munksgaard, Stentoft and Paulraj, 2014; Martino *et al.*, 2023). An important factor in the set-up, structure and management of SFSCs in fisheries is, therefore, the identification of whether consumers see value in a closer connection with fishers and their households (Chopra and Meindl, 2013; Pascoe, Paredes and Cogan, 2023).

In terms of fisheries, defining 'local' become even more problematic, particularly for sea-based fisheries. Inland fisheries – those operating in rivers, lakes and ponds – fall under the typical

definitions of locality since there is a clear and definitive geography boundary to the catch (Ainsworth, Cowx and Funge-Smith, 2023).

For sea-based fisheries this is not the case, as vessels cover large distances to harvest their product. As such, 'local' often refers to the landing site of the fishery (FAME, 2016; Martino *et al.*, 2023), and even this definition leaves much ambiguity, as many fisheries products are often processed in different locations often very distant where they are caught and landed. An example is the Craster kipper, a product that is widely regarded as both regional to the north-east of England and local to the county of Northumberland. The herring used to make Craster kippers historically was fished in the North Sea, before being landed and processed in Northumberland. Today, only the latter is true. The herring are now caught in the Atlantic and landed in Iceland before being transported to Northumberland for processing (Harrison *et al.*, 2023). This ambiguity as to what is considered local, as identified with the Craster kipper, is somewhat unique to the fisheries case and recognises the importance of understanding the socio-cultural dimension of the association between local food and territory: which aspects constitute local food, and which are important to territorial development (Budzich-Tabor, 2014). The processing of the fish and its associated heritage is therefore a central facet to what makes it 'regionality' distinctive (Tregear, 2001; Martino *et al.*, 2023).

Smoking fish is a widespread preserving technique along much of the east coasts of Scotland and England (Mason and Brown, 2006). Within this tradition, however, there are distinctive variations to the smoking technique. Finnan haddock, for example, is dry-salted overnight before being smoked for eight to nine hours, while Arbroath smokies (also haddock) are gutted, briefly salted, and smoked for only 45 minutes (Mason, 1999). Craster kippers are briefly brined prior to a 12- to 16-hour smoking (Brown, 1990). While these differences are subtle, they are the result of history and tradition and are highly significant in terms of territorial distinctiveness and differentiation in marketing and sales (Ilbery and Maye, 2005b). Subtle differences in human processing are an important dimension of what constitutes a regional food and somewhat limit the importance of geophysical or geographical differences (Tregear, 2001).

4.3.2 Consumer responses to local seafood in the UK

Consumer responses to local seafood is a critical factor in the sector's contribution to sustainable territorial development. Europe's seafood production has stagnated in recent years, while overseas exports have seen steady growth (Seafish, 2021b). Central to this global trend is the competitive advantage overseas producers have in terms of lower production costs and ultimately lower prices (FAO, 2022). In 2022, the EU outlined its Blue Growth strategy aimed at promoting sustainable production as a growth strategy for Europe's seafood industry (Baggio *et al.*, 2023). However, as argued by Zander and Feucht (2018), sustainably produced seafood will generally be more expensive and will therefore occupy more exclusive market segments.

It is a well-known trend in the literature that consumers prefer local food over non-local food products in general (Zepeda and Leviten-Reid, 2004; Zepeda and Deal, 2009; Grebitus, Lusk and Nayga Jr, 2013; Feldmann and Hamm, 2015; Enthoven and Van den Broeck, 2021), and this trend is also identified in consumer seafood preferences (Altintzoglou *et al.*, 2010; Claret *et al.*, 2012; Risius, Janssen and Hamm, 2017; Zander and Feucht, 2018). Empirical evidence for these claims is often estimated using consumers' willingness-to-pay (WTP) for local food. A common sample characteristic of such studies is that participants are better educated and have higher incomes compared to the average local population (e.g., Schneider and Francis, 2005; James, Rickard and Rossman, 2009; Onken, Bernard and Pesek, 2011; Onozaka and McFadden, 2011; Grebitus, Lusk and Nayga Jr, 2013; Hasselbach and Roosen, 2015; Willis, Carpio and Boys, 2016; Kiss *et al.*, 2020). Estimates of consumers' WTP are therefore rarely representative of the average population, and particularly not of consumers with lower incomes. Such literature also focuses heavily on agri-food, where there is typically a price premium for local products in the meat, fruit, and vegetable categories. While the literature on local seafood is limited, locally produced seafood prices also often show a similar premium and exclusivity (Zander and Feucht, 2018).

Despite higher prices, recent research has shown that consumers are increasingly interested in added product attributes including organic production, eco-friendliness, and origin (Malak-Rawlikowska *et al.*, 2019; Vittersø *et al.*, 2019; Thomé *et al.*, 2021; Enthoven, Skambracks and Van den Broeck, 2023; Gori and Castellini, 2023). The latter is often associated with the concept of 'local', whether that be local in a European, national, or territorial sense (Gori and

Castellini, 2023). Before the instruction of additional product attributes such as organic, eco and PDO/PDI labelling there was generally little differentiation in fisheries products (Vittersø *et al.*, 2019; Charatsari, Kitsios and Lioutas, 2020; Thomé *et al.*, 2021; Cirone *et al.*, 2023; Enthoven, Skambracks and Van den Broeck, 2023). As such, consumers were largely unable to exercise choice as to the origin, the capture method or the state of the fishery from which their food came (Jaffry *et al.*, 2004). Since such differentiation attempts have entered the sector, several recent empirical studies have shown that consumers are willing to pay a price premium for organically produced (Olesen *et al.*, 2010; Bergleiter and Meisch, 2015; Ankamah-Yeboah, Nielsen and Nielsen, 2016), and eco-friendly certified seafood (Brécard *et al.*, 2009). Furthermore, Ankamah-Yeboah *et al.* (2016) observed more positive consumer responses to organic seafood compared with eco-labelling schemes. Memery *et al.* (2015) find that it is not only the intrinsic attributes of local food that are important to consumers, but also the role of local food production within local communities.

In assessing the benefits claimed for SFSCs, consumer behaviour towards local compared to non-local products is paramount, as is consumer trust in local vs non-local food. Frequently, there is a claim that consumers are inclined to pay more and have higher purchase intention for local as opposed to non-local food (e.g., Zepeda and Leviten-Reid, 2004; Zepeda and Deal, 2009; Grebitus, Lusk and Nayga Jr, 2013; Feldmann and Hamm, 2015; Enthoven and Van den Broeck, 2021). Several studies have shown that this premium even surpassed organic and other sustainability claims (Enthoven and Van den Broeck, 2021). Product origin is an important factor in consumer responses to food. Several studies have indicated that consumers have certain preferences for the country of origin (e.g., Davies and MacPherson, 2010; Bitzios *et al.*, 2017; Saidi *et al.*, 2023), while studies have also shown that this is pertinent to fish and seafood (e.g., Altintzoglou *et al.*, 2010; Claret *et al.*, 2012; Risius, Janssen and Hamm, 2017; Zander and Feucht, 2018; Witter, Murray and Sumaila, 2021; Carreras-Simó *et al.*, 2023; Martino *et al.*, 2023).

Although generally low levels of origin awareness in seafood products have been reported among consumers empirically (Verbeke *et al.*, 2007; Honkanen and Olsen, 2009; Vanhonacker *et al.*, 2011), product origin can still impact on consumer responses to seafood products (Vanhonacker *et al.*, 2011). Studies have shown that consumers have a general preference for

domestically produced seafood, as opposed to imports (Altintzoglou *et al.*, 2010; Claret *et al.*, 2012; Risius, Janssen and Hamm, 2017; Zander and Feucht, 2018). Moreover, several qualitative studies have found consumer perceptions of locality to be linked with positive associations such as food security, short transport, and freshness (Brown, 2003; Zepeda and Leviten-Reid, 2004; Roininen, Arvola and Lähteenmäki, 2006) – perceptions which are typically amplified in seafood product categories (Kemp *et al.*, 2023).

While positive consumer trends towards local food are apparent, there is increased demand for more affordable alternatives. For example, while imports of salmon and shellfish has declined, demand for affordable whitefish alternatives has increased (Seafish, 2022). In 2023, the import volume of cod and haddock decreased, while whitefish alternatives such as pollock and pangasius increased by 5% and 16% respectively – trends which suggest consumer openness and trust towards alternatives to the big five species in the UK is changing (Seafish, 2023).

Consumer trust in food and its supply has become a topic of interest in recent years (Hobbs and Goddard, 2015; Kaiser and Algiers, 2017; Macready *et al.*, 2020; Baritoux and Houdart, 2023; de Vries *et al.*, 2023; Yuan, Jin and Wu, 2024). Research claims regarding SFSCs and invariably relate to consumer behaviours (Enthoven and Van den Broeck, 2021). Such consumers behaviours concerning SFSCs are often centred around consumer trust in local as opposed to non-local food (Nikolaidou, Kouzeleas and Goussios, 2023; Pedersen *et al.*, 2023). A lack of trust in food can hinder efforts to innovate and transform food systems and presents challenges for producers and supply chain actors wanting to market new food products (Macready *et al.*, 2020), making trust an important consideration in the context of SFSCs (Gori and Castellini, 2023).

Empirical research has shown that consumers have higher purchase intentions and are willing to pay more for local food (e.g., Zepeda and Leviten-Reid, 2004; Zepeda and Deal, 2009; Grebitus, Lusk and Nayga Jr, 2013; Feldmann and Hamm, 2015; Enthoven and Van den Broeck, 2021). Several studies have shown that the premium consumers are willing to pay for locally sourced food can even surpass other sustainability claims such as organic, eco-friendly, and low-energy production methods (Enthoven and Van den Broeck, 2021). Picking up on these trends, supermarkets have begun to develop territory-specific brands in effort to re-

localise segments of their food product categories – the focus of these new brands is often centred around developing more direct connections with their suppliers such as local farms (Barिताux and Houdart, 2023). Several studies have also shown product origin to be an important factor in consumer trust and purchase intentions in the rural farming context (e.g., Davies and MacPherson, 2010; Bitzios *et al.*, 2017; Saidi *et al.*, 2023). However, studies have also shown that product origin is also pertinent in the seafood context (e.g., Altintzoglou *et al.*, 2010; Claret *et al.*, 2012; Risius, Janssen and Hamm, 2017; Zander and Feucht, 2018; Maesano *et al.*, 2020; Witter, Murray and Sumaila, 2021; Carreras-Simó *et al.*, 2023; Martino *et al.*, 2023). What is less clear in comparisons between agriculture and fisheries is the perceptions of what consumers consider to be local in terms of seafood and if there are differing perceptions between local and national production (Seafish, 2022).

4.3.3 SFSCs, fisheries and sustainable territorial development

The sustainable consumption of food has attracted widespread interest in recent decades by academics, policymakers and consumers alike. Fisheries is in many ways a standout case in highlighting the need to encourage sustainability in both the production and consumption of food, particularly in the UK which has an import-dominated seafood market. Global food systems and mainstream markets are increasingly being considered unsustainable (Reisch, Eberle and Lorek, 2013; Forssell and Lankoski, 2015). The mass production of highly-standardised, low-priced food through intensive industrialised processes has led to environmental and wastage concerns becoming more mainstream among consumers (Giampietri, Finco and del Giudice, 2016). So too have apprehensions associated with food safety, security and fraud (Bitzios *et al.*, 2017).

Theories of supply chain development assert that innovation is key to driving consumer value propositions and nurturing long-term sustainability (Arlbjørn, de Haas and Munksgaard, 2011; Munksgaard, Stentoft and Paulraj, 2014; Neutzling *et al.*, 2018). However, the development of shorter supply chains can often face problems at the early adoption stage in marketing (Chopra and Meindl, 2013) and demand forecasting (Syntetos *et al.*, 2016). Moreover, industries witness an increased need to balance short-term profitability against long-term sustainability through innovative and new supply chain models to achieve long-term success (Wu and Pagell, 2011; Peano *et al.*, 2017). As Sisco *et al.* (2015, p. 5) assert: “Supply chain sustainability is the

management of environmental, social and economic impacts and works for good governance throughout the life cycle of products and services. The goal of a sustainable supply chain is to create, protect and grow long-term value for all stakeholders involved in the presence of products and services on the market.”

Producers engaging in SFSCs are widely considered to be more sustainable alternatives to modern food systems that are highly specialised, resource-intensive, and involved in long and complex global supply chains (Morris and Buller, 2003; Wiskerke, 2009; Forssell and Lankoski, 2015). Several authors suggest SFSCs as capable of improving the sustainability of food systems (Ilbery and Maye, 2005b; Jarosz, 2008; Lehtinen, 2012; Mundler and Laughrea, 2016), particularly when aligned with increased consumer demand for better food safety and quality (Goodman, 2004).

While the body of work on the impact of SFSCs is largely positive (Gorton and Tregear, 2008), some authors have suggested that consumer demand for local food might be lower than first thought (Weatherell, Tregear and Allinson, 2003). Others have argued that in a broader sense the use of local resources, such as food, in generating territorial development may result in social and economic conflicts as the differing motivations of local stakeholders ‘play off’ against one another (Hinrichs, 2000; Allen *et al.*, 2003; Tregear *et al.*, 2007; Tregear and Cooper, 2016). That said, reducing the number of intermediaries between producers and consumers can hold and preserve economic activity within an area, and can even be an interesting resource for renewing and igniting local economies (Mazzocchi and Sali, 2016). From an economic perspective, cohesion and balance are required to achieve long-term sustainability.

While territorial cohesion is the ultimate goal of programmes such as CLLD under the EMFF, in fisheries areas particularly, balancing the interests of stakeholders is a challenge to FLAGs (Kah, Martinos and Budzich-Tabor, 2023). Nevertheless, to achieve self-sustained territorial development some researchers note that the introduction of innovative measures such as the development of SFSCs, market access, and the diversification of production activities are key to the process (Morgan, Lesueur and Henichart, 2014; Vázquez-Barquero and Rodríguez-Cohard, 2016). Against this background, consumers’ concerns about sustainability regarding

seafood are growing (Brunso *et al.*, 2008; Brécard *et al.*, 2009; Bergleiter and Meisch, 2015; Ankamah-Yeboah, Nielsen and Nielsen, 2016).

There is a strong socio-cultural dimension to the association between food and territory. Food holds deep meaning and is important to local communities on many levels: economic, environmental, socio-cultural, and even political (Christensen and Phillips, 2016); it forms a connection between people and a 'place' (Soma and Wakefield, 2011). As such, local foods form part of territorial identities, which in turn are often used to differentiate products (Tregear and Ness, 2005). In the UK, prominent examples of this association include cheese (Cheddar and Stilton), meat (nearly every UK district has its own style of sausage), and fisheries products (Craster kippers, Arbroath smokies and Cromer crabs).

As the global marketplace becomes more and more connected, a search for regional and local identities is emerging, with consumers now seeking traceability (Bitzios *et al.*, 2017). Food scandals and fraud are a factor, as are the trends towards organic consumption and veganism (Jack, 2018). Moreover, the health benefits associated with consuming more fresh, local, and sustainable products are increasingly being promoted by a proliferation of celebrity chefs, food writers and bloggers (some of whom are also now achieving celebrity status) (Abbots, 2015; Craig, 2018). A study by Spiller (2012) considered the place of farmers' markets in the UK and consumer responses to local produce. It found that consumers were drawn to local products because of the markets' emphasis on small-scale production, and that local products are more appealing because the fact that they are not mass-produced leads to higher levels of trust and perceived quality. Another key finding was that consumers identified the passion and commitment of producers as a draw to local food; knowing the producer's techniques, recipes and knowledge was appealing and suggested higher perceptions of quality (Spiller, 2012). Moreover, consumers who purchase local food are provided with information as to the products' provenance, cultural meaning and identity, all of which add value (Malak-Rawlikowska *et al.*, 2019; Vittersø *et al.*, 2019; Thomé *et al.*, 2021; Enthoven, Skambracks and Van den Broeck, 2023; Gori and Castellini, 2023).

In the case of locally caught fish, a central challenge in territorial development is understanding the motives and behaviours of the key stakeholders and the relationships between them. While

territorial development may support the ongoing viability of fisheries, it has been suggested that fishers do not always have the motivation to go beyond the act of catching fish and selling at the best price (Gustavsson *et al.*, 2017). As a result, their products may end up moving through complex distribution channels, where much of the final value is extracted by a long line of intermediaries. Such lengthening of supply chains due to the multiplication of intermediaries has introduced wide-ranging economic, environmental, and social-cultural issues across many food sectors, causing an apparent disconnect between local producers and consumers (Bloom and Hinrichs, 2011). Territorial development strategies aim to restore these connections. Given that the dynamics between buyers and suppliers have a significant impact on business performance (Gorton *et al.*, 2015), this disconnection poses a challenge for sustainable territorial development. By decreasing the number of intermediaries and the geographical distance to market, SFSCs can help redistribute value throughout supply chains and generate mutual benefits for both producers and consumers (Marsden, Flynn and Harrison, 2000; Renting, Marsden and Banks, 2003). Therefore, fostering enduring relationships within supply chains is essential for the success of the food industry (Hingley, 2005; Wilhelm *et al.*, 2016).

4.4 Producer-consumer relationships and food ‘reconnection’

SFSCs have arisen as a practical and localised response to growing concerns over the wide-ranging economic, environmental and social impacts of conventional food systems (Harris, 2010). An important factor in the success of SFSCs is the relationship between the actors involved and their motivation for change, and central to this is a connection between the producers and consumers within a territory. For example, the definition of SFSCs developed by the EIP-AGRI Focus Group (2015, p. 5) is primarily concerned with the “nature of the relationships between all the actors involved in food systems”. Regardless of the setting (rural, peri-urban or urban), AFNs are seen not only as a way to restructure food supply chains, but also as a means of re-localising the economic control of food (Kneafsey *et al.*, 2013; EIP-AGRI, 2015). As such, *how* a supply chain is shortened is a significant factor that requires motives to be shared between producers and consumers. Motives and relationships must be contextualised within the regional milieu of a territory (Copus, Skuras and Tseggenidi, 2008) before assumptions of the underlying relationships and structures within SFSCs can be fully understood (EIP-AGRI, 2015).

Some SFSCs offer a better understanding than others of the motive connection between producers and consumers. For example, *slow food* systems are instigated through a collective local motive, one that opposes conventional food systems and is “resonant of place and people”: a shared producer-consumer concern (Pretty, 2001, p. 5). In other SFSCs the connection between producers and consumers may be less clear and may differ between areas.

Like industrial agriculture, commercial fisheries are part of a complex globalised food system. Technological advances in catching methods, the overexploitation of marine resources, and an exponential growth in seafood demand have resulted in fisheries supply chains in which fisheries producers and consumers have become increasingly distanced, both geographically and socially (Greenwood, 2019). DesRivières *et al.* (2017) argue that measuring the spatial and social distance between producers and consumers is one way to assess the viability of AFNs in the concept of ‘reconnection’. Reconnection has become a central concept in the discussion of both AFNs and territorial development. In terms of SFSCs, connections between different actors along the supply chain is a key driver behind the success of many alternative food initiatives, and hence of shortening supply chains (Hinrichs, 2000; Winter, 2003; Campbell *et al.*, 2014). If the production and distribution systems are not geared to environmental sustainability and social inclusion, then a short food chain will not deliver the social, environmental, and economic benefits that are hoped for (Malak-Rawlikowska *et al.*, 2019). It is, therefore, important that assumptions are not made about SFSCs before the underlying relationships and structures – as well as motivations – of those involved are fully understood.

In recent years new types of consumer-producer cooperation in food networks have emerged in which consumers play an active role in the operation, and thereby clearly go beyond food provisioning as such. Examples include consumer co-ops and solidarity buying groups for local and organic food, community-supported agriculture and collective urban gardening initiatives (Renting, Schermer and Rossi, 2012; Gori and Castellini, 2023; St. Clair *et al.*, 2023). Such initiatives re-localise the production and consumption of food (Hinrichs, 2000; Goodman, 2003; Hinrichs, 2003; Winter, 2003). The innovation of SFSCs, on the other hand, is the ability to re-socialise food, connecting producers and consumers through the creation of proximity and trust between producers and consumers (Marsden, Flynn and Harrison, 2000; Renting, Marsden and Banks, 2003; Enthoven and Van den Broeck, 2021; Gori and Castellini, 2023).

4.5 Theoretical perspectives

There is an extensive body of literature on alternative food networks, and on SFSCs within AFNs, with investigations coming from a variety of theoretical and conceptual positions. Several reviews of the literature by Murdoch (2000), Goodman (2003), Wilkinson (2006) and Tregear (2011) identify three main theoretical perspectives, as outlined in this section.

4.5.1 Rural development theory

There has been a continued discourse around the social consequences of contemporary food systems; while this has largely focused on farming, seafood is a prominent subsystem (Marsden, Flynn and Harrison, 2000; Norberg-Hodge, Merrifield and Gorelick, 2002; Morgan, Marsden and Murdoch, 2006; Patel, 2012). Within mainstream systems, foods are often commoditised and sold on global markets as generic branded products devoid of any “provenance or a social history” (Reed *et al.*, 2013, p. 63) – a process which can be damaging to producer communities (Busch, 2010; Loconto and Busch, 2010). From a local (rural) development perspective, AFNs are often seen as a way to redress the marginalising effects of food systems that have become standardised through global capitalism (Tregear, 2011).

Increasingly globalised labour markets and the commoditisation of foods can result in producers becoming less and less attached to a place, with AFNs seen as a solution to this process and its consequences including depopulation, out-migration, and the sidelining of rural and fisheries areas (Stockdale, 2002; Bjarnason and Thorlindsson, 2006; Shucksmith, 2011). While the literature often focuses on farms or rural development, as opposed to local development more generally, there are many reasons why this notion can be extended to other food products and producer communities (Lobley *et al.*, 2009; Reed *et al.*, 2013). Regardless of the sector, the rural development perspective, as argued by Tregear (2011, p. 420), has a tendency to conceptualise AFNs “as social constructions or embodiments of the members of local (rural) communities themselves, as expressions of the beliefs, values and motivations of those members as they pursue activities that they hope will lead to socioeconomic gains.” To date, many empirical investigations have focused on these socio-economic gains at a macro level, including interpretations of concepts such as embeddedness, quality, trust, care, and regard (Sage, 2003; Kirwan, 2006; Higgins, Dibden and Cocklin, 2008; Kneafsey *et al.*, 2008; Thorsøe and Kjeldsen, 2016).

4.5.2 Political economy

Another key perspective in AFN research is political economy (Allen *et al.*, 2003; Goodman, 2004; DuPuis and Goodman, 2005; DuPuis, Goodman and Harrison, 2006; Tregear, 2011; Watts, Little and Ilbery, 2018). Rooted in the Marxian approach to sociology, political economy theory takes the standpoint that micro-level patterns of human behaviour can be explained by large-scale economic and political structures, in particular global capitalism and neo-liberal politics (Marsden, 1990). As argued by Tregear (2011, p. 420), the imperative of social science research is therefore “to expose and seek to redress the negative impacts these forces inflict on well-being”. Political economy perspectives are useful in explaining the development outcomes of localisation initiatives, and how political and economic factors, such as those associated with global capitalism, shape those initiatives. Allen *et al.* (2003) and Goodman (2004) consider these perspectives, and conceptualise AFNs as *movements* which are in a constant struggle against mainstream supply chains, globalisation and capitalism. DuPuis and Goodman (2005), and later DuPuis *et al.* (2006), refer to these movements as ‘reflexive localism’: a concept of localism through which the processes of political decision-making are built to maximise open and dutiful relationships and discourse between participants. In other words, they create political decision-making processes that offer the best possibilities for democratic outcomes. In discussing why the political economy perspective is important in AFN research, Tregear (2011, p. 421) argues that it brings attention to the “important contextual forces that situate and shape food systems, and using them to explain how AFNs develop, these studies identify, and offer an explanation for, the inequalities and injustices that can emerge in such systems”. As such, studies grounded in political economy theory offer “a valuable counterweight to more idealistic positions on AFNs” (p. 421).

More recently in AFN and SFSC research, several studies can be considered as illustrative of political economy from cultural perspectives (Elghannam *et al.*, 2018; Watts, Little and Ilbery, 2018; Chiffoleau *et al.*, 2019). Cultural political economy is an approach to political economy which distinguish between the cultural and the material, orienting towards cultural variables such natural relations, identity, discourse and gender, as opposed to the more conventional focus on the material or systems dimensions of political economy (Sum and Jessop, 2013). Chiffoleau *et al.* (2019) argue that AFNs are a new economic model that relies on social interactions, trust and transparency, and that new practices and rules are dictated and governed

by these social interactions. Watts *et al.* (2018) use cultural political economy as an analytical tool for assessing consumers' semiotic and material perceptions of AFNs. They found that cultural political economy can be a productive framework for analysing AFNs, giving them a stronger grounding from both ontological and normative perspectives.

4.5.3 Governance and network theory

Governance and network theory comprises a third theoretical strand in the SFSCs and AFN literature (Tregear, 2011), which shares many parallels with the network governance sub-dimension of social capital (Górriz-Mifsud, Secco and Pisani, 2016; Secco and Burlando, 2017). From a governance and network theory viewpoint, food systems are understood as clusters (or networks) of actors operating within a region (Goodman, DuPuis and Goodman, 2012), hence the connections to territorial development and social capital (Pisani *et al.*, 2017). Governance and network theory offers valuable insights into the origin of AFNs and SFSCs and how they developed, which is a key consideration in the present research.

Governance and network theory is connected to social capital theory as they both conceptualise and consider the AFNs and their component parts such as SFSCs as social structures (Secco and Burlando, 2017). As such, governance and network theory is concerned with actors within a network and their motives, and well as the composition of the network and how it operates – offering further insights into commonplace concepts related to SFSCs such as trust, reciprocity, and unity (Gori and Castellini, 2023). Like the normative-cognitive dimension of social capital, governance and network theory focuses on the less tangible attributes of AFNs (Secco and Burlando, 2017), those which position the local as one spatial scale where complex behaviours and activities occur (Tregear and Cooper, 2016).

4.6 Summary

Chapter 4 reviewed the literature on SFSCs. It started by providing an overview of the definitions of SFSCs. It then examined the literature on local food, local food systems, and alternative food networks, before reviewing the literature of SFSCs in a fisheries context. The primary insight from this review is that although SFSCs have benefits and challenges which span across several sectors, in the fisheries context there are clear disparities and differences. In the UK, there is an apparent disconnection between consumers and the fisheries sector when

compared to other food industries. As such, there is a significant gap in the literature on consumer perceptions of local seafood, seafood types, and how reconnections with producers through shorter supply chains might lead to favourable SFSC outcomes as witnessed in the rural and farming contexts. Similarly, the willingness of fisheries producers to participate in shorter supply chains, and the challenges and barriers they face in engaging in SFSCs is under-researched.

Chapter 5. Methodology

5.1 Introduction

The current research presents an in-depth study of the factors affecting the growth of fisheries SFSCs as a means of sustainable territorial development. The varied nature of SFSCs, the difficulty in precisely defining them, and the factors leading to their development are complex and vary between areas. To accommodate this complexity, the present research adopts a mixed methods approach that gathers and analyses data from different perspectives. This chapter outlines the methodology used in this thesis. Firstly, it gives an account of the philosophical stance used in the study. Secondly, it details the specific methods used including the research design, sampling, data collection and analysis, as well as the ethical considerations that informed the research.

5.2 Paradigm

Before describing and justifying the paradigm chosen in the present research, this section outlines what a research paradigm is and discusses its main dimensions. To put it simply, a paradigm is the set of philosophical assumptions that inform and guide research. The paradigm of any research is critical to the methods and research design used, as it forms the philosophical assumptions that inform the researcher's work and reflects their view on the world, their values, and their understanding of how knowledge is produced in their field of research (Creswell, 2017).

Kuhn (1970) argues that scientific knowledge advances through successive phases that are marked by changing research paradigms. In what Kuhn describes as the 'normal phase' (otherwise referred to as normal science or scientific research), researchers trust and rely on a paradigm as a set of rules for interpreting reality. However, while Kuhn (1970, p. 10) argues that no natural history or scientific research can be "interpreted in the absence of at least some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation, and criticism", he strongly opposed the traditional thought that one must conform to any single paradigm. In his *Structure of Scientific Revolutions*, Kuhn claims that science advances primarily through shifts in theory rather than by the accumulation of knowledge, and

that paradigm shifts occur when existing theories cannot explain certain phenomena. Due to these anomalies, new paradigms emerge that ask new questions of both old and new phenomena (Kuhn, 1970).

To articulate the paradigm used in any research, it is important to outline the common assumptions which inform contemporary social science research. The two main dimensions that distinguish research paradigms are *ontology* and *epistemology* (Kalof and Dan, 2008; Dunning, 2021). In addition to these two fundamental philosophies, a research paradigm implies two basic beliefs about the ways in which reality is investigated: *axiology* and *methodology* (Dunning, 2021). The definition of each of these four philosophical dimensions is discussed in the following sections.

5.2.1 *Ontology*

Ontology concerns the nature of reality, and within a research paradigm it relates to the stance the researcher takes on how to perceive reality (Creswell, 2017). It originates from the philosophy of metaphysics, which relates to the question of what it is for something to exist and what types of existence there are, including the concept of cause and effect (Bryman, 2016). Ontology is therefore an important dimension of a research paradigm, as it is the researcher's ontological stance that impacts on the knowledge they acquire, its interpretation, and the way in which they represent reality (Wahyuni, 2012).

Ontology can be categorised into two main perspectives: objectivism (also known as positivism) and subjectivism (also referred to as interpretivism and constructivism). Objectivism is an ontological position that maintains that social phenomena exist in reality and are independent of social actors and their perceptions (Saunders, Lewis and Thornhill, 2015). Subjectivism, on the other hand, asserts that social phenomena are instead created from the perceptions of social actors concerned with their existence (Bryman, 2016). In simple terms, ontology is *what can be real, and what it means to be real* (Blaikie, 2010).

5.2.2 *Epistemology*

Epistemology refers to what forms acceptable knowledge, and how this is produced and justified (Bryman, 1992). In other words, epistemology concerns the beliefs underpinning the

ways to generate, understand and use knowledge that are deemed both acceptable and valid (Creswell, 2018). Epistemology is integral to a scientific paradigm, since it concerns the relationship between the researcher and their object of study (Blaikie, 2010). Like ontology, epistemological perspectives can also be largely categorised into two families: positivism (objectivism) and interpretivism (subjectivism) (Saunders, Lewis and Thornhill, 2015). From a positivist perspective, social reality is viewed as a set of objective facts. The epistemological stance of positivist research therefore aligns with the natural sciences, and as such it advocates the use of similar methods involving the collection of data following non-biased standards (Morgan, 2014). Positivism argues that social reality exists independently of the researcher and hence should be measured objectively (Bryman, 2016).

In contrast, interpretivism is the view that social reality is best observed by putting the observer at the centre of the research process. Interpretivism is thus a stance of viewing the social world from *within*, with the researcher looking at phenomena subjectively as part of the reality observed (Creswell, 2018).

Some research paradigms, such as pragmatism, embrace a plurality of methods, considering both positivist and interpretivist epistemological stances (Maxcy, 2003). As such, pragmatism is based on the proposal that research should be based on the philosophical and/or methodological approaches that best fit the problem being investigated (Morgan, 2014). This pragmatic approach accepts that there can be single or multiple realities open to empirical inquiry (Tashakkori, Johnson and Teddlie, 2020).

5.2.3 Axiology

Researchers commonly consider ontology and epistemology as the two pillars of philosophical enquiry. However, axiology forms a third pillar that is often overlooked and omitted from explanations of a research paradigm (Rescher, 2004). Axiology is the study of value or, more specifically, how the nature of value is theorised (Creswell and Plano Clark, 2017). For example, what is the value of a research outcome? What philosophical values are guiding the enquiry and why? (Patterson and Williams, 1998). Axiology is particularly important in pragmatism and mixed-methods research, since it concerns the values and motivations for

research methods, and how those values impact on the research process and its outcomes (Creswell, 2018).

5.2.4 Methodology

Methodology, our fourth principle, is a model of conduct for research within a given paradigm, and governs the researcher's choices of methods (Wahyuni, 2012). Methodology is, therefore, the study and application of the processes of research through the methods used (Creswell and Plano Clark, 2017). The distinction between *methodology* and *methods* are of particular importance to mixed-methods research (Wahyuni, 2012). Methods refer to the specific procedures, techniques and tools chosen for a study. Methodology is the body of meta-theory that guides the choice of research methods and their application (Tashakkori, Johnson and Teddlie, 2020).

5.2.5 The present research

This thesis adopts a pragmatist stance and uses a mixed-methods methodology. Specifically, it employs an *exploratory-sequential* approach, which combines qualitative and quantitative analysis (Creswell, 2018). Such mixed methods typically adopt a pragmatist standpoint (Mitchell, 2018), which was first explicitly linked to mixed-methods research by Tashakkori and Teddlie (2003). The pragmatic stance asserts that choices in both methodological and philosophical views should be subservient to practical considerations regarding research questions and aims, as opposed to theoretical commitments taking priority (Tashakkori, Johnson and Teddlie, 2020). Following a pragmatist approach, the research question determines the methods used, but not the research philosophy (Dixon, 2020). Thus, the pragmatist paradigm proposes the stance of accepting single or multiple realities according to the best interests of understanding and exploring the research at hand (Morgan, 2007). Typically, the starting point of the pragmatic approach uses the research question to determine the research framework (Wahyuni, 2012).

Pragmatism is not committed to a single system of ontology and epistemology, as most research paradigms are. Instead, it abandons metaphysical approaches to constructing truth and reality (Feilzer, 2010). The pragmatic approach adopts an ever-changing view of reality based on both human experience and the demands that circumstances place on problem-solving

(Shannon-Baker, 2016). Hence, a mixture of ontology, epistemology and axiology is an acceptable way to approach an understanding of social phenomena (Wahyuni, 2012). Furthermore, pragmatism asserts the use of both qualitative and quantitative methods and data to enable a better understanding of social reality (Tashakkori, Johnson and Teddlie, 2020).

While pragmatism is a paradigm in its own right, it is often confused with relativism, which asserts that facts (or truth) are relative to the perspectives of the research or the content in which they are assessed (Creswell, 2018). From a relativist stance, epistemologically, there are no absolute truths – only relative truths within a particular frame of reference (Callingham and Hay, 2018). While pragmatism considers multiple truths, from multiple frames of reference, it differs from relativism in that it considers truth to lie in what is useful (Margolis, 2019). In other words, from a pragmatist stance, what works is true, and what does not work is false. The important distinction between pragmatism and relativism is that pragmatism accepts absolute truths from different frames of reference (Margolis, 2019). Relativism, on the other hand, makes no claims of absolute truth since from this stance absolute facts can never be known (Rosenbaum, 2013). Dewey (1920/2008) argues that this relative view of truth makes relativism misleading and unable to replace the progressive nature of pragmatism. For Dewey (1925/2008a), truth and usefulness are interchangeable; truth is practical, never fixed, and can change over time. Thus, relativism is not embedded within pragmatism, nor is it a commitment of pragmatism (Morgan, 2014).

Kuhn's (1970) *Structure of Scientific Revolutions* is often, and perhaps wrongly, interpreted as taking a relativistic stance. As science goes through what Kuhn describes as phases or periodic paradigm shifts, researchers from different paradigms may find it difficult to communicate and understand truth, presenting problems of what is absolute fact. However, Kuhn does not argue that research paradigms and theories cannot be compared. Rather, he says that incommensurable paradigms cannot be compared through a common framework or measure (Kuhn, 1970). In addressing these misinterpretations, Kuhn (2012) later describes research as puzzle solving, and argues that some newer scientific theories are better placed than others to solve puzzles. It can therefore be argued that Kuhn's position on research paradigms more closely reflects views of pragmatism than those of relativism.

However, summarising pragmatism as simply a means for problem solving or asking ‘what works’ has been a recurrent problem (Dewey, 1920/2008). Denzin (2012) and later Morgan (2014) address this by arguing that the meaning of an event cannot be offered in advance of experience (Morgan, 2014). That is, pragmatism as a paradigm goes beyond just problem solving and is a doctrine of meaning as opposed to simply a methodology (Denzin, 2012). Central to this issue in pragmatism is a focus “on the consequences and meanings of an action or event in a social situation” methodology (Denzin, 2012, p. 81). From this follows the important role of axiology in pragmatic research.

Pragmatism is also often linked with theories of constructivism, or presented as a contemporary version of socially oriented constructivism (Hickman, Neubert and Reich, 2009). The central principle of constructivism asserts that knowledge is constructed rather than transmitted (Bogna, Raineri and Dell, 2020). In other words, a learner (or observer) constructs knowledge based on prior experiences of the world instead of passively taking in information. Social constructivism asserts that all knowledge develops as a result of social interaction and is, therefore, shared rather than individual (Hickman, Neubert and Reich, 2009). The key difference between pragmatism and constructivism is the way in which knowledge is conceptualised (Hickman, Neubert and Reich, 2009). Where constructivism conceptualises knowledge as the creation of cognitive structures, pragmatism instead views knowledge as a formation of habits of action (Dewey, 1920/2008; Hickman, Neubert and Reich, 2009).

For the present research, pragmatism is the most suitable paradigm first and foremost from a value perspective and the axiological stance of the researcher. The central moral value advocated by Dewey (1925/2008b) in his appraisals of pragmatism is freedom of inquiry. Here Dewey stresses the importance of individuals and social communities being able to define the problems and issues that matter most to them, and the ability to pursue these issues in ways that have the most meaning to those concerned (Dewey, 1925/2008b). Furthermore, Dewey was opposed particularly to economic domination that limits the growth, opportunities and possibilities of other social groups or communities (Dewey, 1920/2008; Dewey, 1925/2008b). As such, there is a natural fit between pragmatism and transformative research which seeks solutions to such problems (Morgan, 2014). Given that the present research investigates SFSCs as a means of territorial development, and draws on social capital theory within fisheries

communities, there are clear axiological parallels with the pragmatism paradigm, making it a good fit in terms of value playing an important role in the interpretation of the research.

Furthermore, pragmatism is suitable for the present research because it offers a rational, outcome-orientated method of inquiry, and one that is centred on the research question (Wahyuni, 2012). Due to its pluralistic nature, pragmatism allows for inquiry that theorises, evaluates and transforms real-world phenomena from multiple perspectives through multiple methods. This freedom of inquiry allows for the use of mixed methods across more than one research question, offering a rich understanding of experience from multiple points of view. This is particularly important in the present research, which aims to form an understanding of FLAGs as organisations (and groups or communities), as well as an understanding of the individual perspectives of producers and consumers. Using mixed methods allows for what Denzin (1978) first referred to as triangulation in the social sciences. Denzin (1978, p. 291) defines triangulation as “the combination of methodologies in the study of the same phenomenon” and argues that its use can capture more holistic and contextual portrayals of phenomena within a study. Jick (1979) adds to this by arguing that in mixed-methods studies, divergent results drawn from different methods allow for the development of more complete, complex and – in theory – novel explanations for the phenomenon studied. Pragmatism and mixed methods are therefore used in the present research to inform the examination of SFSCs as a means of territorial development from several perspectives, including those of producers and consumers, while providing vigorous scrutiny. Table 12 outlines the effects of pragmatism on each of the four main paradigm dimensions in the present research.

Table 12: Effects of pragmatism and research paradigm dimensions

Paradigm dimension	Pragmatism and the present research	Source(s)
Ontology: the nature of reality	External and multiple. Chosen to best answer the research question in each individual study.	Creswell, 2018; Wahyuni, 2012; Margolis, 2019
Epistemology: what forms acceptable knowledge	Subjective meaning and observable phenomena are (either or both) inferred depending on the research question. The focus is on practicality and integration of different perspectives to aid the interpretation of data.	Shannon-Baker, 2016; Margolis, 2019
Axiology: the role of values and the researcher's stance	Values play an important role in interpreting results, with both objective and subjective points of view being adopted	Wahyuni, 2012; Dewey, 1925/2008b
Methodology: the methods and model behind the research design and process	Qualitative and quantitative, depending on the research question (mixed or multi-method research design)	Tashakkori, Johnson and Teddlie, 2020

5.3 Research design

Research questions are the starting point for developing a research design using a pragmatic approach (Tashakkori, Johnson and Teddlie, 2020), with both the purpose and the questions of research provide the foundation of the substance that the research aims to assess (Creswell, 2018). As such, the research design in the present study, and the subsequent methods used, are founded on the four main research questions outlined in section 1.2.3 (see Table 13). As argued by Silverman (2006, p. 4) “like theories, methodologies cannot be true or false, only more or less useful”. This position is particularly relevant to the pragmatic approach, where methodologies and theories are developed in tandem according to the research question at hand.

Through a pragmatic approach, the present research uses a mixed-methods research design across three studies. For each study, the method most appropriate in answering the respective research question was used. To answer research questions 1 and 2, an asymmetric approach was employed using fuzzy-set qualitative comparative analysis (fsQCA). Structural equation

modelling (SEM) was used to answer research question 3, and experiments using multiple regression analysis (MRA) for research question 4.

Table 13: Overview of the research design

Research question	Study	Sample	<i>N</i>	Data instrument	Data collection	Data analysis
(1) What territorial and sectoral factors contribute to the development of fisheries SFSCs?	1	Purposive (FLAG managers)	46	Online survey Semi-structured interviews	Qualitative/ quantitative	Inductive-deductive fsQCA
(2) To what extent are the challenges and solutions to creating fisheries SFSCs unique to a geographical area, as opposed to general to all areas?						
(3) What do fishers (producers) see as the key challenges to engaging with fisheries SFSCs?	2	Purposive (Producers)	151	Online survey	Quantitative	Deductive Regression/ SEM
(4) What factors influence consumer purchase intentions for locally produced seafood?	3	Purposive (Consumers)	701	Online experiment	Quantitative	Deductive MANCOVA

5.3.1 Fuzzy-set qualitative comparative analysis (fsQCA)

Qualitative comparative analysis (QCA) is a method for determining the logical conclusions supported in a dataset. It was first introduced by Ragin (1989). The technique involves building configurational models composed of a selection of conditions that explain an outcome or phenomenon (Ragin, 1989). The selection of causal conditions in QCA is grounded in theory. While there are multiple ways of using theory to identify conditions (Amenta and Poulsen, 1994; Rihoux, 2006; Rihoux and Ragin, 2009), the key is to create a *configurational rationale* for the selection of conditions and to theorise their *combined* causal effect on the outcome. Epistemologically, QCA expects causation to work combinatorically (i.e., conditional antecedents in combination lead to the outcome observed) (Amenta and Poulsen, 1994; Pappas and Woodside, 2021). As such, the starting point in using a QCA is based on substantive prior knowledge of a given phenomenon from which the researcher builds a clearly specified configurative model before calibrating its constitutive elements (Ragin, 1989; Ragin, 2000; Ragin, 2008; Misangyi *et al.*, 2017).

QCA is based on set theory: both conditions and outcomes are conceptualised as a series of *sets* (Ragin, 1989; Rihoux and Ragin, 2009). In the present study, the outcome of interest is the presence of SFSCs in a fisheries area. A key feature of the method is the calibration of these sets, and how they represent both conditions and outcomes (Ragin, 2008). In other words, it is the process of determining set membership on a case-by-case basis. In his initial use of QCA Ragin defines a ‘crisp set’ approach in which cases are distinguished only by their full membership or non-membership of the sets (1989). He later expanded on this approach by introducing the concept of ‘fuzzy sets’ to QCA (2000). Fuzzy sets differ in that they allow for partial attribution, with set membership being determined at certain significance levels depending on how the sets are calibrated (Ragin, 2008).

Data in fsQCA may be calibrated directly or indirectly. Both the direct and indirect methods are based around establishing qualitative thresholds which define the level of membership of a case in the fuzzy set. The indirect method of data calibration is based on the qualitative assessment of cases and the subjective calibration of set membership breakpoints. The direct method of data calibration instead uses values set by the researcher denoting full-set membership, full-set non-membership, and intermediate-set membership respectively. The direct method of data calibration has the advantage of producing results that are more rigorous; it forms a clearer understanding of how thresholds were chosen, making it easier to validate and replicate results (Rihoux and Ragin, 2009).

An essential aspect of QCA generally, whether using large or small samples, is that it is set-theoretic in nature, and conceptualises the relationship between causal variables and outcomes in terms of both set membership and subset connections (Ragin, 2000; Fiss, 2007; Ragin, 2008). QCA uses Boolean logic in which variables used in the analysis are assigned a truth value between 0 and 1. In crisp-set QCA, cases are either completely false (with a truth value of 0) or completely true (with a truth value of 1). Only cases with a truth value of 1 are assigned full membership of a set (Ragin, 2000; Ragin, 2008). In fuzzy sets, cases are assigned a truth value anywhere between 0 and 1 and thus may include partial truths (Ragin, 2008), in which case they partially qualify for set membership. First introduced by Zadeh (1965), fuzzy logic is based on the observation that decisions and behaviour often rely on imprecise non-numerical information. As such, fuzzy sets are mean values that represent imprecise information or

vagueness. Such models have the capacity to form meaningful interpretations and logical conclusions from data and information that lacks certainty.

5.3.2 Structural equation modelling

In recent years, partial least squares structural equation modelling (PLS-SEM) has become an increasingly popular approach to analysing complex inter-relationships between observed and latent variables (Hair *et al.*, 2017). PLS-SEM is an appealing alternative to covariance-based structural equation modelling (CB-SEM) as it allows the use of complex models with many variables, constructs, and indicator pathways without the need for distributional assumptions on the data (Latan *et al.*, 2023). PLS-SEM is widely used across several disciplines, including marketing (Hair *et al.*, 2012) and supply chain research (Kaufmann and Gaeckler, 2015; Wang *et al.*, 2023). PLS-SEM can be used (Hair *et al.*, 2019):

- (1) to test theories or hypotheses (deductive approaches),
- (2) to develop theories or increasingly complex extensions of theories (inductive-deductive approaches),
- (3) when structural models are complex and include many constructs and/or model relationships, or
- (4) when small population sizes restrict samples sizes.

In straightforward terms, PLS-SEM combines principal component analysis with ordinary least squares regressions in estimating partial model structures (Latan *et al.*, 2023). The method offers an alternative to CB-SEM, which can have several, often restrictive, assumptions (Hair, Ringle and Sarstedt, 2011; Sarstedt, Hair and Ringle, 2023).

PLS-SEM was used in study 2 of the present research, where the outcome of interest is increased willingness to participate in SFSCs among fisheries producers through increased normative-cognitive social capital and increased individual entrepreneurial orientation (IEO). PLS-SEM was an appealing approach in this study for two main reasons. Firstly, PLS-SEM allows for the estimation of complex models with many indicators (Radomir *et al.*, 2023). As the research is an assessment of social capital – a complex concept with many measures – PLS-SEM was considered advantageous over CB-SEM as it allowed the model used to comprise

several constructs, each of which may be made up of a large number of items (Fornell and Larcker, 1981; Hair *et al.*, 2017).

Secondly, PLS-SEM was selected in this study over other extant regression techniques (such as PROCESS (Hayes, 2013)) because SEM works with latent variables (Gaskin, Ogbeibu and Lowry, 2023). When a model includes complex constructs, PLS-SEM accounts for these latent factors and uses the variables to account for error (Hair *et al.*, 2019). Other regression techniques collapse latent factor structures and thus hide information; this risks misspecification when complex constructs are used (Latan *et al.*, 2023).

5.3.3 Experiments

Experiments can be used to (1) test theories or hypotheses (deductive approaches), (2) develop theories (inductive-deductive approaches), (3) search for and document new or unexplained phenomena (descriptive and exploratory approaches), and, infrequently, (4) advise policy (pragmatic approaches) (Lin, Werner and Inzlicht, 2021). In simpler terms, the purpose of experiments is to provide evidence that one phenomenon causes another (Maxwell, Delaney and Kelley, 2017). The principal assumption is that causal relationships can be identified through experiments in which key variables are manipulated independently (Campbell, 1963). A key rationale for conducting experiments is that the influence of particular factors on outcomes can be isolated and patterns explained (Maxwell, Delaney and Kelley, 2017). Furthermore, the influences of these factors on the outcomes identified in experiments are independent of the researcher. In other words, if the same experiment were conducted by several researchers it should produce the same results (Bryman, 1992; Bryman, 2016). As such, the knowledge produced in experimental design research is controllable and more systematic than other methods (Shadish, Cook and Campbell, 2002). For these reasons, experiments were considered particularly well suited to the fourth research question in the present study, which seeks to understand how consumers value local versus non-local seafood, and the extent to which producer information via product recommendations influences consumer purchase intentions.

That is not to say that experiments are without limitations; as with all research methods, they have drawbacks. Most prominently, while experiments are high in internal validity, they can

lack external validity (i.e., generalisability), especially if completed in a controlled laboratory setting (Bryman, 2016). Issues of external validity are associated with the sampling techniques used in the experiment, and whether findings can be applied beyond the sample in question (Maxwell, Delaney and Kelley, 2017). Experiments can also lack ecological validity, which refers to whether or not the research findings can be generalised to the ‘real world’ (Blaikie, 2010; Bryman, 2016). As argued by Blaikie (2010), experiments should resemble real-world conditions in order to be ecologically valid. Since experiments are often abstracted away from the real world, particularly in lab settings, people as ‘subjects’ behave differently from how they would behave in everyday life (Blaikie, 2010).

Experiments are typically conducted in a laboratory or online setting (Maxwell, Delaney and Kelley, 2017). Regarding consumer behaviour, online settings are a widely used experimental research method in the social sciences (Bryman, 2016; Creswell, 2018). Firstly, online experiments offer a way to increase ecological validity, as they allow subjects to remain in their natural environment (Maxwell, Delaney and Kelley, 2017). Secondly, online experiments are less demanding in terms of implementation for both the researcher and the participant (Clifford and Jerit, 2014). In an appraisal of lab versus online experiments, Clifford and Jerit (2014) argue online-randomised experiments to be an adequate alternative to laboratory-based experiments and found few differences in the quality of responses between the two methods. As such, the experiment in the current research was conducted in an online setting based on considerations of cost and practicality.

Research on consumer responses to local food typically use two methodological approaches: non-hypothetical experiments (in-store studies and surveys) and hypothetical experiments (between-factor experimental designs conducted online) (Enthoven and Van den Broeck, 2021). Experiments conducted outside of a laboratory but in a physical setting are referred to as field experiments (Gneezy, 2017). In field experiments, participants engage in activities in the same way they normally would in everyday life (Charness, Gneezy and Kuhn, 2013); typically they are unaware that they are taking part in a study and unaware of the factors being manipulated and outcomes being measured (Gneezy, 2017).

In the present research, while non-hypothetical experiments (i.e. in-store field experiments) would have been advantageous in observing real-world shopping habits, the ability to manipulate product information and labelling would have been significantly limited due to the required cooperation of industry actors such as retailers which could not be achieved in the confines of the PhD (Bauer *et al.*, 2022). Field experiments allow for shoppers to be in real-world (rather than imaginary) situations in making real-world choices, and through these real-world choices, shoppers reveal their actual preferences and buying behaviours (Carroll and Samek, 2018). However, in field experiments a representative sample of buying habits at national level is not possible unless it is conducted across multiple regions and stores (Bryman, 2016). One of the main reasons online experiments have increased so rapidly in recent years is because they offer large-scale recruitment of participants quickly and at lower cost (Bryman, 2016), while not being detrimental to the quality of the research being conducted (Clifford and Jerit, 2014). Online experiments were therefore deemed an appropriate method in the present study for assessing consumer buying habits for seafood products in the UK.

5.4 Sampling

In studies 1 and 2, a purposive sampling technique was used. Purposive sampling refers to a group of non-probability sampling techniques in which units are selected because they have specific desirable characteristics, so that respondents are best placed to facilitate answering the research questions (Creswell and Plano Clark, 2017). In study 3, a non-purposive sampling technique was used. Representative sampling helps in analysing larger populations because the data generated contains smaller, more manageable versions of the larger group (Creswell, 2018).

In Study 1, FLAGs were selected based on qualitative knowledge of the case areas following the secondary analysis of both the CLLD programme and a case-by-case analysis of individual MS programmes and the LDS and objectives of their FLAGs (see 3.4 Analysis of FLAG project portfolios and objectives). Selecting a sample in QCA depends on whether the analysis is a small-N or a large-N study (Greckhamer *et al.*, 2013). Large-N QCA studies can be either inductive or deductive and serve the purpose of testing as well as building theory. The sample size used in large-N QCA is typically over 50 cases, which are selected using theoretical or random sampling techniques (Pappas and Woodside, 2021).

The primary difference between small and large-N QCA approaches is that large-N studies are interested in diversity among cases (Greckhamer, Misangyi and Fiss, 2013). For example, this can be between countries or between organisations (Fiss, 2011). Small-N QCA studies typically include 12-50 cases selected based on their theoretical relevance to the outcome. In small-N QCA, the cases selected are based on the knowledge of each individual case. Furthermore, small-N samples in QCA are typically used for building theory and are mostly inductive. In small-N studies, cases should be selected based on their logical relevance to the theory grounding the research. In the present research, the final sample sat at the edge of the small-N distinction, as there were 46 cases in the sample. As such, diversity was still sought between countries, as well as between FLAGs as organisations (typical of large-N studies), yet the cases were chosen based on their theoretical relevance to the outcome of interest.

In Study 2, participants being active producers of finfish and/or shellfish was the key sampling criterion, which applied to producers of both wild capture and aquaculture products. Other than the main sampling unit of being a producer in a FLAG area, to allow for greater generalisability the research did not focus on any particular location or demographic. Producers were recruited with the help of the EU's Fisheries Areas Network (FARNET), Managing Authorities, National Networks and individual FLAGs, thereby creating a snowball sample. This approach was deemed appropriate given that the recruitment of fisheries producers can be problematic (Reed *et al.*, 2020; Chiswell *et al.*, 2021). While a survey approach limits the time constraints associated with direct contact with fisheries producers, to collect detailed information, several follow-up questions via email, telephone calls, and supplementary face-to-face interviews are required which require planning and syncing with the producers' often unpredictable activities and schedules (Chiswell *et al.*, 2021). Perceptions of mistrust within the industry towards the purpose and outcomes of science in fisheries affairs can also make the recruitment of fishers challenging (Reed *et al.*, 2020). As such, convenience sampling was preferred using viable distribution channels offered by FARNET and its associated connections.

In study 3, a representative sample of UK consumers was used. The representative sampling criteria used were sex, age and ethnicity in accordance with a UK census. Participants were recruited and paid via Prolific – an online platform for research data collection. Prolific has grown significantly in recent years and has several advantages over other research panel

providers; the main benefit relevant to the present study is Prolific's transparency with respect to population (Palan and Schitter, 2018). While being able to offer a representative UK sample, a key advantage of the Prolific platform over others such as Amazon Mechanical Turk (MTurk) is the ability to pre-screen participants based on a series of questions used in earlier studies. For instance, an important screening question for Study 3 was whether a participant was the person responsible for purchasing food in their household. Prolific was able to screen participants based on this criterion via questions that panellists had answered in previous studies on the platform, thus reducing wasted time and resources for both the participant and the researcher (Palan and Schitter, 2018).

5.5 Quality assurance

5.5.1 Quantitative studies

For each of the quantitative studies, quality assurance measures of the validity and reliability of the data are provided. Reliability refers to how consistently a method measures a construct and the consistency of the measure across participants (Creswell and Plano Clark, 2011). The reliability of constructs in quantitative research is typically measured using Cronbach's alpha (Creswell and Plano Clark, 2011), which was the main reliability test used in the present research. Jöreskog's (1971) composite reliability was also considered in addition to Cronbach's alpha when using PLS-SEM techniques. The reliability measures in the quantitative studies were satisfactory, as reported in the results in chapters 6 and 7.

Validity refers to how accurately a method measures what it proposes to measure (Bryman, 2016). Validity is typically broken down into three types: construct, internal, and external validity. The latter refers to the extent to which research can be generalised beyond the present study and the sample in question, while construct validity refers to the extent to which the researcher can deduce the cause-and-effect relationship between the variables used (Bryman, 1992).

Internal validity refers to the degree to which the observed outcomes accurately reflect the truth within the population being studied, and therefore, are not influenced by methodological errors (Creswell, 2018). In terms of internal validity, the type of data collected is paramount. For experiments, internal validity is typically high, since independent variables are directly

manipulated by the researcher (Shadish, Cook and Campbell, 2002). On the other hand, external validity in experiments is often low due to the artificial setups used to elicit causal relationships. As such, in experiments, internal and external validity are often at odds with each other, with the increase of one leading to the decrease of the other (Campbell, 1957). However, if the objective of the research is to test theories, experiments should be evaluated by how much they contribute to the understanding of those theories, and not by how they resemble phenomena in the real world (Lin, Werner and Inzlicht, 2021).

Construct validity concerns how well a set of indicators reflects a construct (or concept) that is not directly measured (Creswell, 2018). For the measures used in the present studies, both convergent and discriminant construct validity were considered. Convergent validity is the extent to which the construct comes together (converges) in explaining the variance of its items (Hair *et al.*, 2019). Convergent validity is measured using the average variance extracted (AVE) for all items used in a construct (Bryman, 2016). AVE is calculated by squaring the loadings of each item on a construct and computing the mean value (Hair *et al.*, 2012). An acceptable value of the AVE is 0.50, indicating that the construct explains a minimum of 50% of the variance of its indicators or items (Field, 2018).

Discriminant validity refers to the extent to which a construct is analytically distinct from other constructs in a model (Creswell, 2018). In other words, discriminant validity tests whether constructs that are not meant to be related are actually unrelated. The Fornell-Larcker criterion is a popular technique for testing the discriminant validity of measurement models (Hair *et al.*, 2019). According to the Fornell-Larcker criterion, the square root of the AVE for any particular construct must be greater than the correlation between that construct and any other construct used in the model (Fornell and Larcker, 1981). The reliability measures used in the present studies were satisfactory and are reported in the results in chapters 6, 7, and 8.

5.5.2 *fsQCA*

In configurational approaches such as *fsQCA*, the conditions that specify an outcome, such as social capital or fisheries dependency in SFSC research, are regarded as configurations of interconnected structures, instead of structures examined in isolation (Fiss, 2007). As such, *QCA* studies are designed to combine the techniques of both quantitative and qualitative

research, taking the best attributes from both approaches (Tashakkori, Johnson and Teddlie, 2020). Empirical testing, with conditions identifying outcomes through statistical methods (Ordanini, Parasuraman and Rubera, 2014), is combined with inductive reasoning with data analysed by case as opposed to by variance (Ragin, 2008).

While fsQCA is grounded in qualitative methods, the analysis of the final data is quantitative (Pappas and Woodside, 2021). fsQCA does not test for construct reliability and validity, however, as such tests refer to the constructs themselves and not the method of analysis used to examine relationships between them (Pappas *et al.*, 2016). In fsQCA, such reliability and validity checks depend on the type of variable used (Woodside, 2014). If constructs are used as variables in fsQCA, they need to be tested for reliability and validity using traditional methods before the fsQCA calibration process (Pappas and Woodside, 2021). As many of the variables used in study 1 were constructs, such reliability and validity testing was required, and was performed using Cronbach's alpha and AVE respectively prior to the fsQCA as outlined in section 4.5.1 above.

When all constructs used in the analysis are finalised and the data has been calibrated, there are four quality assurance measures used in fsQCA (Fiss, 2011). The first, *coverage*, refers to the ratio of cases exhibiting the outcome explained by the configuration (Ragin, 2008). While there is no minimum threshold for case coverage in fsQCA, it is important to consider the number of cases included in any given analysis and solution. For small sample sizes, as is the case with the FLAG sample in study 1, high coverage is to be expected in a robust fsQCA (Ragin, 2008).

The second quality assurance measure in fsQCA is *overall solution consistency*, which measures how closely a precise relationship between a configuration and the outcome is approximated (Ragin, 2008; Woodside, 2014). In fsQCA, this consistency is the ratio of cases matching the configuration solutions that exhibit the outcome (Greckhamer *et al.*, 2018). An overall solution consistency is acceptable with a value of 0.75 or higher (Woodside, 2014).

Thirdly, *raw consistency* is used in fsQCA to measure the sufficiency of each configuration in explaining the outcome of interest (Ragin, 2008). Any combination of conditions with a raw

consistency of less than 0.80 is insufficient to explain the outcome and is subsequently removed from the logical minimisation process (Fiss, 2011) – and hence from the analysis.

The final quality assurance measure used in fsQCA is *proportional reduction in inconsistency (PRI) consistency* (Fiss, 2011). When using fuzzy sets, PRI consistency represents the proportion of cases showing the configurations which exhibit the outcome (Pappas and Woodside, 2021). In other words, it measures how closely a perfect relationship between a configuration and any outcome is approximated. The minimum threshold for a satisfactory PRI consistency is 0.50 (Fiss, 2011). A summary and description of the thresholds used in fsQCA is provided in Table 14. All of the measures used in the present study were satisfactory and are reported in the results in Chapter 6.

Table 14: Summary of thresholds used in fsQCA

	Threshold	Description	Source(s)
All data types (including percentages and Likert-type scales)	95% – Full set membership	Using the direct data calibration method, set memberships are assigned based on a threshold score. For a value to be considered a full member of the set, the value must be 95% or higher. A value which sits between the full and intermediate set membership threshold is referred to as being a peripheral member of the set. This is also referred to in the literature as a ‘more in than out’ case.	Ragin, 2008; Ragin, 2009; Rihoux and Ragin, 2009
	50% – Intermediate set membership		
	5% – Full set non-membership		
All data types which are skewed (including Likert-type scale)	80% – Full set membership	For data which is skewed to the left or right of the mean scale value, the threshold for set membership is lowered to 80%, and the threshold for full set non-membership is raised to 20%. Intermediate set membership remains at the midpoint of 50%.	Greckhamer, Misangyi and Fiss, 2013
	50% – Intermediate set membership		
	20% – Full set non-membership		
Sample size	<50 Small-N	In fsQCA there is no restriction on how small a sample can be. However, the treatment of data and analysis differs for small-N and large-N samples.	Greckhamer, Misangyi and Fiss, 2013
	>50 Large-N		
Case frequency	1 – Small-N	Frequency refers to the minimum number of cases covered in each specific combination of the conditions. For small-N samples, a minimum of one case is acceptable. For	Greckhamer, Misangyi and Fiss, 2013
	2–3 – Large-N		

		larger samples, two or three cases is the recommended threshold.	
Coverage	No specific threshold. However, for small-N samples high coverage is expected.	Coverage determines a configuration's "empirical relevance or importance" and refers to the proportion of cases exhibiting the outcome explained by the configuration.	Ragin, 2008, p. 44
Overall solution consistency used	>0.75	Consistency measures how closely a perfect relationship between a configuration and any outcome is approximated. When using fuzzy sets, this consistency is the proportion of cases exhibiting the configuration solutions that exhibit the outcome.	Woodside, 2014; Greckhamer et al., 2018; Ragin, 2008
Raw consistency	>0.80 is the suggested value, but it can be higher.	Raw consistency is a measure of whether a particular configuration is sufficient for the outcome. Any combination of conditions with a raw consistency of less than 0.80 insufficiently explains the outcome and thus is removed from the logical minimisation process.	Ragin, 2008; Fiss, 2011
PRI consistency	>0.50 minimum, and closely aligned to the 'raw consistency' value.	In fuzzy set analysis, it is also important to consider PRI (proportional reduction in inconsistency). PRI consistency should be high and as close as possible to the raw consistency value. A high PRI consistency score indicates the absence of simultaneous subset relations of configurations in both the outcome and the absence of the outcome.	Fiss, 2011

5.6 Analysis

5.6.1 Quantitative studies

The results of studies 2 and 3 were analysed statistically using SPSS (version 28.0) and SmartPLS (version 4.0). In study 2, SPSS was used for the initial exploration of the data, bivariate analysis and hierarchical regression analysis. For the PLS-SEM modelling and mediation analysis, SmartPLS was used. PLS-SEM was selected as is suitable for prediction-oriented studies where the main objective is to predict and explain variance in the dependent

variable using complex constructs (F. Hair Jr *et al.*, 2014). CB-SEM, on the other hand, is better suited to testing which models best fit the data (Dash and Paul, 2021).

In study 3, conditional process analysis using SPSS and the Hayes (2013) PROCESS macro was preferred to SEM. PROCESS was selected as an appropriate method of analysis due to the specific requirements of the models used. Firstly, in contrast to the model used in study 2, the model used in study 3 included simple constructs with few indicators. Secondly, three of the variables used were categorical as opposed to latent variables. Thirdly, the model uses two dichotomous moderator variables. For models with observed (as opposed to latent) variables, any difference in results between SEM and conditional process analysis using PROCESS is negligible (Hayes, Montoya and Rockwood, 2017). As such, PROCESS was deemed appropriate in analysing these less-complex models because it offers several pre-defined models, allowing for the identification of a model which best fits the data. PROCESS is best suited to theory confirmation, as opposed to theory building as was the case in study 3 (Hayes, 2013; Hayes, Montoya and Rockwood, 2017).

5.6.2 *fsQCA*

The results of study 1 were analysed using SPSS and the official fsQCA software (version 4.0). Prior to fsQCA, the reliability and validity of constructs were tested using SPSS. The data was then calibrated in the official fsQCA software before the full fsQCA was run.

5.7 Ethics

Research ethics were considered throughout the present research. The research and data collection fell under ethical approval reference number '9640/2018' and the wider umbrella of the Newcastle University's ethical code of conduct, meaning that the work upheld the following five ethical considerations and responsibilities:

- (1) **Voluntary participation:** It was ensured throughout the work that participants were not coerced in any way, and that they were free to withdraw from the study at any point without needing to explain why.

- (2) **Informed consent:** Consent forms were taken for all participants in studies 1–3. For study 1, informed consent was obtained using a signed consent form (see Appendix C). In the consent forms taken, it was made clear that the information collected would be used for research purposes only and that participation was voluntary. Through the consent forms, participants indicated that they were willing to proceed and that they understood they could withdraw from the study at any time. For online studies (studies 2 and 3) informed consent was presented to participants at the beginning of the questionnaire, which was deployed using the Qualtrics surveying platform. Participants who disagreed with the informed consent immediately exited from the survey. Moreover, details of the principal researcher were provided, and it was made clear that participants could request to be removed from the study at any point during the study, as well as at a later date.
- (3) **Privacy:** This research ensured that the privacy of participants was respected at all times to avoid intrusion. In cases where further contact was required, it was made clear that any contact details provided were for that purpose only. If participants requested to not be contacted after an initial interaction, communication stopped immediately.
- (4) **Anonymity and confidentiality:** For the purposes of this research, anonymity means that no respondent or their community, company, or FLAG are identified at any time. For study 1, the informed consent also included anonymity of the FLAG represented by the participants, including the FLAG name, and any clearly identifiable factors related to the area. FLAG areas were given a case code which was subsequently used throughout the analysis and discussion. As noted by Babbie (2020), it is not possible for case-based surveys to assure total anonymity because certain answers may make the respondent identifiable by others in the area, the community or the sector in question. As the location of each of the FLAGs was not important to the fsQCA analysis in study 1, all references to identifying locations were removed from the data to further protect anonymity. For the purposes of the present research, confidentiality refers to the protection of the data collected and its use. Participants were informed that data collected would only be available to the principal researcher and not shared with third parties. The data were stored on the laptop of the principal researcher and in the cloud

using an encrypted storage service. For all other studies in the present research, no personal information was collected on participants.

- (5) **Duty of care to participants:** Throughout this research, any potential harm caused to participants was considered. Measures were taken to ensure that respondents did not experience any discomfort or undue stress as a result of their participation. All participants were informed that they were able to pause or stop at any point during the study. In the event of this happening, participants were told that any data provided would be destroyed and that no further contact would be made. In the present study, there were no instances where this occurred.

5.8 Methodological reflections

Several methodological issues were encountered which inevitably impacted the data collection process and subsequently the associated analysis, even though they were minimised wherever possible. The main issues encountered were:

- (1) **Time:** Some aspects of the fieldwork, such as recruiting FLAG managers, were highly time-consuming. If I had more time, I would have liked to have included more, if not all, of the EU's FLAGs in the fsQCA study. This would have had methodological implications as it would have shifted the study from a small-N to a large-N fsQCA.
- (2) **Fatigue and negative perceptions of academia:** Both FLAGs and seafood producers have seen recent increases in research attention. In the case of FLAGs, the present study was conducted towards the end of a six-year funding cycle, at which time there was increased activity in relation to the monitoring and evaluation of the programme. In many cases the FLAG managers suffered from interview fatigue, as they were also responding to several research requests from MAs and the EU. In some countries there has also been increased recent interest in research related to fishers and other seafood producers. Many of the participants had contributed to several other recent studies and felt let down and disappointed that their time had not contributed to any specific results. This led to some mistrust in the motives behind scientific research.

- (3) **Access to seafood producers:** One of the most challenging aspects of data collection in the present study was building a sample of seafood producers. A language barrier was an issue in many cases where a follow-up interview was required; this was mitigated using FARNET's pool of geographic experts but still presented a significant challenge. Seafood producers also spend prolonged periods of time working without access to communications, and often during unsociable hours. This made it difficult to arrange follow-up interviews, which in many cases were rescheduled several times. A flexible approach to conducting the interviews was taken to counteract these problems. In some cases telephone interviews were conducted while the producers worked, which prolonged the process and added to interview fatigue.
- (4) **Subjectivity:** For studies 1 and 2 I had concerns about subjectivity and bias. When conducting interviews with both FLAG managers and seafood producers it was important to acknowledge my background and purpose. During the fieldwork, I had an active role working for the Fisheries Areas Network (FARNET), meaning I had prior experience working with some of the participants. This could have acted as a hindrance to participants being able to trust me, since I represented the European Commission in some capacities. I was able to minimise the effects of my role with FARNET by being honest about my background, my intentions, and my reasons for undertaking the research.
- (5) **COVID-19:** The majority of the fieldwork in the present study was conducted during the COVID-19 pandemic. This had substantial implications for the methods used in this research. Using a mixed-methods approach provided the required flexibility to adapt to unique circumstances and challenges faced during the pandemic.

5.9 Summary

This mixed-methods research adopts a pragmatic position with an experimental-exploratory sequential design. Qualitative data were collected and analysed to inform theory, after which two phases of quantitative experiments were conducted to test the theory. This chapter explains the philosophical assumptions used in this research, along with the research design, data collection, sampling, analysis, quality assurance, and ethical considerations.

Chapter 6. Fisheries Local Actions Groups (FLAGs), social capital and short food supply chains – Results

6.1 Introduction

Chapter 6 presents the results from the first phase of the research on the impact of social capital created by Fisheries Local Action Groups (FLAGs) and its impact on the creation of short food supply chains (SFSCs). Section 6.2 outlines the theoretical framework used in the research, including a recap of social capital theory and its measurement. Section 6.3 then provides an overview of the fsQCA methods and data used. Section 6.4 presents the results, followed by a discussion of the findings and conclusions drawn in section 6.5.⁷

6.2 Theoretical framework

As discussed in chapter 3, due to their potential to create added value in local fisheries products, particularly those from small-scale and artisanal producers, SFSCs are often a focal point for the local development strategies of FLAGs. To recap and summarise, FLAGs are public-private partnerships which bring together local actors in creating synergies and networks in the implementation of Community-led local development (CLLD) under the European Maritime and Fisheries Fund (EMFF) (Miret-Pastor, Svells and Freeman, 2020). The innovation in CLLD under the EMFF lies in the transfer of funds and decision-making to the local level, enabling local actors and stakeholders to develop sets of bottom-up actions through the creation of FLAGs, which offer fishing communities the prospect of reintegration within territorial development focused on place-based factors such as amenities, production, local food system, and local relations (Phillipson and Symes, 2015; van de Walle *et al.*, 2015).⁸

⁷ A shortened version of this chapter has been published in the journal *Sociologia Ruralis*. Full reference: Freeman, R., Phillipson, J., Gorton, M. and Tocco, B. (2023) 'Social capital and short food supply chains: Evidence from Fisheries Local Action Groups', *Sociologia Ruralis*, 63(1), 1–19, <https://doi.org/10.1111/soru.12455>.

⁸ CLLD was first introduced to fisheries areas under Axis 4 of the European Maritime Fund (EMFF) 2007-2013. Following the EMFF 2014-2020, FLAGs and CLLD are again being implemented under the new European Maritime, Fisheries and Aquaculture Fund (EMFAF) 2021-2027.

Like LEADER before it in rural areas, the CLLD programme seeks to enhance the capacity of local actors through increasing social capital (Christoforou, 2017). Healy and Cote (2001, p. 41) define social capital as “networks together with shared norms, values and understandings that facilitate cooperation within or among groups”, while Putnam (2000, pp. 664-5) conceptualises social capital as consisting of “networks, norms and trust” that “enable participants to act together more effectively to pursue shared objectives.” Thus, FLAGs can be viewed as a *territorial instrument*, and when applied within a single sector policy (i.e., fisheries) can be an innovative solution to making possible the development of activities that present benefits to both fishers and the wider community (Budzich-Tabor, 2014).

How social capital is mobilised through local groups such as FLAGs as public-private partnerships is, therefore, critical to understanding differences in these interactions and identifying what combinations of factors best lead to economic outcomes, particularly those related to food supply chains and opportunities for sustainable development. The objective of the present study is, therefore, to explore what conditions, and combinations of conditions, within a FLAG and its territory are optimal for the creation of SFSCs as a means of sustainable local development. Focusing on social capital theory, the study examines the three dimensions of social capital (structural, normative-cognitive and network governance) as separate causal conditions in a novel fsQCA approach which allows for the comparison of how different types of social capital combine and impact on SFSCs that are present in an area. The study is a very first empirical attempt to apply the method in the contexts of FLAGs and CLLD more widely, and to a field of research that is often characterised by individual or loosely connected case study examples. Using an fsQCA approach, it considers how the three dimensions of social capital are combined with wider territory-based factors in the FLAG area. Using data collected from 14 European countries, the study addresses the first two research questions of this thesis: (1) What territorial and sectoral factors contribute to the development of fisheries SFSCs? and (2) To what extent are the challenges and solutions in creating fisheries SFSCs unique to an area, as opposed to being general to all areas? This also translates to the following sub-questions: (i) What configurations of social capital and place-based conditions in a FLAG area lead to a high level of SFSCs? and (ii) What is the role of the FLAGs in enhancing this process?

6.2.1 Social capital theory

To recap the literature in chapter 2, the concept of social capital is multi-faceted and reflects the complex characteristics of social relations in the real world (Lewis, 2010). Due to its complexity, different social science domains take varying, and often conflicting, approaches to understanding what constitutes social capital (Burt, 2005). From the perspective of economics, social capital is referred to as the types of capital held by individuals (or groups) based on the norms of trust, reciprocity, identity and shared values that enable collaboration and collective action, and thus promote development (Pisani, 2017). From the perspectives of territorial (and rural) development research, social capital is often used to understand why areas with similar levels of capital (physical or natural, institutional, and human) show different levels of economic performance (Tamásy and Diez, 2016). The position generally supported in the literature is that these differences are a result of social capital (Putnam, Leonardi and Nanetti, 1994; Putnam, 2000; Raagmaa, 2016; Tamásy and Diez, 2016; Pisani, 2017). In other words, the social factors specific to the territory interact in different ways with other factors (including other forms of capital), and these differences affect economic outcomes. However, it is rare for research to explicitly consider the way that different combinations of factors may lead to the same outcomes. This study, therefore, employs complexity theory and the principles of equifinality (i.e., any given situation has several possible outcomes, and no single solution will work for all situations) (Woodside, 2014).

From a territorial perspective, Putnam *et al.* (1994) compare the economic and institutional performance of territories in relation to social capital. Based on measures of trust, membership in voluntary associations and civic behaviour, the results showed differences between areas in terms of lower social capital explaining lower levels of development and institutional effectiveness. According to Woolcock and Narayan (2000) public institutions, particularly those which form partnerships with the private sector, play a central role in the formulation of social and political contexts which aid participation and cooperation. Such institutions, FLAGs being a good example, coordinate relations between local actors and enable them to mobilise and work together to determine their local development. Through collective action, democratic local governance, accountability, and transparency, they build social capital that can lead to positive social and economic outcomes (Woolcock and Narayan, 2000).

Some scholars have pointed to the inherently positive connotations attached to social capital theory (Woolcock, 1998), claiming that the concept has become overly diluted and applied everywhere, resulting in a loss of any real meaning (Woolcock, 1998; Durlauf and Fafchamps, 2005). In other words, if social capital theory is applicable everywhere, it can also be argued that it is simultaneously applicable nowhere (Durlauf and Fafchamps, 2005). Such criticisms of social capital theory are often a result of the concept being used as a singular concept, instead of being broken down by its sub-dimensions (Pisani *et al.*, 2017). Early studies sought to measure the presence of social capital and those factors that lead to its increase. For example, Knack and Keefer (1997) compare factors between countries, while other studies make comparisons at regional (Beugelsdijk and Van Schaik, 2005; Iyer, Kitson and Toh, 2005) and local levels (Trigilia, 2001).

Such is the perceived economic and social potential of social capital it has drawn significant attention in the implementation and measurement of European territorial development programmes, with the role of social capital in the development of local areas receiving increased attention (Trigilia, 2001; Evans and Syrett, 2007; Pileček, Chromý and Jančák, 2013; Raagmaa, 2016; Tamásy and Diez, 2016; Pisani *et al.*, 2017). Several researchers have drawn links and parallels between the elements in social capital theory and the elements and objectives of local development policy (Teilmann, 2012; Da Re, Castiglione and Burlando, 2017; Pisani *et al.*, 2017). Central to these parallels is the nature of Local Action Groups (LAGs), which link actors and form ties. Such ties bring actors together, and without them there is neither a network nor social capital (Lin, 2012). As such, LEADER LAGs have become the focus for measuring social capital across several studies, though few of these separate out its component features (e.g., Arturo, Concetta and Luigi, 2010; Thuesen, 2010; Teilmann, 2012; Pisani *et al.*, 2017).

6.2.2 Measuring social capital

It is widely agreed in the literature that there are stable and measurable factors of social capital (Borgatti, Jones and Everett, 1998; Burt, 2005; Sabatini, 2009; Nardone, Sisto and Lopolito, 2010; Lin, 2012; Teilmann, 2012; Raagmaa, 2016; Da Re, Castiglione and Burlando, 2017). Lewis (2010) argues that social capital is best understood as a multilevel concept. That is, while social capital is best measured at the *micro* (individual) level, its benefit accumulates though

greater numbers of individuals at the *meso* level (groups or a local community), and through to the *macro* level. In measuring social capital, Lewis (2010) therefore emphasises three principles for measuring, analysing, and applying social capital. These principles are (1) levels, (2) forms and types of ties, and (3) use and accumulation. Teilmann (2012) applied this method to measuring social capital created by the implementation of the LEADER programme in Denmark. Through the case study of a single LAG area, the author found that through affecting the individual level (i.e., individual project promoters), social capital did accumulate new ties through the LEADER approach, and thus increased social capital in the area. The study found no significant link between the increase of social capital and the funding value of a project, suggesting that emphasising more smaller projects may lead to a greater accumulation of social capital compared to fewer larger projects.

In measuring social capital, Teilmann (2012) also uses micro-level findings as a proxy for increased social capital across levels and the territory. While such an approach allows for the possible use of a comparative index across multiple FLAG areas, in using proxies it fails to address the problem of social capital becoming a diluted concept, in that its presence at the micro level is framed only as leading to positive connotations at the *meso* and *macro* levels. Furthermore, this approach may not capture the quality and quantity of relationships within a territory's internal – and perhaps more importantly, external – networks, and how LAGs might increase social capital and thus strengthen the overall governance of local territories (OECD, 2006; Shortall, 2008; OECD, 2009; Secco and Burlando, 2017). While networks might be comparable in terms of structure and the types of actors involved, if different cultures, values, and norms are present, outcomes may vary significantly, particularly as social capital is accumulated across levels (Rostila, 2011).

Da Re *et al.* (2017) argue that a more holistic approach to measuring social capital is required by breaking the concept down into specific types, where comparisons can be drawn and nuances can be observed. For example, while the division into micro, meso and macro levels is clearly important, further specification is required to identify the effects of social capital on economic growth and territorial development. Furthermore, economic outputs are more typically the result of the combination and interaction of specific types of social capital.

Referring back to the literature in chapter 2, structural social capital refers to social networks, supplemented by rules, procedures, and precedents that facilitate mutually beneficial collective action. For example, the local development strategies of FLAGs are defined by horizontal and vertical relations developed through public-private partnerships. The outputs of a FLAG are generally considered to be generated from processes of investing in social capital; they relate to innovation and the strengthening and development of new connections and forms of cooperation (Marquardt, Möllers and Buchenrieder, 2012).

Normative-cognitive social capital focuses on the meaning and understanding that individuals or groups share: these include shared norms, values, attitudes and beliefs, and predispose people towards mutually beneficial collective action (Krishna and Shrader, 2002). Normative-cognitive social capital is considered the least tangible (Christoforou, 2017). Pisani (2017) argues that it provides information which can be lacking in structural social capital analysis. For example, it can provide contextual information on the ways in which actors interact across networks. While networks might be comparable in terms of structure, if different cultures, values, and norms are present, outcomes may vary significantly (Rostila, 2011).

While both structural and normative-cognitive social capital refer to networking and relationships between individuals and groups, a third dimension of social capital refers to governance and decision-making processes, including how and why decisions are made and by whom. When making reference to natural resources such as fisheries, this facet of social capital interconnects with concepts of participatory governance and refers to the basis of rules and power distribution amongst actors (Fristch and Newig, 2012). Such forms of governance are typically characterised as interactions between network-based private-public collaborative organisations such as FLAGs (Da Re, Castiglione and Burlando, 2017).

As argued by Woolcock and Narayan (2000), obtaining one single measure of social capital is likely not possible. However, approaching its measurement from multiple angles may provide a more detailed explanation of its impact by offering both broader and more specific inferences (Christoforou, 2017). Furthermore, each of the forms of social capital can be further broken down into several sub-dimensions. Widely recognised sub-dimensions in the literature are those proposed by Krishna and Shrader (2002) who identify, for normative-cognitive social

capital: (1) shared values (including reciprocity and solidarity), (2) social norms (e.g., trust), (3) behaviours, and (4) attitudes. According to the authors, structural social capital refers to: (1) structure of horizontal networks, (2) collective decision-making processes, (3) accountability of leaders, and (4) collective action.

The third dimension of social capital that concerns network governance relates to decision-making. As governance and social capital are interrelated, network governance is particularly important when analysed in the context of network-based, public-private multisector organisations that are based on collaboration, i.e., LAGs and FLAGs (Secco and Burlando, 2017). Despite the distinct connections between governance and social capital, to date there is still limited knowledge on how governance relates to social capital (High and Nemes, 2007; Górriz-Mifsud, Secco and Pisani, 2016), and whether it fosters innovation and favourable economic and social outcomes (Secco and Burlando, 2017).

Four key dimensions of network governance are outlined by Pisani (2017): (1) decision-making processes, (2) efficiency and effectiveness, (3) organisational culture and capacity, and (4) vertical structure of the organisation. As noted in reference to governance and vertical structures, FLAGs, as multi-sectoral organisations, rely on integration within a territory as a key feature for achieving strategic goals (FARNET, 2013a; FARNET, 2015; van de Walle *et al.*, 2015).

Furthermore, to fully understand and interpret measures of social capital and how it operates, it is important to explore its local context (Babb, 2005). As such, to understand the impact of FLAGs on social capital and specific outcomes such as the development of SFSCs, an understanding of the area's sectoral and territorial situation is required, for example in terms of levels of absolute and relative fisheries dependency (Phillipson and Symes, 2015). Absolute fisheries dependency is a measure of a territory's dependency on fisheries as a primary sector. Relative fisheries dependency, by comparison, refers to an area's comparative dependency in relation to other economic and social factors, such as a well-balanced regional economy with significant opportunities outside of fisheries and high diversification of fisheries activities into other sectors.

An area's dependency on fisheries impacts significantly on a FLAG's local development strategy, and thus the types of social capital that may be present in a territory. For example, areas with a developed tourism sector may have high relative dependency on fisheries to supply the industry, particularly given the rise in *pescas* and gastronomy tourism. In such areas we could expect to see high levels of social capital bringing these two sectors together in economic outcomes such as SFSCs. Key questions here are: What types of social capital are more important in combination with fisheries dependency in achieving the outcome of an area having a high degree of SFSCs? Are all types of social capital important in the presence of different territorial factors? It is also possible that an area's community has a common positive attitude towards the localisation of food systems and SFSCs (referred to as reflexive localism (DuPuis and Goodman, 2005), regardless of its dependency on fisheries or the social capital at play through the FLAG. Using an fsQCA, how these conditions combine in achieving the SFSCs as an outcome are explored as illustrated in Figure 7.

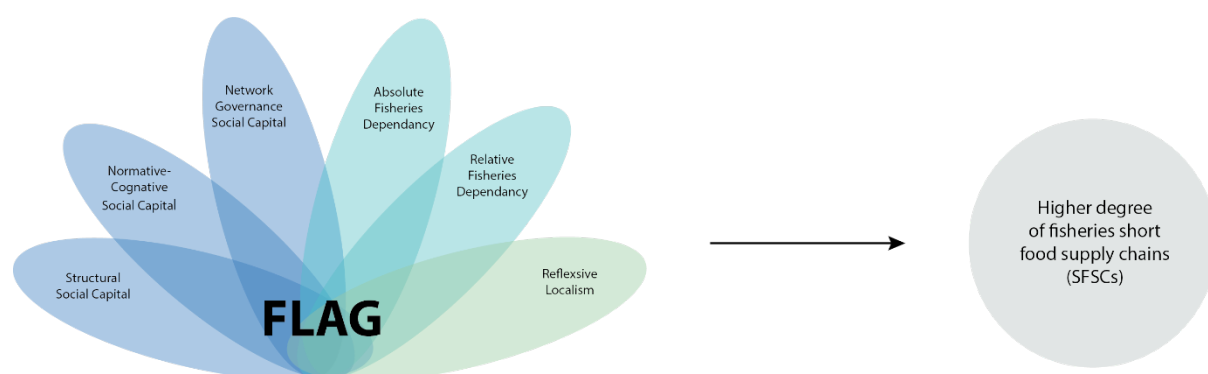


Figure 7: fsQCA conceptual model

6.3 Data and methods

6.3.1 Research design

Data collection occurred between September 2020 and July 2021 with a sample comprising FLAG managers from 14 EU Member States. The sampling frame was all the 368 FLAGs implementing local development strategies under the EMFF. The final sample accounts for 12% of all FLAGs across the EU. From the 368 surveys dispatched, 78 questionnaires were returned, representing a response rate of 21%. From the returned questionnaires, 28 were

completed fully, while 59 were completed only partially (with reasons given) due to the unavailability of the data requested or further clarity required in providing accurate data. From the 59 partially completed responses, follow-up semi-structured telephone interviews were conducted with 18 respondents to complete the questionnaire, giving a final sample of 46 FLAGs (Table 15). On average the surveys took 130 minutes to complete across multiple visits to the surveying platform. The detailed nature of the survey often required desk research by the respondent and several visits to the platform.

The survey comprised three main sections. The first concerned the FLAG area and collected information on demographics, geography, and the local economy. This included information related to the area's primary and secondary sectors, and detailed information on the area's fisheries. The second section collected information on SFSCs. This included data on imports and exports, market concentration, and the SFSC types present in the area. The third section of the survey concerned the FLAG and social capital, and was broken down into three sub-sections, each evaluating a specific social capital type (structural, normative-cognitive and network governance). In this section, detailed information was gathered relating to the structure of the FLAG, its local development strategy, projects and beneficiaries, and the stakeholders involved.

Table 15: Sample characteristics

Country	FLAGs (cases)	Mean surface area (km ²)	Mean population
Bulgaria	1	553	67 187
Croatia	3	755	27 910
Cyprus	1	516	120 350
Estonia	2	1 728	16 895
Finland	6	11 286	304 000
France	3	1 073	161 584
Greece	5	6 750	160 000
Germany	1	4	247
Ireland	5	2 424	24 240
Italy	1	448	117 463
Portugal	4	771	161 401
Spain	9	538	165 600
Sweden	1	5 427	325 000
United Kingdom	3	4 165	679 770
Total (average)	46	2 603	166 546

Secondary data on the FLAG and its territory—including population, surface area, the makeup of the fishing fleet and sector, and the FLAGs’ strategic objectives—were also collected to reduce the information required from primary data collection. The author compiled these data for the Fisheries Areas Network (FARNET) Support Unit of the Directorate-General for Maritime and Fisheries Affairs (DG MARE) as part of the reporting of CLLD by Member States, and from FLAG websites and official documentation including their Local Development Strategies.

The data were analysed using the fsQCA method. fsQCA offers a novel empirical approach, particularly to the study of situations with multilevel influences and explanations (Woodside, 2013). The method allows for a detailed analysis of how causal conditions contribute to a given result and how different combinations of causes may lead to the same outcome (Xie, Fang and Zeng, 2016). QCA is also innovative in allowing for medium-size samples of cases which are not large enough to apply traditional quantitative methods (Ragin, 2000), while remaining suitable for investigating high levels of causal complexity (Rihoux and Ragin, 2009).

In QCA a *set* is the classification of a group of cases (in this research FLAGS/FLAG areas) with shared values which serves as a predictor for indicating an observed outcome of interest. Such sets are categorised by a membership function which assigns each case with a membership value between 0 and 1 (Pappas and Woodside, 2021). Conventional QCA employs dichotomous variables known as *crisp sets* which are limited to a value of 0 or 1 (i.e., “yes” or “no” logic). To overcome this limitation, fuzzy set theory can be applied to QCA allowing for the use of continuous variables (Pappas and Woodside, 2021). In fsQCA, each case is given a value between 0 and 1. Values over 0.95 are considered as having *full set membership* (i.e., above this value, the case is fully in the set). A value of 0.05 or lower means the case is considered to have *full none set membership*. Any value in between is considered either more “in” than “out” (e.g., a value of 0.75), or more “out” than “in” (e.g., a value of 0.25) as a continuous variable, with 0.5 being the point of maximum ambiguity (Rihoux and Ragin, 2009). The definition of variables included in the fsQCA, with associated conditions are illustrated in Table 16.

Table 16: Definition of fsQCA variables

Conditions		Set membership
Outcome	SFSCs	<i>FLAG areas with a high market share of SFSCs</i>
Conditions	Structural social capital	<i>FLAG areas with high structural social capital</i>
	Normative-cognitive social capital	<i>FLAG areas with high normative-cognitive social capital</i>
	Network governance social capital	<i>FLAG areas with high network governance social capital</i>
	Absolute fisheries dependency	<i>FLAG areas with a high absolute dependency on fisheries</i>
	Relative fisheries dependency	<i>FLAG areas with high relative dependency on fisheries</i>
	Reflexive localism	<i>FLAG areas with high reflective localism (proximity)</i>

Secondary data on the FLAG and its territory—including population, surface area, the makeup of the fishing fleet and sector, and the FLAG’s strategic objectives—were also used to reduce the information required from the primary data collection. This draws from the data collected, compiled and analysed by the author of this thesis on behalf of the FARNET Support Unit (see section 3.4). The locations of the FLAGS that comprise the sample are illustrated in Figure 8.

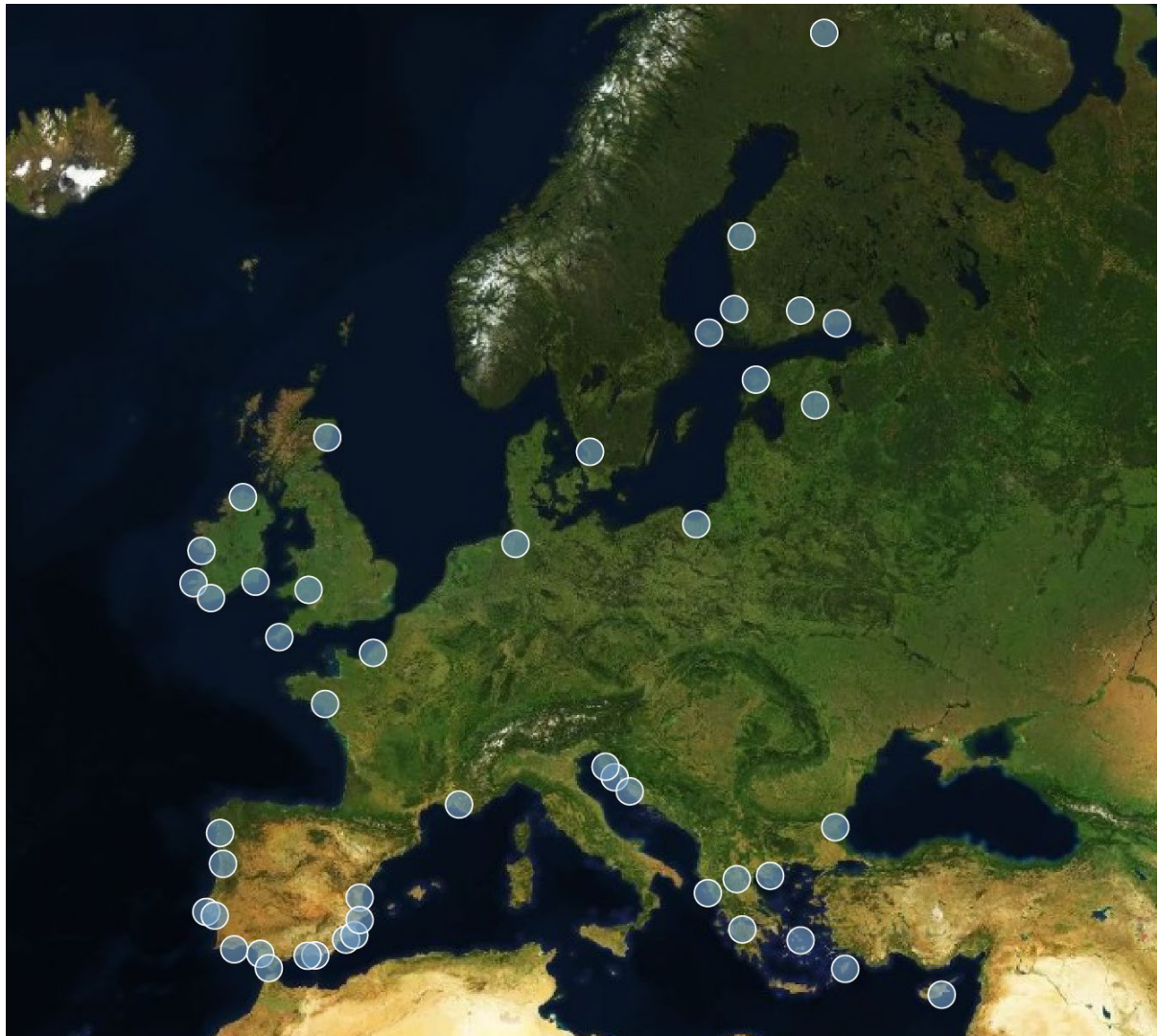


Figure 8: Approximate location of FLAG areas in the sample

6.3.2 Measures

Seven fsQCA variables were used in the present study, including one outcome variable and six causal conditions (Table 17). The outcome variable used was the market share of SFSCs in a FLAG area, measured using the percentage of seafood landed in the FLAG's territory being sold through SFSCs. This percentage was estimated by the FLAG managers. In the survey, SFSCs were defined as supply chains operational within a 100 km radius of the landing or production source (in the case of aquaculture). The survey emphasised that only supply chains for food were to be considered, excluding supply chains for other markets including pharmaceuticals and fish used for aquaculture feed. Respondents also identified the types of SFSCs operational in their FLAG areas (i.e., local fish markets, home deliveries, local festivals

and events, box schemes, consumer cooperatives, local shops, fishmongers, restaurants and catering institutions, and local tourism enterprises). The six conditions used in the analysis were the three types of social capital (structural, normative-cognitive, and network governance), fisheries dependency (absolute and relative), and reflexive localism.

Social capital in the present study was broken down into its three main types which were measured separately (see Table 17). The sub-dimensions of each social capital type were measured using an adaptation of Pisani *et al*'s (2017) framework of indicators used to assess social capital in LEADER LAGs, modified slightly to the fisheries and aquaculture context.

Table 17: Summary of social capital types and sub-dimensions measured

Social capital type	Sub-dimensions
Structural	Relational properties – how and why new connections are created, and their benefits Network members – number and types of members in the network Structure (horizontal) – ties between actors or groups with similar resources, functions, and power Accessibility and transparency – extent to which the network and its benefits are accessible to all potential actors
Normative-cognitive	Trust – interpersonal trust between actors Quality of the network – effective and efficient information sharing, cognition, and reputation Quality of participation – composition of group and meetings, rate of attendance, expression of opinion Shared values – shared cultural norms, traditions, and practices
Network governance	Structure (vertical) – ties between actors or groups with varying resources, functions, and power; links to external bodies Decision-making processes – how decisions are taken, implemented, and put into force Efficiency and effectiveness – as an organisation and its wider integration in the territory Organisational culture and capacity – culture of learning, enabling knowledge transfer, collaboration, and growth

(Sources: Nahapiet and Ghoshal, 1998; Krishna and Shrader, 2002; Franke, 2005; Pisani *et al.*, 2017)

Absolute fisheries dependency is a measure of a territory's dependency on fisheries as a primary sector. This includes areas with high fisheries employment, significant fisheries catch (tonnes), high added value, and a well-developed infrastructure in relation to harbours, local markets, and processing. In contrast, *relative fisheries dependency* is a measure of the area's comparative dependency in relation to other economic and social factors, such as the extent to

which there is a well-balanced regional economy with substantial opportunities outside of fisheries, diversification of fisheries activities into other sectors, and levels of market concentration in the fisheries sector. Adapted from the conceptual framework of Phillipson and Symes (2015), absolute and relative fisheries dependency were measured on a five-point Likert-type scale.

Reflexive localism is a measure of proximity between local actors. In the present study, proximity relates to food systems and the distance between producers and consumers in terms of space, attitudes, and perceptions of food systems in a given territory. Drawing on DuPuis and Goodman (2005) and DuPuis *et al.* (2006), reflexive localism was measured using a six-item scale, answered on a five-point Likert scale with items ascertaining the proximity between actors in the FLAG area, and their orientation towards seeking alternatives to mainstream and globalised fisheries supply chains.

6.3.3 Data treatment

6.3.3.1 Data normalisation

To evaluate social capital in FLAG areas, the three forms of social capital – structural, normative-cognitive, and relational – were used as conditions in the study. The theoretical concepts which underpin each of the social capital types were broken down into sub-dimensions and subsequently transformed into variables allowing for the construction of a series of indicators. Each of the indicators used in the survey has a specific range and is tied to a scale of measurement. For example, several Likert-type scales are used with a range [0-5], while some measurements such as the percentage of local seafood that is consumed locally through SFSCs were taken with a range [0-100]. Only after normalisation is a comparison made between these variables (see Table 18). The addition of fuzzy-sets in QCA allows for the exploration of how case-by-case membership in causal conditions relates to their membership in an outcome (Woodside, 2013). A key feature of fsQCA is the capacity to model conjunctural causation (Woodside, 2013): in other words, the ability to model combinations of conditions as the cause of an outcome rather than one condition alone. Furthermore, fsQCA offers the potential to capture equifinality, in that more than one combination of the causal conditions may give the same outcome (Fiss, 2011). In addition, fsQCA allows for the analysis of small-

n datasets (15–50 cases), which permits this study to analyse a smaller sample of 46 FLAGs (Greckhamer, Misangyi and Fiss, 2013).

Table 18: Composite indices of social capital dimensions for the FLAG sample

FLAG Case	Structural SC	Normative Cognitive SC	Network Governance SC
1	0.67	0.49	0.28
2	0.44	0.27	0.83
3	0.78	0.30	0.93
4	0.04	0.04	0.04
5	0.89	0.95	0.83
6	0.35	0.49	0.85
7	0.23	0.50	0.31
8	0.23	0.12	0.40
9	0.14	0.45	0.27
10	0.20	0.95	0.34
11	0.12	0.68	0.33
12	0.13	0.13	0.08
13	0.74	0.59	0.49
14	0.49	0.83	0.91
15	0.43	0.59	0.47
16	0.63	0.87	0.87
17	0.87	0.92	0.88
18	0.89	0.92	0.95
19	0.74	0.26	0.93
20	0.96	0.64	0.95
21	0.75	0.67	0.86
22	0.12	0.06	0.27
23	0.58	0.06	0.25
24	0.43	0.95	0.47
25	0.75	0.67	0.86
26	0.20	0.95	0.34
27	0.13	0.13	0.08
28	0.07	0.08	0.18
29	0.63	0.87	0.87
30	0.89	0.95	0.88
31	0.44	0.27	0.83
32	0.67	0.47	0.28
33	0.20	0.04	0.03
34	0.12	0.68	0.33
35	0.78	0.45	0.85
36	0.24	0.50	0.32
37	0.23	0.12	0.40
38	0.87	0.49	0.28
39	0.74	0.27	0.83
40	0.49	0.30	0.93
41	0.87	0.04	0.04
42	0.74	0.95	0.83
43	0.07	0.49	0.85
44	0.58	0.50	0.31
45	0.20	0.12	0.40
46	0.89	0.45	0.27

6.3.3.2 Data calibration

The critical step of fsQCA is the calibration of the data used (Ragin, 2008). Considering fuzzy sets as groups of cases, the process of calibration defines the degree to which a FLAG case belongs to each set (i.e. a group of FLAGS with a similar score for a causal condition: for example, all FLAGS with a high degree of structural social capital). The outcome variable is also considered as a set (i.e. the group of FLAGS with high market share of SFSCs being present in the area). In fsQCA, the degree to which a case is “in” or “out” of a set is referred to as *membership*. To determine the set membership of each FLAG case, the direct method of fsQCA data calibration was used to transform the data into comparable values between 1 and 0. In the direct method of calibration, three qualitative breakpoints (or thresholds) are used to define the level of membership of each case (Fiss, 2011). The present study used the typical values for these breakpoints, which are 0.95, 0.50 and 0.05 (Greckhamer *et al.*, 2018).

To establish the three qualitative breakpoints (thresholds), percentiles were used to allow for the calibration of any measure regardless of its original value (Greckhamer *et al.*, 2018). As several different measurement types were used in the present study, for example Likert-type scales with a range [0-5] and percentages [0-100], the data was calibrated to form comparisons through the fsQCA on a common scale [0-1]. After the data calibration process, the main analysis, called a *truth table solution*, was performed. In fsQCA a *truth value* is attached to a statement instead of a probability (Ragin, 2008). For example, the variable representing structural social capital can be coded as “high structural social capital”, and in the analysis we look for the presence or absence of the condition high structural social capital.

The main output from an fsQCA, the *truth table*, documents truth values as to how the causal conditions combine when the outcome of interest occurs (Ragin, 2008). In other words, the truth table shows which variables have a high number of FLAG cases, and where a combination of these variables with a high number of cases consistently leads to the outcome of interest, i.e., SFSCs having a high market share. The truth table is then used to compute simplified solutions to the fsQCA. A “solution” refers to a combination of variables that is supported by a high number of FLAG cases for which the configuration of variables consistently leads to the outcome of interest.

Two key measures assess the robustness of fsQCA: the model's *overall solution consistency* and its *overall solution coverage*. The *overall solution consistency* ranges from 0 to 1 and refers to the number of cases within any given configuration that are also in the outcome set (Greckhamer *et al.*, 2018). In the present study we report an overall solution consistency of 0.891, meaning that there is high consistency between FLAG cases within each of the causal configurations.⁹ The overall solution coverage in fsQCA is comparable to the R-squared value reported in regression-based analyses (Woodside, 2013). In the present study the results indicate an overall solution coverage of 0.796, which indicates that a substantial proportion of the outcome of interest is covered (i.e., explained) by the fsQCA solutions. Put plainly, the causal combinations of the variables used in the study are associated with the outcome of interest: a high market share of SFSCs being present in the FLAG area.

In Table 19, the set membership values for the outcome and conditions are reported for each FLAG case used in the study. In an unmodified fsQCA analysis, cases with a value of 0.50 are automatically dropped from the analysis. The exclusion of cases with a value of 0.50 makes it difficult to analyse cases with a set membership exactly on the mid-point threshold. As several of the data in the present study were exactly on the 0.50 threshold, to overcome issues analysing the intermediate-set membership of cases, a constant of 0.001 was added to every set membership (Fiss, 2011). The constant was added after the calibration process to all values below the full membership score of 1.

⁹ In fsQCA, the acceptable overall solution consistency threshold is >0.800 (Passas and Woodside, 2021).

Table 19: Calibrated data values by case

Case	Structural SC	Normative Cognitive SC	Network Governance SC	Reflexive Localism	Absolute Dependency	Relative Dependency	SFSCs (Outcome)
1	0.791	0.481	0.191	0.931	0.501	0.501	0.341
2	0.411	0.181	0.901	0.851	0.501	1.001	0.501
3	0.901	0.211	0.951	0.341	0.131	0.501	0.051
4	0.041	0.041	0.041	0.221	0.111	0.731	0.341
5	0.951	0.951	0.901	0.701	0.171	0.731	0.691
6	0.271	0.481	0.911	0.951	0.501	0.501	0.951
7	0.141	0.501	0.231	0.781	0.941	0.951	0.051
8	0.141	0.071	0.351	0.041	0.501	0.231	0.571
9	0.081	0.421	0.181	0.501	0.311	0.141	0.901
10	0.111	0.951	0.261	0.611	0.811	0.951	0.341
11	0.071	0.771	0.251	0.131	0.261	0.231	0.951
12	0.071	0.081	0.061	0.071	0.131	0.081	0.071
13	0.871	0.651	0.501	0.341	0.501	0.881	0.871
14	0.501	0.901	0.941	0.501	0.501	0.001	0.071
15	0.391	0.651	0.471	0.701	0.031	0.001	0.951
16	0.741	0.921	0.921	0.341	0.771	0.881	0.571
17	0.951	0.941	0.931	0.701	0.961	0.991	0.951
18	0.951	0.941	0.951	0.891	0.881	0.501	0.501
19	0.871	0.171	0.951	0.501	0.261	0.051	0.051
20	0.971	0.721	0.951	0.131	0.771	0.001	0.071
21	0.881	0.761	0.921	0.611	0.671	0.731	0.571
22	0.071	0.051	0.181	0.341	0.811	0.051	0.501
23	0.661	0.051	0.161	0.341	0.651	0.141	0.051
24	0.391	0.951	0.471	0.951	0.031	0.991	0.951
25	0.881	0.761	0.921	0.611	0.671	0.731	0.571
26	0.111	0.951	0.261	0.611	0.811	0.951	0.341
27	0.071	0.081	0.061	0.071	0.131	0.081	0.071
28	0.051	0.061	0.111	0.341	0.771	0.051	0.501
29	0.741	0.921	0.921	0.341	0.771	0.881	0.631
30	0.951	0.951	0.931	0.951	0.501	0.501	0.501
31	0.411	0.181	0.901	0.851	0.501	1.001	0.501
32	0.791	0.481	0.191	0.071	0.501	0.501	0.341
33	0.111	0.041	0.041	0.221	0.111	0.731	0.291
34	0.071	0.771	0.251	0.931	0.261	0.731	0.951
35	0.901	0.421	0.911	0.951	0.501	1.001	0.961
36	0.141	0.501	0.231	0.781	0.941	0.951	0.051
37	0.141	0.071	0.351	0.041	0.501	0.231	0.571
38	0.951	0.421	0.181	0.891	0.311	0.141	0.921
39	0.871	0.651	0.501	0.341	0.501	0.881	0.871
40	0.501	0.901	0.941	0.501	0.501	0.001	0.071
41	0.951	0.941	0.901	0.931	0.961	0.991	0.951
42	0.871	0.171	0.951	0.501	0.261	0.051	0.051
43	0.051	0.721	0.951	0.131	0.771	0.001	0.071
44	0.661	0.051	0.161	0.341	0.631	0.141	0.071
45	0.111	0.421	0.931	0.341	0.131	0.991	0.051
46	0.951	0.941	0.901	0.701	0.171	0.731	0.721

(Processed using fsQCA 3.0)

To define which values in the dataset corresponds to these thresholds, percentiles were used to allow for the calibration of any measure regardless of its original value (see Table 20). As several different measurement types were used in the present study, for example Likert-type scales with a range [0-5] and percentages [0-100], the direct method of data calibration was required to form comparisons through the fsQCA on a common scale [0-1]. After the data calibration process, the main analysis was performed; this is called a *truth table solution*. In contrast to traditional methods, in fsQCA a *truth value* is attached to a statement instead of a probability. For example, the variable representing structural social capital can be coded as “high structural social capital”, and in the analysis we look for the presence or absence of the condition “high structural social capital”. The main output from an fsQCA, the *truth table*, lists these truth values and how they combine and meet specified criteria in ways that allow the outcome of interest to occur. In other words, the truth table shows which variables have a high number of FLAG cases, and where a combination of these variables with a high number of cases consistently leads to the outcome of interest, which is that a high degree of SFSCs are present in the area.

Table 20: Establishing set membership thresholds using percentiles

		SFSCs	Structural SC	Normative-Cog SC	Network Governance SC	Reflexive Localism	Absolute Dependency	Relative Dependency
<i>N</i>	Valid	46	46	46	46	46	46	46
	Missing	0	0	0	0	0	0	0
Mean		32.17	.4924	.5224	.5735	3.170	3.191	3.1459
Median		25.00	.4900	.5000	.4900	3.000	3.000	3.13
Std. Deviation		28.136	.29622	.31226	.31529	.6811	.5902	.76946
Skewness		.722	.032	-.104	-.173	.383	-1.322	-.075
Percentiles	5	2.00	.0700	.0470	.0540	2.200	1.640	1.7205
	20	5.00	.1640	.1300	.2700	2.680	2.840	2.3800
	50	25.00	.4900	.5000	.4900	3.000	3.300	3.1300
	80	68.00	.7800	.9000	.8800	3.920	3.600	3.7500
	95	80.00	.8900	.9500	.9500	4.400	4.000	4.6625

The truth table is then used to compute simplified solutions to the fsQCA. A “solution” refers to a combination of variables that is supported by a high number of cases in the analysis in which this configuration leads consistently to the outcome (Ragin, 2008). In the truth table, each row represents a single case, with the presence of a condition denoted by a 1 and its absence by a 0 (Pappas and Woodside, 2021), as reported in Table 21. Each row in the table

includes the number of cases (or frequency) explained by the configuration;¹⁰ the raw consistency breakpoint values of 0.835–0.869 are highlighted in bold text.

Table 21: fsQCA truth table

Structural	Normative-Cognitive	Network Governance	Reflexive Localism	Absolute Dependency	Relative Dependency	Cases	SFSCs	Raw Consistency	PRI Consistency	SYM Consistency
0	1	0	1	0	0	1	1	1.000	1.000	1.000
0	1	0	0	0	0	1	1	0.995	0.985	0.985
0	1	0	1	0	1	2	1	0.992	0.976	0.976
1	1	1	1	0	1	2	1	0.966	0.903	0.906
1	1	1	1	1	1	6	1	0.953	0.880	0.901
1	1	1	0	1	1	4	1	0.932	0.775	0.824
1	0	1	1	1	1	1	1	0.909	0.720	0.720
0	0	0	1	0	0	1	1	0.882	0.644	0.644
1	0	0	0	1	1	1	1	0.874	0.511	0.511
1	0	0	1	1	1	1	1	0.871	0.553	0.553
0	0	1	1	1	1	3	1	0.869	0.559	0.559
1	0	1	0	0	1	1	0	0.846	0.432	0.432
1	0	0	1	0	0	1	1	0.835	0.552	0.552
0	0	0	0	1	0	4	0	0.830	0.361	0.453
0	0	1	0	0	1	1	0	0.820	0.251	0.251
0	0	0	0	0	1	2	0	0.785	0.194	0.210
1	1	1	1	1	0	2	0	0.782	0.229	0.229
0	1	0	1	1	1	4	0	0.714	0.226	0.226
1	0	1	1	0	0	2	0	0.702	0.307	0.307
0	0	0	0	0	0	2	0	0.700	0.315	0.315
1	0	0	0	1	0	2	0	0.694	0.052	0.052
1	1	1	0	1	0	1	0	0.649	0.038	0.038
0	1	1	0	1	0	1	0	0.636	0.151	0.151

(Processed using fsQCA 3.0)

6.4 Results

6.4.1 Overview of marketing channels and social capital

All 46 FLAGs reported that SFSCs are present in their areas with, on average, 32% of locally landed fish sold through SFSCs (standard deviation = 0.28). On average, FLAGs reported that

¹⁰ Consistency values (raw, PRI and SYM) are reported in Appendix 3. The fsQCA raw consistency breaking point threshold sits within the region of 0.871 and 0.830. PRI consistency values were accepted at >0.50. The overall consistency threshold used in the analysis was set at 0.80, consistent with that used in the vast majority of fsQCA studies (Pappas and Woodside, 2021).

the amount of locally landed fisheries produce being sold through SFSCs over the past 10 years has increased by 61%. The most frequent SFSC types across the FLAGs surveyed are local fish markets (41%), local shops and restaurants (43%), dedicated retailers and fishmongers (39%), and local festivals and events (34%). Across the sample, there is a relatively low fisheries market concentration ($HHI = 1263$,¹¹ indicating high competition amongst producers). On average, the FLAGs indicated that 71% of fishers in their area are small-scale (i.e. using vessels under 10 metres in length). Of the FLAG managers surveyed, 43 (93%) have been in position for at least one year, and 29 for at least four years (63%).

After data normalisation (i.e. conversion to a common scale of 0-1), the mean combined social capital reported by the FLAGs was 0.58 ($SD = 0.21$) indicating that FLAG managers perceive generally high social capital in their areas. However, across the sample, social capital varied by type. FLAGs reported their territories to have higher network governance social capital (mean = 0.64, $SD = 0.20$), compared to normative-cognitive ($M = 0.60$, $SD = 0.11$), and structural social capital ($M = 0.49$, $SD = 0.30$). FLAG managers believe that absolute dependency on fisheries is not ubiquitous in FLAG areas (score of 0.53, $SD = 0.14$). Relative fisheries dependency is on average only slightly higher, but with a greater standard deviation ($M = 0.54$, $SD = 0.20$). Finally, reflexive localism across the areas surveyed scored on average 0.52 ($SD = 0.15$).

6.4.2 *fsQCA*

Table 22 reports the results from the fsQCA, indicating seven solutions (i.e., seven combinations of causal conditions that lead to the outcome of FLAG areas with a high market share of SFSCs). To present the results in an accessible way, fsQCA standard practice is to visualise the presence of a condition in a solution using a solid black circle (●), and the absence of a condition using a circle with a '×' (⊗). In fsQCA, the absence of a condition is as important as the presence of a condition (Fiss, 2011). For example, for the presence of a causal condition (e.g., high normative-cognitive social capital) to lead to a particular outcome (e.g. a high market

¹¹The Herfindahl–Hirschman Index (HHI) was used to ascertain market concentration in the FLAG areas. The HHI ranges from 0 to 10,000, with a lower score indicating a more competitive market.

share of SFSCs in a FLAG area), the absence of another condition (e.g., high absolute fisheries dependency) may be required.

The most important conditions – those that exhibit a strong relationship with the outcome – are indicated with a large circle. These important conditions are referred to as “core conditions” (Fiss, 2011). Conditions which exhibit a weak connection with the outcome are indicated with a small circle. Such cases are referred to as “peripheral conditions” (Fiss, 2011). Peripheral conditions, while their connection to the outcome of interest is weaker than that of core conditions, are still important to any given solution in the fsQCA. Finally, a blank space in the table signifies a condition that may be either present or absent from the configuration; in other words, the condition does not play a role in the specific configuration. In fsQCA, such cases are typically referred to as the “do not care” condition (Fiss, 2011).¹²

¹² Core conditions are present in both the parsimonious and intermediate solutions of the fsQCA, both of which were considered in the present study. Peripheral conditions are only present in the intermediate solution, which is a simplified subset of the parsimonious solution obtained through a counterfactual analysis. For a detailed and mathematically justified description of the steps in a counterfactual analysis see Mendel and Korjani (2012).

Table 22: fsQCA findings

Configuration	Solution						
	1	2	3	4	5	6	7
Social Capital							
Structural	●	●	●		⊗	⊗	
Normative-Cognitive	•	•	⊗	⊗	●	●	⊗
Network Governance	●	●	⊗	●	⊗	⊗	⊗
Territorial Factors							
Absolute Dependency	●		●	●	⊗	⊗	⊗
Relative Dependency	●	●	●	●		⊗	⊗
Reflexive Localism		•		•	•		●
Consistency	0.922	0.951	0.855	0.890	0.994	0.995	0.871
Raw Coverage	0.430	0.437	0.182	0.251	0.241	0.201	0.221
Unique Coverage	0.048	0.047	0.012	0.043	0.035	0.028	0.052
<i>Overall solution consistency</i> <i>0.891</i>							
<i>Overall solution coverage</i> <i>0.796</i>							

Explanation: Solid black circles (●) indicate the presence of a condition, and circles with a '×' (⊗) indicate the absence of such condition. Large circles indicate a core condition, and small circles indicate a peripheral condition. Blank space indicates the “do not care” condition.

The seven combinations are presented in Table 4. Solutions 1 and 2 indicate combinations with the presence of structural and network governance social capitals in the presence of high relative fisheries dependency as core conditions, highlighting the importance of these factors.

In solution 1, the combination of structural and network governance social capitals with high relative and absolute fisheries dependency as core conditions (i.e., the conditions are present in the FLAG cases included in this solution) and normative-cognitive social capital as a peripheral condition lead to the outcome regardless of the level of reflective localism in the area.

Solutions 1 and 2 are the only two solutions where two types of social capital (structural and network governance) work in combination. In solution 1, both high absolute and high relative fisheries dependency are present as core conditions. The only change in solution 2 is the ‘do not care’ condition for absolute fisheries dependency, meaning that its presence in the solution is irrelevant (Woodside, 2013). This indicates a greater importance of relative fisheries

dependency in FLAG areas with higher degrees of structural and network governance social capitals.

Solutions 3 and 4 are similar to solution 1 but with only one social capital type present as a core condition. In solution 3, structural social capital is a core condition, and in solution 4 network governance is a core condition, indicating that these social capital types can work both in combination and independently in the presence of both absolute and relative fisheries dependency.

Solutions 5 and 6 show normative-cognitive to be the only social capital type that leads to the outcome, without the presence of any other core conditions. In both solutions, structural and network governance social capitals are peripheral absent conditions. In solution 5, absolute fisheries dependency is a peripheral absent condition and relative fisheries dependency is a “do not care” condition. In solution 6, both absolute and relative fisheries dependency are core absent conditions. These results indicate that normative-cognitive social capital leads to the outcome with or without the presence of absolute or relative fisheries dependency in a FLAG area.

Solution 7 is the only combination leading to the outcome in the absence of all three types of social capital, as well as the absence of both fisheries dependency types. Here, reflexive localism as a core condition alone leads to the outcome. In other words, reflexive localism alone is sufficient in leading to the outcome.

The results indicate that territorial characteristics are important to the presence of SFSCs in an area. Solutions 1-4 reveal how different types of social capital work in combination with an area that has a dependency on fisheries. Solutions 5 and 6 are contexts in which SFSCs are developed through social capital without the presence of either absolute or relative fisheries dependency. In solution 5, normative-cognitive social capital leads to a high degree of SFSCs in FLAG areas in the absence of (i) structural social capital, (ii) network governance social capital and (iii) absolute fisheries dependency, with (iv) the peripheral presence of reflexive localism. Similarly, in solution 6, normative-cognitive social capital acts alone as the only social capital type, with absolute and relative fisheries dependency being core absent

conditions (i.e., the absence of both fisheries dependency types has a strong causal connection to the outcome in this solution).

6.5 Discussion and conclusions

Using an fsQCA approach, the present study sheds light on how specific types of social capital impact upon the presence of higher degrees of SFSCs in FLAG areas, and therefore provides insight into how FLAGs might look to create the conditions in which SFSCs are more likely to flourish. It also identifies how these different types of social capital work in combination with each other, as well as other key territorial factors such as levels of fisheries dependency and local perceptions towards more localised supply chains (reflexive localism).

A key finding is that several combinations of the conditions used in the present study can make it more likely that SFSCs are present in a given FLAG area. That is, there is no one solution to the creation of SFSCs, and several combinations of social capital types can lead to higher degrees of SFSCs in an area.

However, normative-cognitive social capital is the only social capital type that can operate independently without the presence of any other causal conditions. This highlights the important role FLAGs should play in developing trust in their territories, which is a widely noted prerequisite to the creation of SFSCs (Kneafsey *et al.*, 2008). Normative-cognitive social capital is the least tangible side of social capital, and it can often fill in the missing links and gaps in structural and governance social capital (Krishna and Shrader, 2002). The dimensions of normative-cognitive social capital (i.e., quality of the network, quality of participation in the network, and shared values within the network) emphasise the importance of FLAGs in bringing multiple stakeholders in an area together in creating SFSCs. Normative-cognitive social capital also leads to the presence of SFSCs when combined with reflexive localism. While the two conditions have parallels, reflexive localism is a measure of the existence of positive perceptions towards more localised supply chains in an area, and a common drive towards local initiatives. Reflexive localism is the only other variable which works independently in increasing the degree to which SFSCs are present in a FLAG area.

The results suggest that structural and governance social capital can both work independently of other social capital types. However, it seems that these forms of social capital may rely on the presence of other causal conditions to strengthen SFSCs in a FLAG territory. While both can operate as the *only* form of social capital present, they each rely on the presence of absolute and relative fisheries dependency in an area for more substantial SFSCs to occur. In the case of governance social capital, the peripheral presence of reflexive localism is also required. This suggests that social capital through governance has the least impact on the presence of SFSCs. In other words, governance, while important to several solutions, is the type of social capital most dependent on other causal conditions (i.e., in three of the seven solutions).

In some settings, all three types of social capital lead to stronger SFSCs. Here, the results of the current research suggest that a high relative fisheries dependency may be a prerequisite. That is, all three social capital types work in combination with the presence of a regional economy with significant opportunities outside of fisheries, high diversification, low market concentration in the fisheries sector, and a dependence on mainly small-scale fishing enterprises.

6.6 Summary

In summary, the fsQCA presented in this chapter examines how specific types of social capital influence the presence of higher degrees of SFSCs in FLAG areas and offers insights into the conditions required to foster the development of SFSC. Equifinality is established, suggesting diverse pathways to the presence of SFSCs. In other words, the findings reveal that various combinations of conditions contribute to SFSC presence, underlining the absence of a one-size-fits-all solution. Structural and governance social capital can operate independently as a social capital type but require specific territorial conditions to strengthen SFSCs. Notably, normative-cognitive social capital emerges as a significant independent factor, indicating the pivotal role of trust-building by FLAGs in developing SFSCs. Thus normative-cognitive social capital is further explored in the following chapter on producer willingness to participate in SFSCs.

Chapter 7. Fisheries producers, social capital and willingness to participate in short food supply chains – Results

7.1 Introduction

Chapter 7 presents the results from the second phase of the research on normative-cognitive social capital, producer characteristics, and willingness to participate in SFSCs. The research explores these factors across a sample of 151 fisheries and aquaculture producers across the UK and EU. Following an overview of the theoretical framework for the study in section 7.2, the data and methods are presented in section 7.3 before the results are analysed in section 7.4. Finally, the results are discussed, and conclusions are drawn in section 7.5.

7.2 Theoretical framework

This study aims to answer the research question: What are the key challenges to fisheries and aquaculture producers engaging with fisheries SFSCs? This research question can be translated into three new sub-questions. First, what barriers restrict producer willingness to participate in SFSCs? Second, how does normative-cognitive social capital influence producers' willingness to participate in SFSCs? And third, what are the key personal traits needed by producers in order to successfully operate in SFSCs? To gain insight into these research questions, this study examines the willingness of fisheries producers to participate in SFSCs in connection to key sub-dimensions of normative-cognitive social capital, and the producers' personal traits.

The focus of the present research is to analyse the ways in which producers interact with each other and with other supply chain actors in their areas. This is done through an analysis of social capital, which in short refers to 'connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them' as argued by Putnam (2000, p. 11).

To recap chapter 2, while Putnam's arguments centred around civil engagement and governmental trust, concepts of social capital theory are central to neo-endogenous approaches to territorial development (Shucksmith, 2000; Ray, 2001; Ray, 2006). Such work highlights the need to build relationships, social networks and trust among local actors in order to

successfully achieve socio-economic outcomes within an area, with SFSCs being one illuminating example.

As discussed in chapter 4, SFSCs are based on an alternative form of social and economic organisation, which is influenced by group norms (Charatsari *et al.*, 2018). While the majority of research on SFSCs is grounded in a farming context (Venn *et al.*, 2006; Kneafsey *et al.*, 2008; Kneafsey *et al.*, 2013; Enthoven and Van den Broeck, 2021), many of the key theoretical concepts such as social capital theory are transferable to fisheries – particularly in their potential to deliver socio-economic benefits to fisheries producers, other community actors, and local consumers (Chiffolleau *et al.*, 2019). From the most basic forms of SFSCs (e.g. direct sales of food products from a producer to a single buyer) to the more complex SFSCs (e.g. groups of producers producing and distributing goods to consumers who do not belong to the same community), all SFSCs rely on some form of networking within and between groups or among individuals (Charatsari, Kitsios and Lioutas, 2020). Important to this networking and the development of SFSCs is normative-cognitive social capital, which refers to the norms and values within a network (or community) and how they strengthen ties, connections and cooperation (Da Re, Castiglione and Burlando, 2017).

While normative-cognitive social capital is often considered the least tangible side of social capital, as highlighted in chapter 6, it is potentially the most applicable social capital type in influencing the development of SFSCs in fisheries areas. From an individual perspective (i.e. a single actor), normative-cognitive social capital is associated with perceptions of trust, connection, closeness, collaboration – and to a lesser extent, conflict – within a group, community or social organisation (Pisani, 2017). Factors of normative-cognitive social capital such as closeness (Ilbery and Maye, 2006; Kebir and Torre, 2013), social cohesion (i.e. connectedness amongst actors) (Taylor, 2005; Smith *et al.*, 2016), trust (Stevenson and Pirog, 2008; Heiss *et al.*, 2015; Pisani *et al.*, 2017), and collaboration (León-Bravo *et al.*, 2017), are not only *outcomes* but also important *prerequisites* for the sustainability of SFSCs, as well as producers' willingness to participate in them (Charatsari *et al.*, 2018). Therefore:

[P1] *For fisheries producers, the sub-dimensions of normative-cognitive social capital of trust (i), connectedness (ii), closeness (iii), and collaboration (iv) are associated with increased willingness to participate in SFSCs.*

Willingness to participate in SFSCs may be stimulated by both social and personal factors (Charatsari, Kitsios and Lioutas, 2020). While group norms and social capital are important to the development of SFSCs, an equally important consideration is that of the individual traits of the actors involved, particularly when analysing business and economic relationships. Capacities and behavioural competencies can help individuals succeed professionally and personally (Mulder, 2017). Individual competencies have been shown to predict professional performance (Johari *et al.*, 2022), and professional involvement and engagement (Kong, 2013). As fisheries producers are largely self-employed (FAO, 2020), the entrepreneurial orientation of the individual can also play an important role in both social and economic interactions (Charatsari, Kitsios and Lioutas, 2020), particularly when engaging in SFSCs, which often involve entrepreneurial ventures towards diversifying and increasing incomes (Migliore *et al.*, 2015). Furthermore, social ties may influence an individual's entrepreneurial orientation and vice versa (Luu and Ngo, 2019), with some researchers arguing that social capital might even be essential to entrepreneurial orientation (Rodrigo-Alarcón *et al.*, 2018).

The literature on social capital within entrepreneurship research has become prominent in recent years (e.g., García-Villaverde *et al.*, 2018; Rodrigo-Alarcón *et al.*, 2018; Hernández-Carrión, Camarero-Izquierdo and Gutiérrez-Cillán, 2020; Sahasranamam and Nandakumar, 2020), with many studies focusing on the individual entrepreneurial orientation (IEO) approach (Jiang *et al.*, 2018; Basco, Hernández-Perlines and Rodríguez-García, 2020; Kollmann *et al.*, 2021). IEO can be considered across three main factors: risk-taking, innovativeness, and proactiveness (Bolton and Lane, 2012). Risk-taking is a “willingness to undertake tasks with uncertain outcomes” (Covin *et al.*, 2020, p. 3). Innovativeness relates to activities that are exploratory in dealing with something new and unknown (Kraus *et al.*, 2019). Finally, proactivity refers to identifying new possibilities and opportunities (Ferreira *et al.*, 2017), particularly in advance through detecting emerging trends or new situations (Kraus *et al.*, 2019). The literature on IEO suggest that the attributes of risk-taking, innovativeness and proactiveness give reliable results when examining IEO, indicating how successful an individual might be as an entrepreneur (Covin *et al.*, 2020). While research is growing on the

connection between social capital and IEO, however, there has been little attention to how these connections affect willingness to participate in SFSCs, particularly in a fisheries context. Therefore:

[P2] *For fisheries producers, the sub-dimensions of individual entrepreneurial orientation of risk-taking (i), innovativeness (ii), and proactiveness (iii) are associated with increased willingness to participate in SFSCs.*

The remainder of this chapter is structured as follows. In the following section the materials and methods used are outlined, followed by the data analysis results in section 7.4, and the discussion in sections 7.5. Finally, conclusions are drawn, and implications are offered in section 7.6.

7.3 Data and methods

7.3.1 Research design

The research design chosen consists of a standardised electronic questionnaire to fisheries and aquaculture producers on their (i) personal traits, (ii) production activities, and (iii) integration within their local territory. The conceptual framework of the research design is the analysis of these factors in relation to the producers' willingness to participate in SFSCs. The rationale for each phase of the research design is detailed in the sections below.

7.3.2 Sample and data collection procedures

321 questionnaires in total were dispatched to active seafood producers in the EU via the Fisheries Areas Network (FARNET) and the Low Impact Fishers of Platform (LIFE). 222 questionnaires were returned, of which 151 were usable and contactable for follow-up semi-structured interviews. This gave a usable response rate (URR) of $151/321 = 47.04\%$. Data collection took place between October 2021 and March 2022, and on average the survey and follow-up interview took 52 minutes to complete. Subjects were recruited using a snowball

sampling method via an email request for participants, and the final sample of 151 included seafood producers from 11 EU Member States and the UK.¹³

The survey comprised three main sections. The first section focused on the activities of the seafood producers and their engagement with SFSCs. This included data on the types of SFSCs in which they engage, the species they catch and produce, and information related to their business. The second section of the survey concerned the area in which they operate, and their social capital. This included information related to normative-cognitive social capital, including shared values, trust, connectedness, closeness, collaboration and conflicts. Finally, the third section collected the demographics and personal traits of the subjects. The survey was professionally translated into four EU languages: Finnish, French, German, and Spanish. Individual translations and support were provided to subjects who did not receive the survey in their mother tongue.

Sample characteristics and demographics are reported in Table 23. Of the 151 producers, 91.15% were men. The mean age was 48.50 years ($SD = 9.15$) and the mean time working in the fisheries and aquaculture industry was 21.08 years ($SD = 10.69$). About one-third (29.80%) of the participants had no formal education, one-third (31.79%) were educated at secondary level, while 14.57% were educated at higher level (undergraduate degree or higher).

¹³ Data was collected during the UK's withdrawal from the EU. The UK FLAGs during this period remained operational and funded by the EMFF.

Table 23: Producer sample characteristics

Characteristic	Item	<i>N</i> = 151
Age	<i>M</i>	48.50
Gender	Male	91.10
	Female	9.90
Education	No formal education	29.80
	Secondary education	31.79
	Further education	23.84
	Undergraduate degree	10.60
	Postgraduate degree	3.97
Marital status	Single	9.27
	Married, or in a domestic partnership	74.17
	Divorced	12.58
	Separated	3.97
Industry experience	<i>M</i>	21.08
Household size	<i>M</i>	3.44
Number of children	<i>M</i>	1.78

The mean turnover of the producers surveyed was €331,940, of which they reported that SFSC sales accounted for a mean share of 38.01%. Producers reported an average added value of 23.40% for sales through SFSCs (see Table 24). The majority of the producers operate through wild capture fisheries (87.42%), while 7.95% operate as aquaculture producers. A small number of subjects operate across both wild capture and aquaculture fisheries (4.64%).

Table 24: Locations and fishery types of the producers in the sample

Country	Number of producers	Mean annual revenue (€)	Mean share through SFSCs (%)	Mean added value of SFSCs (%)
Denmark	1	100,000	30.00	50.00
Estonia	23	87,517	49.57	16.85
Finland	20	60,805	64.45	36.18
France	5	236,000	12.00	20.00
Germany	12	196,425	27.29	15.83
Greece	4	712,500	15.00	6.25
Ireland	20	205,000	11.50	5.00
Latvia	2	30,000	65.00	25.00
Portugal	7	122,143	59.29	25.71
Spain	10	1,059,300	27.50	35.00
Sweden	10	390,450	63.00	32.50
United Kingdom	37	783,145	31.50	12.43
Total	151	331,940	38.01	23.40

The majority of producers (84.11%) indicated that they are engaged in SFSCs. Of the 12.58% that are not engaged in SFSCs, most were based in the UK, Ireland and Greece (68.42%). These producers typically produced a single product with longer and predetermined supply chains; examples are mussel producers in Ireland and sea bream produced via aquaculture in Greece. Larger producers of prawns, *Nephrops* and squid in the UK made up a large proportion of producers not engaged in SFSCs (37.50% of producers not engaged in SFSCs).

The most prevalent SFSC types were direct harbour and dockside sales (59.46%), dedicated retailers and fishmongers (51.35%), and local restaurants (43.23%). 29.14% of the producers reported having a digital presence for their business, with 18.92% indicating that they sell through online orders, while 8.11% sell through mobile applications (apps). About two-thirds of the producers surveyed operated within a FLAG territory (69.53%). All the respondents completed questionnaire packets consisting of the dependent variable measures described in the next section.

7.3.3 Dependent variables

For all dependent variables, normality and multicollinearity were considered and tested for their ability to yield satisfactory results within common thresholds (Field, 2018). Convergent validity was confirmed using an exploratory factor analysis (EFA) with all items loading on their respective constructs as expected ($p < 0.001$), with standardised loadings above 0.830 (Table 25). The average variance extracted (AVE) by each factor exceeded the recommended 50% threshold (Fornell and Larcker, 1981).

Table 25: Exploratory factor analysis for study measures

Items	Loadings	α	Eigenvalue
<i>Willingness to participate in SFSCs</i>		0.96	2.782
I am willing to participate in short food supply chains	0.966		
I am interested in short food supply chains	0.963		
I would sell through short food supply chains	0.959		
<i>Individual entrepreneurial orientation</i>			
Risk-taking		0.88	2.431
I like to take bold action by venturing into the unknown	0.910		
I am willing to invest [...] that might yield a high return	0.922		
I tend to act “boldly” in situations where risk is involved	0.869		
Innovativeness		0.86	2.798
I often like to try new [...] activities that are not typical but not [...] risky	0.830		
In general, I prefer [...] unique, one-of-a-kind approaches [...]	0.842		
I prefer to try my own unique way when learning new things [...]	0.833		
I favour experimentation and original approaches to problem solving [...]	0.840		
Proactiveness		0.85	2.321
I usually act in anticipation of future problems, needs or changes	0.902		
I tend to plan ahead on projects	0.875		
I prefer to [...] get things going [...] rather than sit and wait [...]	0.861		
<i>Normative-cognitive social capital</i>			
Trust		0.87	2.865
There is a high capacity to keep agreements	0.879		
There is a high capacity to trust others	0.812		
There is high responsiveness and respect for the rule of law	0.840		
Capacity to avoid opportunistic behaviours or free riding	0.852		
Connectedness		0.80	2.157
The community makes me feel that I am a part of it	0.866		
I believe that others feel a special connection to me	0.851		
Others make me feel as an integral part of the community	0.826		
Closeness		0.89	2.469
I believe that other people in the community feel very close to me	0.908		
Most of the members of my community believe that they can trust me	0.920		
I feel that other members [...] believe that I am ‘of the same stuff’ as them	0.893		
Collaboration		0.87	2.399
Others ask me to take part in local initiatives	0.869		
Other members of the community want to collaborate with me	0.917		
Others ask me to take part in joint ventures	0.896		

Discriminant validity was confirmed since each factor's AVE was greater than the size of its squared correlation with all other constructs in the study. Unless otherwise mentioned, all measures were captured on five-point Likert scales. Five-point Likert scales were used to reduce information within the survey, for a clearer understanding of the questions being asked, and to reduce the amount of information translated into other languages (Bryman, 2016).

Willingness to participate in SFSCs was measured using a three-item scale borrowed from Charatsari *et al.* (2018): 'I am willing to participate in short food supply chains', 'I am interested in short food supply chains', and 'I would sell through short food supply chains' ($\alpha = .96$).

A ten-item scale borrowed from Bolton and Lane (2012) captured individual entrepreneurial orientation (IEO) across three factors. Risk-taking was measured using three items: 'I like to take bold action by venturing into the unknown', 'I am willing to invest a lot of time and/or money on something that might yield a high return', and 'I tend to act "boldly" in situations where risk is involved' ($\alpha = .88$). Innovativeness was measured via four items: 'I often like to try new and unusual activities that are not typical but not necessarily risky', 'In general, I prefer a strong emphasis in projects on unique, one-of-a-kind approaches rather than revisiting tried and true approaches used before', 'I prefer to try my own unique way when learning new things rather than doing it like everyone else does', and 'I favour experimentation and original approaches to problem solving rather than using methods others generally use for solving their problems' ($\alpha = .86$). Finally, Proactiveness was captured across three items: 'I usually act in anticipation of future problems, needs or changes', 'I tend to plan ahead on projects', and 'I prefer to "step-up" and get things going on projects rather than sit and wait for someone else to do it' ($\alpha = .85$).

As the scale for IEO comprised the three subscales of risk-taking, innovativeness and proactiveness, correlations between the subscales were tested to confirm construct validity. While the analysis of the IEO scale provides content and face validity using Cronbach's α and a EFA, it is the extent to which each of the IEO subscales correlate with each that establishes construct validity (Field, 2018). An analysis of the correlations between the subscales indicates construct validity and conforms to past research on IEO (e.g., Wiklund and Shepherd, 2003;

Wiklund and Shepherd, 2005; Stam and Elfring, 2008; Bolton and Lane, 2012). The correlations in Table 26 show that the IEO subscales of risk-taking, innovativeness and proactiveness also correlate with each other and with entrepreneurial tendency.

Table 26: Correlated matrix of validated constructs for entrepreneurial orientation

	1	2	3
1. Risk-taking subscale	1		
2. Innovativeness subscale	0.745**	1	
3. Proactiveness subscale	0.624**	0.720**	1

Note: **Correlation is significant at the 0.01 level (two-tailed)

Normative-cognitive social capital was measured across four subscales. The first was perceived trust among actors, which was measured using a four-item scale borrowed from Pisani *et al.* (2017): ‘There is a high capacity to keep agreements’, ‘There is a high capacity to trust others’, ‘There is high responsiveness and respect for the rule of law’, and ‘There is high capacity to avoid opportunistic behaviours or free riding’ ($\alpha = .87$). Connectedness was measured using three items borrowed from Charatsari *et al.* (2018): ‘The community makes me feel that I am a part of it’, ‘I believe that others feel a special connection to me’, ‘Others make me feel an integral part of the community’ ($\alpha = .80$). Closeness, also borrowed from Charatsari *et al.* (2018), was measured using three items: ‘I believe that other people in the community feel very close to me’, ‘Most of the members of my community believe that they can trust me, and ‘I feel that other members of the community believe that I am ‘of the same stuff’ as them ($\alpha = .89$). Finally, collaboration was measured over three items borrowed from Charatsari *et al.* (2018): ‘Others ask me to take part in local initiatives’, ‘Other members of the community want to collaborate with me’, and ‘Others ask me to take part in joint ventures’ ($\alpha = .87$).

An analysis of the correlations between the subscales confirms construct validity. The correlations in Table 27 show that the subscales of perceived trust, connectedness, closeness, and collaboration correlate with each other and with normative-cognitive social capital.

Table 27: Corelated matrix of validated constructs for normative-cognitive social capital

	1	2	3	4
1. Trust subscale	1			
2. Connectedness subscale	0.472**	1		
3. Closeness subscale	0.370**	0.662**	1	
4. Collaboration subscale	0.496**	0.260**	0.427**	1

Note: **Correlation is significant at 0.01 (two-tailed)

7.4 Data analysis and results

7.4.1 Data analysis procedure

Collected data were analysed using IBM SPSS version 28 and SmartPLS 4. Binary statistics and regression analyses were first used to test the research questions. To test which factors predict willingness to participate in SFSCs, a hierarchical regression analysis was used. In the first step, subjects' gender, age, education, and experience were entered to examine for moderating effects. The four dimensions of normative-cognitive social capital were added in step two.

In addition, to examine whether willingness to participate in SFSCs is associated with entrepreneurial orientation, the same hierarchical regression strategy was used. Again, gender, age, annual revenue and fisheries dependency (both absolute and relative) were entered in the first step as control variables. The three constructs for entrepreneurial orientation were then added as the second set of predictors. Finally, the four dimensions of normative-cognitive social capital were added in step three.

Finally, a series of regressions was conducted to examine which barriers to SFSCs are linked with lower willingness to participate in SFSCs amongst producers. Simple linear regressions were calculated to predict producers' willingness to participate in SFSCs based on typical barriers to SFSCs in the literature. A hierarchical regression strategy was again used to examine the moderating effects of demographics and producer traits.

7.4.2 Descriptive statistics and bivariate analysis

Bivariate analyses indicated no significant relationships between demographic variables or between demographics and production characteristics such as experience (i.e., years working as a fisher or aquaculture producer) and annual turnover. An interesting finding is that age correlates negatively with willingness to participate ($R = -0.23, p < 0.01$), showing that younger producers are more likely to participate in SFSCs. Furthermore, correlational analysis revealed a positive association between there being a FLAG present in the area and the four subscales of normative-cognitive social capital: trust ($R = 0.32, p < 0.01$), connectedness ($R = 0.29, p < 0.01$), closeness ($R = 0.33, p < 0.01$), and collaboration ($R = 0.30, p < 0.01$). The presence of a FLAG also correlated positively with innovativeness ($R = 0.19, p < 0.05$) and proactiveness ($R = 0.17, p < 0.05$), two of the three subscales to IEO, showing that the presence of a FLAG influences innovation and proactiveness amongst actors. There was no significant correlation between the presence of a FLAG and risk-taking.

The summary statistics for the variables used in the analysis are presented in Table 28. Pearson's correlations revealed that willingness to participate in SFSCs correlates significantly with one of the subscales that concern individual entrepreneurial orientation, namely innovativeness ($R = 0.40, p < 0.01$). There was no correlation with risk-taking and proactiveness. In addition, significant correlations were obtained between willingness to participate in SFSCs and three of the subscales of normative-cognitive social capital. Willingness to participate correlates positively with higher levels of perceived trust ($R = 0.20, p < 0.05$), connectedness ($R = 0.38, p < 0.01$), and closeness ($R = 0.26, p < 0.01$). There was no correlation between collaboration and willingness to participate in SFSCs.

Table 28: Summary statistics of dependent variables

Domain/Scale	<i>M</i>	<i>SD</i>
<i>Willingness to participate in SFSCs</i>	3.81	1.03
<i>Individual entrepreneurial orientation</i>		
Risk-taking	3.65	0.91
Innovativeness	3.58	0.87
Proactiveness	3.40	0.90
<i>Normative-cognitive social capital</i>		
Perceived trust	3.66	0.63
Connectedness	3.33	0.82
Closeness	2.96	1.01
Collaboration	3.47	0.82

7.4.3 Structural equation modelling

To explore and estimate the cause-effect relationships between variables, variance-based partial least squares structural equation modelling (PLS-SEM) was used. Construct validity and reliability were sought using indicators such as item loadings, Cronbach's alpha (α), t-statistics, average variance extracted (AVE), and composite reliability (CR). To assess construct validity (i.e. convergent and discriminant validity), the Fornell and Larcker criterion was used (Fornell and Larcker, 1981). As the square root of the AVE for each construct used in the study was higher than its correlation coefficients with the other constructs, the present model satisfies both convergent and discriminant validity. The item loadings and their corresponding t-values were all significant (see Table 29).

Table 29: Convergent and discriminant validity

Variables	α	CR	AVE	1	2	3
Fornell-Larcker Criterion						
1. Social capital	0.90	0.90	0.55	0.67		
2. Entrepreneurial orientation	0.93	0.93	0.94	0.44	0.78	
3. Willingness to participate	0.96	0.91	0.97	0.36	0.40	0.96

In Figure 9, the retained item loadings and the respective t-values are shown in the outer sections of the model. AVE estimates, Cronbach's alpha, and the CR of each construct used

were all assessed to determine convergent validity. All AVE estimates are above the standard threshold of 0.50, and all alpha and CR values were above the accepted threshold of 0.70 (Hair *et al.*, 2017).

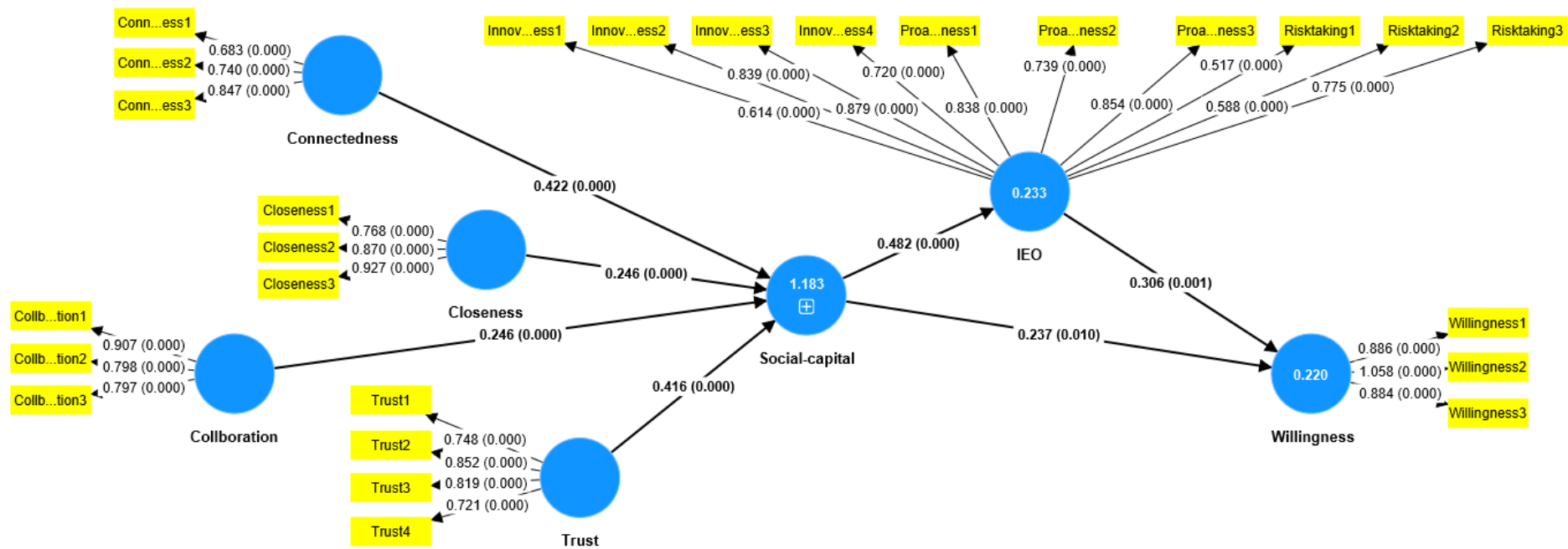


Figure 9: PLS-SEM research model

In summary, collaboration ($\beta = 0.246, \rho = 0.000$), connectedness ($\beta = 0.422, \rho = 0.000$), closeness ($\beta = 0.246, \rho = 0.000$), and trust ($\beta = 0.416, \rho = 0.000$) all exerted a positive impact on social capital. Both social capital and IEO exerted a positive impact on willingness to participate in SFSCs ($\beta = 0.237, \rho = 0.010$; $\beta = 0.306, \rho = 0.001$). The results also show that social capital has a positive impact on IEO ($\beta = 0.482, \rho = 0.000$). Bootstrapping analysis with a simulation of $n = 5,000$ resamples revealed that IEO partially mediates the association between social capital and willingness to participate in SFSCs ($\beta = 0.147, \rho = 0.000$) with the following intervals – Bias = 0.003; 2.5% = 0.056; 97.5% = 0.246. The results indicate that normative-cognitive social capital plays an important role in increasing producer willingness to participate in SFSCs. Social capital in an area also positively contributed to IEO amongst producers in an area, which in turn further bolsters the effect of social capital through a partial positive mediation of the relationship between social capital and willingness to participate in SFSCs.

7.4.4 Hierarchical regression analysis

7.4.4.1 Internal barriers to SFSCs

A series of bivariate and hierarchical regression analyses was performed to investigate which barriers to SFSCs lead to lower willingness to participate amongst fisheries and aquaculture producers. Barriers to SFSCs were split into internal and external factors. External barriers related to policy and territorial constraints, while internal barriers related to product, personal, and community-based constraints.

The summary statistics for internal barrier variables used in the analysis are presented in Table 30. Overall, subjects deemed many of the barriers as being prohibitive to them engaging in SFSCs. High processing costs for small-scale producers scored highly ($M = 4.05, SD = 1.15$). So too did a limited production volume ($M = 3.87, SD = 1.06$), poor access to consumers ($M = 3.82, SD = 0.88$), a lack of premises and viable sales locations ($M = 3.64, SD = 0.82$), low negotiation power ($M = 3.62, SD = 1.09$), and a lack of marketing and management skills ($M = 3.55, SD = 1.05$).

Table 30: Producer perceptions of internal barriers to SFSCs

Internal barriers to SFSCs	<i>M</i>	<i>SD</i>
Limited volume	3.87	1.06
Perishability of produce	2.93	0.91
Lack of production infrastructure	3.38	1.02
Lack of financial resources	3.40	0.94
Lack of available labour	2.90	1.07
High costs of processing due to being small-scale	4.05	0.85
Lack of premises or viable locations for sales	3.64	0.82
Poor access to consumers	3.82	0.88
Lack of consumer trust	2.97	1.23
Low negotiation power	3.62	1.09
Lack of collaboration with other supply chain actors	3.34	0.99
Lack of processing/technological development skills	3.12	0.97
Lack of marketing and management skills	3.55	1.05

To investigate the potential importance of these barriers, a bivariate analysis was used to identify which internal barriers have a significant correlation with producer willingness to participate in SFSCs. While the bivariate analyses indicated no significant relationships between individual characteristic variables, there were several significant interactions between individual characteristics and internal barriers. An interesting finding is that experience is correlated with a lack of collaboration with other supply chain actors ($R = 0.21, p < 0.01$). This indicates that as producers become more experienced, they have increased perceptions of low collaboration with other actors as being a barrier to engaging in SFSCs. Experience is negatively correlated with a lack of financial resources ($R = 0.20, p < 0.05$), showing that a lack of liquidity becomes less of a barrier to SFSCs as producers become more experienced. Education is negatively correlated with both a lack of processing and technological development skills ($R = -0.23, p < 0.01$) and a lack of marketing and management skills ($R = 0.19, p < 0.05$), showing that a lack of skills in these areas becomes a greater barrier to SFSCs when levels of education are low.

To further investigate the potential importance of these factors and again check for third-variable effects, a hierarchical multiple linear regression model was developed. In the model, age, education and experience were entered in Step 1 of the regression, and internal barriers to SFSCs were then added in Step 2. The stepwise method was employed because the model tests multiple barriers to SFSCs, and this approach sequentially removes predictor variables that no longer improve the final model fit (Field, 2018).

The regression results (Table 31) revealed that the first ($R^2 = 0.07$, $F = 4.56$, $p < 0.01$) and second ($R^2 = 0.19$, $F = 5.155$, $p < 0.05$) sets of variables contributed significantly to the final model. Age again has significant predictive power in explaining willingness to participate ($\beta = -0.02$, $p < 0.01$). Education and experience in the industry have no significant effect. When the internal barriers to SFSCs were entered into the model, a significant increase in R^2 was observed. Among the 13 internal barriers to SFSCs, it was found that only a lack of financial resources ($\beta = 0.33$, $p < 0.001$), a lack of premises or viable sales locations ($\beta = -0.16$, $p < 0.05$) and a lack of marketing and management skills added significantly to the explained variance of willingness to participate in SFSCs amongst producers ($\beta = -0.24$, $p < 0.01$).

Table 31: Model 2: Hierarchical regression analysis – internal barriers to SFSCs

Predictor variables	Model	
	1a	2b
Age	-0.02**	-0.02**
Education	0.15	0.08
Experience	-0.18	-0.01
<i>Barriers to SFSCs</i>		
Financial resources		0.33***
Premises or viable locations for sales		-0.16***
Marketing and management skills		-0.25*

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; a $R^2 = 0.07$, $p = 0.01$; b $R^2 = 0.19$, $p = 0.05$

To confirm the results of the stepwise regression, three simple linear regressions were used to test whether each of the barriers significantly predicted willingness to participate in SFSCs. For a lack of financial resources, the overall regression was statistically significant ($R^2 = 0.92$, $F = 15.02$ [1, 149], $p = < .001$). Thus, a lack of financial resources significantly predicts producers' having higher willingness to participate in SFSCs ($\beta = 0.33$, $p = < .001$). For a lack

of marketing and management skills, the overall regression was statistically significant ($R^2 = 0.53$, $F = 8.30$ [1, 149], $p = < .01$). Thus, low marketing and management skills significantly predicts producers' having lower willingness to participate in SFSCs ($\beta = -0.226$, $p = < .01$). For a lack of premises or viable locations for sales, the simple linear regression was insignificant.

7.4.4.2 External barriers to SFSCs

For completeness, binary statistics and regression analyses were used to test the relationship between external barriers to SFSCs and willingness to participate. The summary statistics for the external barrier to SFSCs variables used in the analysis are presented in Table 32. Overall, subjects deemed most of the barriers as being prohibitive to them engaging in SFSCs. Sectoral and market policies score highly as barriers to engaging in SFSCs ($M = 3.74$, $SD = 1.03$ and $M = 3.87$, $SD = 0.99$ respectively). EU regulations also scored relatively highly ($M = 3.58$, $SD = 1.10$). So too did a lack of local communication, marketing and selling opportunities ($M = 3.76$, $SD = 0.95$), and immature local markets ($M = 3.60$, $SD = 0.95$). Some external barriers such as low priority in FLAG local development strategies ($M = 2.50$, $SD = 1.02$), and territorial supply constraints ($M = 2.85$, $SD = 1.02$) scored lower than the scale mid-point, indicating them to be lesser barriers to SFSC engagement amongst producers.

Table 32: Producer perceptions of external barriers to SFSCs

External barriers to SFSCs	<i>M</i>	<i>SD</i>
EU regulations	3.58	1.10
Regional or local regulations	3.25	1.11
Sectoral policies	3.74	1.03
Market policies	3.87	0.99
Territorial supply constraints	2.85	1.02
Low priority in FLAG local development strategy	2.50	1.02
Lack of information and support to develop SFSCs	3.18	1.08
Lack of communication, marketing and selling	3.76	0.95
Immature local markets	3.60	0.95

To further investigate the potential importance of these barriers to producers having a willingness to participate in SFSCs, first a bivariate analysis was used to identify which barriers have a significant correlation with producer willingness to participate in SFSCs. For external barriers, bivariate analyses indicated no significant relationships between on the one hand the characteristic variables age and education, and on the other hand the external barriers to SFSCs. An interesting finding is that producer experience correlates negatively with the external barriers of EU regulations ($R = -0.23$, $p < 0.01$) and sectoral policies ($R = -0.27$, $p < 0.001$), showing that EU regulations and sectoral policies such as the Common Fisheries Policy (CFP) become less of a barrier to SFSCs for producers as they gain more experience in the profession and industry.

7.5 Discussion and conclusions

The present study assesses the impact of normative-cognitive social capital and producer characteristics on producers' willingness to participate in SFSCs. The results show normative-cognitive social capital, and the producer trait of individual entrepreneurial orientation have a significant impact on a producer's willingness to participate in SFSCs. The study also explores the barriers to producers in engaging in SFSCs, highlighting the key factors, both external and internal, that hinder participation.

The first conclusion drawn from the present study is the nature and type of supply chains in which fisheries and aquaculture producers operate. The most prevalent SFSC type was direct harbour and dockside sales, retailers and fishmongers, and supply to local restaurants. Less SFSC types were online orders and sales through a mobile application. Of these types, only direct harbour and dockside sales are face-to-face SFSCs where there is a direct contact between the producer and consumer. The other SFSC types reported by producers are more 'proximate' in nature – with no direct connection between the producer and consumer and often involving and intermediary.

The finding from the PLS-SEM model used in the present study identified that normative-cognitive social capital does have a positive impact on producer willingness to participate in SFSCs. The results show that each of the component parts of normative-cognitive social capital contributed to its impact on producer willingness to participate in SFSCs. Thus, collaboration, connectedness, closeness, and trust among actors all exert a positive effect on social capital which in turn exerts a positive impact on a producer's willingness to participate in SFSCs. In other words, normative-cognitive social capital in an area plays an important role in increasing producer willingness to engage with SFSCs.

The other main conclusion drawn from the PLS-SEM model is the importance of a producer's individual entrepreneurial orientation (IEO). The results show higher social capital in an area to have a positive effect on a producers IEO. That is, increased collaboration, connectedness, closeness, and trust among actors within an area leads to higher entrepreneurial tendencies amongst producers. Furthermore, the positive effects of IEO can further strengthens the effect of social capital on producer willingness to participate in SFSCs.

The present study also investigated barriers to SFSCs in both internal and external contexts. For internal barriers, high processing costs and a lack premises and viable sales locations scored highly, as did poor access to consumers and a lack of marketing and management skills. Limited production volume also scored highly as potential barrier to selling through SFSCs. Experience (i.e., the number of years a producer has worked as fisheries producer) correlated with decreased collaboration between supply chain actors. Thus, as producers become more experienced, they become less likely to collaborate in SFSCs. Experience also correlated with

a lack of financial resources, suggesting that a lack of resources becomes less of a barrier to SFSCs as experience increases. Furthermore, the education of producers and capacity in key skills is also an important consideration. The results show that increased levels of education lead to marketing and management, technological development, and processing skills being less of a barrier to SFSCs.

For external barriers to SFSCs, sectoral and market policies and regulations scored highly as barriers to SFSCs. Immature markets (i.e., an apparent lack of consumer interest in buying through SFSCs) was also seen as a significant barrier to SFSCs, as was a lack of local communication, marketing and selling opportunities. Thus, on the one hand, producers identify a lack of consumer interest and access as a key obstruction to SFSCs, while on the other hand market policies act as a barrier to SFSCs regardless of the maturity of local markets and interest. Producer experience was again found to be a potentially important factor in mitigating some external barriers to SFSCs in sectoral and market policies and regulations. As producers gain more experience in the profession and in the fisheries sector, the less they perceive EU regulations and sectoral policies such as the Common Fisheries Policy (CFP) as a barrier to SFSCs for producers.

7.6 Summary

In summary, the study identifies that a lack of financial resources, a lack of viable premises and locations for sales, and low capacity in marketing and management skills are the key barriers to fisheries producer willingness to participate in SFSCs. The study also identifies positive relationships between normative-cognitive social capital, individual entrepreneurial orientation, and producer willingness to participate in SFSCs. The results show that individual entrepreneurial orientation is positively associated with normative-cognitive social capital and that individual entrepreneurial orientation partially mediates the positive relationship between social capital and willingness to participate in SFSCs.

Chapter 8. Consumer perceptions of local seafood and producer-consumer reconnection – Results

8.1 Introduction

Chapter 8 presents the results from the third phase of the research on consumer purchase intentions towards local seafood. The study uses a between-subjects experimental design to explore the impact of product source, product type, and producer recommendation labelling on consumer trust and purchase intentions for seafood products. Following an overview of the theoretical framework for the study in section 8.2, the data and methods are presented in section 8.3 before the results are analysed in section 8.4. Finally, the results are discussed, and conclusions are drawn in section 8.5.

8.2 Theoretical framework

This research uses a between-subjects experimental design to explore the impact of product source and labelling information on consumer trust and purchase intentions towards seafood products. The purpose of the study is to address the fourth research question in this thesis: What factors influence consumer purchase intentions for locally produced seafood?

To recap the literature reviewed in chapter 4, consumer trust in food supply chains has become a topic of much debate in food research in recent years (Hobbs and Goddard, 2015; Kaiser and Algers, 2017; Macready *et al.*, 2020; Baritoux and Houdart, 2023; de Vries *et al.*, 2023; Yuan, Jin and Wu, 2024). A lack of trust and the consequent absence of confidence not only challenge producers and supply chain actors wanting to market food products, but also hinder efforts to innovate and transform food systems (Macready *et al.*, 2020), making trust a pertinent issue in the context of SFSCs (Gori and Castellini, 2023). Rousseau *et al.* (1998, p. 395) define trust as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another”. Trust, therefore, is assigned from one person to another, or to an entity (e.g., an organisation) that consists of people (De Jonge *et al.*, 2007), while consumer trust in food products is rooted in the trust of those people producing the food, their competence, care, and even their expertise (Rupprecht *et al.*, 2020). While empirical research into consumer trust differs by context and the actors involved, De Jonge *et al.* (2007) identify that the competence of the producer of a product is a key determinant of

variance in consumer trust and confidence. This competence relates to the producer's ability to provide food that is authentic, safe and healthy, and has been produced in an ethical, fair, and sustainable way (De Jonge *et al.*, 2007; Macready *et al.*, 2020).

The most frequent claims regarding SFSCs relate to consumer behaviours (Enthoven and Van den Broeck, 2021), and consumer trust in local as opposed to non-local food (Nikolaidou, Kouzeleas and Goussios, 2023; Pedersen *et al.*, 2023). It is frequently claimed that consumers are willing to pay more, and have higher purchase intentions, for food that is produced locally (e.g., Zepeda and Leviten-Reid, 2004; Zepeda and Deal, 2009; Grebitus, Lusk and Nayga Jr, 2013; Feldmann and Hamm, 2015; Enthoven and Van den Broeck, 2021). Supermarkets and larger retailers have identified these trends and are even developing territory-specific brands in effort to re-localise part of their food offerings and to develop more direct relationship with local producers (Baritoux and Houdart, 2023). Several studies have shown that this premium can even surpass organic and other sustainability claims (Enthoven and Van den Broeck, 2021). Several studies have also shown product origin to be an important factor in consumer trust and purchase intentions in the rural context (e.g., Davies and MacPherson, 2010; Bitzios *et al.*, 2017; Saidi *et al.*, 2023), while studies have also shown this to be pertinent in the context of fish and seafood (e.g., Altintzoglou *et al.*, 2010; Claret *et al.*, 2012; Risius, Janssen and Hamm, 2017; Zander and Feucht, 2018; Maesano *et al.*, 2020; Witter, Murray and Sumaila, 2021; Carreras-Simó *et al.*, 2023; Martino *et al.*, 2023). Therefore:

[C1] *For products sourced locally, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for products sourced globally.*

[C2] *For products sourced locally, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for products sourced nationally.*

Seafood is a special case in terms of consumer trust. Firstly, the fact that fisheries products mostly come from wild-capture sources excludes some factors concerning consumer trust in food production, such as organic and genetic modification (Lucas, Soler and Revoredo-Giha, 2021). However, other concerns such as animal welfare, fair trade and sustainability still apply and can impact consumer trust in seafood products (Lucas, Soler and Revoredo-Giha, 2021). Product familiarity is also a significant factor in consumer responses to seafood (Greenwood,

2019). Unlike many other food categories, seafood offers diverse options within a product category, again due to the wild-capture nature of harvesting and production (Farmery *et al.*, 2022).

The present study focuses on the whitefish category, and specifically two comparable species: cod and ling. Once filleted, cod and ling are almost indistinguishable to the untrained eye, as are many other whitefish including whiting, haddock, pollock and coley; the main difference is the reputation of the species (Kurlansky, 1999). Cod is well known in the UK, where it is one of the *big five* fish species, while ling is relatively unknown despite its comparable properties (Greenwood, 2019). On the one hand, lesser-known seafood types may be associated with more sustainable practices, offering a marketing opportunity for producers as consumer trends towards sustainability increase (Murillo, Ardoin and Prinyawiwatkul, 2023). On the other hand, since knowledge and information are strongly associated with consumer trust (Pedersen *et al.*, 2023), it can be expected that a lack of knowledge related to lesser-known seafood types will result in less preferable consumer responses. Thus:

[C3] *For the cod product, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for the ling product.*

The literature on food labelling has shown that the effectiveness of labelling can rely on consumer trust (Rupprecht *et al.*, 2020). While several studies have assessed food labelling related to sustainability and its role in consumer trust (Prinsloo *et al.*, 2012; Tonkin *et al.*, 2015; Perumal, 2023; Potter *et al.*, 2023), little attention has been given to the role of producer information on food labelling, particularly in the seafood category. Some studies have assessed the impact of food labels bearing a producer's image (Papaoikonomou and Ginieis, 2017) or farm information (Schermer, 2015). However, research into the role of producers endorsing or recommending their own food products remains limited. While factors such as organic, fair trade and nutrition remain predominant, consumer interest in the nature, source and producer of their food is increasing (Tonkin *et al.*, 2015; Rupprecht *et al.*, 2020). Furthermore, specific information on front-of-pack labelling has been shown to improve consumer understanding of, and trust in, food products (Mazzu *et al.*, 2023). As such, specific information by way of a recommendation from the producer could instil greater consumer trust in food products, since this could both strengthen the connection with the person producing the food and improve

perceptions of the food itself in terms of its origin and the practices involved in its production. Therefore:

[C4] *For products with a producer recommendation label, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for products without a producer recommendation label.*

[C5] *For products with a producer recommendation label, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable for products sourced locally than for products sourced nationally and globally.*

It is clear that consumer trust plays a role in influencing consumer behaviours related to food choices (Macready *et al.*, 2020), highlighting the importance of investigating its implications within the context of alternative food systems and SFSCs (Gori and Castellini, 2023). Subsequently, factors affecting trust in food labelling are important to understanding food consumption and purchase intentions (Tonkin *et al.*, 2015). Several studies in the fields of food policy, marketing and consumer behaviours have assessed the role of ‘quality’ food labels (Rupprecht *et al.*, 2020; Truong, Conroy and Lang, 2021; Truong, Lang and Conroy, 2021; Cook *et al.*, 2023; Perumal, 2023; Potter *et al.*, 2023). Such studies have shown that food labels promoting quality in terms of certification and production (e.g., organic, fairtrade), nutrition, and sourcing affect consumer behaviours (Aprile, Caputo and Nayga Jr, 2012; Newman *et al.*, 2014; Tonkin *et al.*, 2015; Rupprecht *et al.*, 2020; Wu *et al.*, 2021; Cook *et al.*, 2023), while empirical research has highlighted the importance of consumer trust in influencing food selection (Siegrist *et al.*, 2015; Huang *et al.*, 2019; Truong, Conroy and Lang, 2021; Truong, Lang and Conroy, 2021). Therefore:

[C6] *Greater label trust is associated with increased product trust (i) and increased purchase intentions (ii).*

Finally, product involvement is a significant factor in consumer responses to food labelling, product trust, and purchase intentions (Espejel, Fandos and Flavián, 2009; Olsen, Skallerud and Heide, 2021; Murillo, Ardoin and Prinyawiwatkul, 2023). Product involvement is associated with consumer feelings of enthusiasm, interest, and excitement towards a specific product category (Marshall and Bell, 2004). In other words, product involvement refers to the

prior knowledge and experience of the consumer with a product and their feelings towards it. Given the breadth and specificities of seafood as a product category, product involvement is considered an important covariate of consumer responses in the present study, particularly considering that knowledge and information are key drivers of consumer trust (Wu *et al.*, 2021; Pedersen *et al.*, 2023). Therefore:

[C7] *Greater product involvement is associated with increased label trust (i), increased product trust (ii) and increased purchase intentions (iii).*

The remainder of the chapter is structured as follows. In the following section the materials and methods used are outlined, followed by the data analysis results in section 8.4. Finally, in section 8.5 the results are discussed, conclusions are drawn, and implications offered.

8.3 Data and method

8.3.1 Experimental design

To form an understanding of which factors influence consumer label trust in a product, a between-subjects factorial experimental design was employed. An experimental approach allows the production of knowledge to be controlled and is more systematic than other methods (Shadish, Cook and Campbell, 2002). The underlying assumption when conducting experiments is that causal relationships can be identified through key variables being manipulated independently (Bryman, 2016). Experiments were therefore deemed an appropriate approach in the present research.

A between-subjects, $3 \times 2 \times 2$ experimental design was employed in the study. Independent variables were product origin (local, national, global), whitefish product type (cod, ling), and producer recommendation label (present, absent). Dependent variables were label trust, product trust, and purchase intentions. Product involvement was included as a control variable. The $3 \times 2 \times 2$ experimental design comprised 12 treatment groups to test the interactions of three independent factors on the dependent variables (Table 33).

Table 33: Experimental design

Product origin	Product	Producer recommendation label
Local	Cod	Present
	Ling	Absent
National	Cod	Present
	Ling	Absent
Global	Cod	Present
	Ling	Absent

8.3.2 Stimuli

Experimental stimuli representing new-to-the-world seafood products were developed. New-to-the-world stimuli refers to innovative or novel stimuli that have not been previously encountered or experienced as they were developed specifically for an experiment or study (Charness, Gneezy and Kuhn, 2013). These stimuli are unique and distinct from existing offerings in real world market or prior research studies (Creswell, 2018). To ensure high quality, a professional graphic designer with experience working in food packaging produced images of seafood products similar to those used by leading UK supermarkets both online and in-store.

Each of the 12 products was based on the same source image of a flat vacuum-sealed packet of whitefish fillets, with a blue label added to show the product information. Cod and ling each featured in six of the 12 products. The label indicated that the fish was either ‘globally sourced,’ ‘nationally sourced’, or ‘locally sourced’. Finally, for each product type and source pairing there were two variations: one featuring a ‘producer recommends’ sticker and one without (see Figure 10). All 12 variations of the stimuli used are presented in Appendix D.



Figure 10: Experiment stimuli

8.3.3 Stimuli pre-testing

Prior to the main experiment, the product stimuli were pre-tested through two focus groups. Each group comprised eight participants recruited via the FARNET Support Unit, including industry and marketing experts who work in local fisheries development. The first pre-test addressed the product type. Participants discussed seafood categories and the possible product options used in the study. Based on several product options including several finfish and shellfish species, the focus group identified the whitefish product category. From the focus group it was clear that whitefish was the most prevalent and well-known category. Cod, one of ‘the big five’ seafood species consumed in the UK, was selected as a well-known product for the experiment. For the lesser-known whitefish species the participants suggested whiting, coley and ling. In the end, ling was chosen for four reasons. Firstly, ling is from the cod family and when raw it looks very similar to cod. Secondly, the focus group participants decided that ling is the least known among the species suggested. Thirdly, ling is prevalent in UK fisheries and widely available. Fourthly, “ling” and “cod” are short names that are easily interchanged without needing other modifications to the design of the label.

In the second focus group, seven seafood industry and marketing experts working in fisheries development discussed the product design and the label content. The purpose of the second focus group was to ensure that each image was an accurate representation of a real-world

product. Participants discussed the image used for the product and whether it realistically represents both cod and ling. They also discussed various design options for the label, and whether it closely represented typical labels used for products in the real world. The focus group informed the font and colours used for the label in the study, as well as the format and positioning of the ‘producer recommends’ label.

8.3.4 Dependent variables

For all dependent variables, normality and multicollinearity were considered and tested in terms of providing satisfactory results within common thresholds (Field, 2018). Convergent validity was confirmed using an exploratory factor analysis (EFA); all items loaded on their respective constructs as expected ($p < 0.001$), with standardised loadings above 0.772 (Table 34). The average variance extracted (AVE) by each factor exceeded the recommend 50% threshold (Fornell and Larcker, 1981).

Table 34: Exploratory factor analysis for study measures

Items	Loadings	α	Eigenvalue
<i>Label Trust</i>		.88	3.416
I can trust what this label says	.843		
This label is honest	.860		
The creator of this label has good intentions	.795		
The creator of this label has passed strict tests before issuing it	.810		
This label inspires confidence	.823		
<i>Product Trust</i>		.87	3.312
I am confident this product is safe	.865		
I am confident this product is healthy	.846		
I am confident this product has been produced sustainably	.787		
I am confident this product is authentic	.849		
I am confident this product will be tasty	.772		
<i>Purchase Intentions</i>		.88	2.407
I would buy this product in the near future	.906		
I would buy this product on a regular basis	.911		
I am eager to check out this product	.869		
<i>Product Involvement</i>		.83	2.639
Seafood is a topic that I could talk about for a long time	.792		
I understand the different types of seafood well enough to recognise them	.813		
I have a preference for one or more types of seafood	.836		
I am familiar with different styles of seafood	.807		

Discriminant validity was confirmed since each factor's AVE was greater than the size of its squared correlation with all other constructs in the study. Unless otherwise mentioned, all measures were captured on five-point Likert scales. Five-point Likert scales were used to reduce information within the experiment and for a clearer understand of the questions being asked in an online experimental setting (Bryman, 2016).

Label trust was measured using a five-item scale borrowed from Moussa and Touzani (2008): 'I can trust what this label says', 'This label is honest', 'The creator of this label has good intentions', 'The creator of this label has passed strict tests before issuing it', and 'This label inspires confidence' ($\alpha = .88$).

A five-item scale borrowed from De Jonge *et al.* (2007) and Macready *et al.* (2020) captured product trust: ‘I am confident this product is safe’, ‘I am confident this product is healthy’, ‘I am confident this product has been produced sustainably’, ‘I am confident this product is authentic’, and ‘I am confident this product will be tasty’ ($\alpha = .87$).

A four-item scale introduced by Lastovicka and Gardner (1978) was adapted to capture product involvement in the context of seafood: ‘Seafood is a topic that I could talk about for a long time’, ‘I understand the different types of seafood well enough to recognise them’, ‘Seafood is a subject that interests me’, ‘I have a preference for one or more types of seafood’, and ‘I am familiar with different types of seafood’ ($\alpha = .83$).

A three-item scale derived from Bower (2001) measured purchase intentions: ‘I would buy this product in the near future’, ‘I would buy this product on a regular basis’, and ‘I am eager to check out this product’ ($\alpha = .88$).

8.3.5 Sample and data collection procedures

Prolific was used to recruit 724 subjects from its UK panellists, who received a small fee (£9.00 per hour) for participation. The sample recruited is representative of the UK population with gender, age and ethnicity being key sampling criteria. Before completing the survey, respondents were screened based on whether they are responsible for food purchases in their household. This screening was performed by Prolific, so only participants responsible for household purchasing decisions were invited to complete the survey.

Women made up 52.07% of the final sample and the mean age of the subjects was 44.39. Overall, 82.97% of the final sample were non-students (see Table 35). The distribution of the subject responses across the UK is illustrated in Figure 11. An initial screening question checked subjects’ attention towards the task. In the attention check, subjects were asked to identify which seafood type was depicted in the product shown in the experiment. Along with the two correct answers for each of the respective treatment groups (cod and ling), subjects were presented with five other whitefish species: hake, haddock, coley, whiting and pollock.

After viewing their designated product, they were asked to identify the fish species featured (cod or ling, respectively). In total, 28 (3.98%) subjects failed this check, selecting an incorrect product from a list of seven options, and were removed from the study. Subjects were also asked to indicate the frequency in which they typically consume seafood. 20 subjects (2.87%) who indicated that they had not consumed seafood in the past three months were removed from the final analysis of the study, given a final sample of 676.

Table 35: Experiment 1 sample characteristics

Characteristic	Item	N = 676
Age	<i>M</i>	44.39
Gender	Male	47.93
	Female	52.07
Ethnicity	White	85.95
	Black	2.37
	Asian	7.25
	Mixed	1.63
	Other	0.89
	Prefer not to say	1.92
Education	Primary school	0.43
	Secondary school	20.91
	Vocational or similar	17.67
	Some university but no degree	9.48
	University bachelor's degree	37.93
	Graduate or professional degree	12.93
	Prefer not to say	0.6
Occupation	Full-time work	47.84
	Part-time work	5.82
	Student	17.03
	Retired	10.34
	Unemployed	18.97
Marital status	Single	43.75
	Married	42.46
	Widowed	2.80
	Divorced	6.03
	Separated	2.16
	Registered partnership	2.80
Income	Less than £20,000	21.77
	£20,000-£39,999	39.66
	£40,000-£59,999	21.12
	£60,999-£99,999	14.22
	More than £100,000	3.23
Household size	<i>M</i>	2.53
Number of children	<i>M</i>	0.62



Figure 11: Distribution of the experiment sample

In the online survey, subjects first answered questions on their seafood buying and consumption habits. The questionnaire used in the experiment is shown in Appendix E. Subjects were then randomly assigned to one of the 12 treatment groups. After viewing one of the 12 product variations, subjects completed questions evaluating the product before completing a series of questions on their socio-demographics. On average, the survey took 4.36 minutes to be completed.

8.4 Data analysis and results

8.4.1 Consumer seafood buying habits in the UK

Most of the sample were purchasers of seafood, with 97.13% indicating that they have purchased seafood in the past three months. For consumers who have not purchased seafood

in the past three months (2.87% of the initial sample), veganism and vegetarianism were the most common (47.83%) reasons for not purchasing seafood. Taste preferences were also reported as a factor, with 31.82% indicating a dislike for the taste of seafood. Difficulty in preparation (13.53%) and high prices (6.82%) were also cited as reasons for not purchasing seafood. Subjects who are not frequent consumers of seafood were removed from the following analysis.

Most consumers indicated that they consume seafood primarily at home (74.61%) or in a restaurant (18.84%) (Table 36). Respondents who stated that their primary consumption was elsewhere reported takeaways (i.e. fish and chips) (3.96%) and buying for children or other family members (1.80%).

Seafood consumption by species is also shown in Table 36. Purchase frequency for the ‘big five’ seafood categories in the UK are all below the mid-point value of a Likert-type scale whose endpoints are ‘never’ and ‘twice or more per week’, indicating that on average consumers purchase seafood between once every three months and once a month. Purchase frequencies are slightly higher for tuna and salmon than they are for whitefish species (cod and haddock) and prawns. Frequently reported species in the ‘other’ category included lobster, crab, langoustine (*Nephrops*), scallops, and other types of shellfish.

Purchasing habits by supply chain show that most consumers regularly purchase seafood in supermarkets (84.29%). A much lower proportion (14.40%) of respondents reported regularly buying seafood through online orders (19.76%), local shops (19.02%), food/farmers’ markets (18.32%) and dedicated retailers such as fishmongers. In terms of other types of SFSCs that are well documented in the literature, such as box schemes and consumer cooperatives, seafood purchases are relatively low. This holds for newer SFSC types such as mobile apps (3.01%) and box schemes (1.69%), which are the focus of many land-based territorial development initiatives.

Table 36: Sample descriptives on consumer buying and consumption habits

Characteristic	Item	N = 676
Purchase frequency (M value; Likert-type scale 1-5)	Salmon	<i>M</i> 2.64
	Cod	2.56
	Prawns	2.34
	Haddock	2.20
	Tuna	2.79
	Other	1.99
Primary consumption		%
	Home	74.61
	Restaurants or food establishments	18.84
	Takeaways	3.96
	Buyer for family members	1.80
Market chains (% selected; multiple options)	Other	0.79
	Local food markets	18.32
	Direct from dockside/harbours	4.19
	Festivals and events	5.10
	Box schemes	1.69
	Online orders for delivery	19.76
	Mobile apps	3.01
	Consumer cooperatives	0.26
	Local shops	19.11
	Large retailers (supermarkets)	84.29
	Dedicated retailers (fishmongers)	14.40
	Local restaurants	30.10

8.4.2 Main effects of product source, product type and producer recommendations

A summary of the hypotheses tested in the present study is offered in Table 37: Summary of hypotheses. To test C1-5 – the interactions between product source (global, national, local), seafood type (cod, ling), and producer recommendations (absent, present) – a multivariate analysis of covariance (MANCOVA) was performed with purchase intentions, label trust, and product trust as dependent variables. Product involvement was included as a control variable, and was found significant (Wilk's $\lambda = 0.888$, $p < 0.001$). Socio-demographics including *gender*, *occupation*, *income*, and *education* were also included as covariates in the model (see Table 35). As multiple pairwise tests were conducted in the MANCOVA, the Bonferroni correction was applied throughout to reduce the chances of obtaining false-positive results (type I errors). The Bonferroni correction is calculated by dividing the original significance value ($p < 0.05$) by the number of tests performed in the analysis (Field, 2018). The Bonferroni correction was applied throughout ($p < 0.01$) – Bonferroni corrected significance value = $0.05/6$.

Table 37: Summary of hypotheses

Hypotheses	
C1	<i>For products sourced locally, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for products sourced globally.</i>
C2	<i>For products sourced locally, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for products sourced nationally.</i>
C3	<i>For the cod product, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for the ling product.</i>
C4	<i>For products with a producer recommendation label, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable than for products without a producer recommendation label.</i>
C5	<i>For products with a producer recommendation label, label trust (i), product trust (ii) and purchase intentions (iii) will be more favourable for products sourced locally than for products sourced nationally and globally.</i>
C6	<i>Greater label trust is associated with increased product trust (i) and increased purchase intentions (ii).</i>
C7	<i>Greater product involvement is associated with increased label trust (i), increased product trust (ii) and increased purchase intentions (iii).</i>

In the model, product source has an overall significant effect ($\lambda = 0.855, p < 0.001$). The effect was significant for label trust ($F = 44.790, [1, 676], p < 0.001$), product trust ($F = 17.408, [1, 676], p < 0.001$), and purchase intentions ($F = 25.924, [1, 676], p < 0.001$). For products sourced locally, label trust ($M_{Local} = 3.50; M_{Global} = 2.96$) ($t = 8.513, df = 447, p < 0.001$), product trust ($M_{Local} = 3.49; M_{Global} = 3.11$) ($t = 5.787, df = 447, p < 0.001$), and purchase intentions were higher than for global products ($M_{Local} = 3.32; M_{Global} = 2.75$) ($t = 7.488, df = 447, p < 0.001$). ($p > 0.05$). Thus, C1 is fully supported.

When comparing products sourced locally with products sourced nationally, similar results were obtained for label trust ($M_{Local} = 3.50; M_{National} = 3.34$) ($t = 2.625, df = 454, p < 0.01$), and purchase intentions ($M_{Local} = 3.32; M_{National} = 3.07$) ($t = 3.303, df = 454, p < 0.001$). Product trust was insignificant ($p > 0.1$). Therefore, C2 is partially supported.

Product type had a significant effect in the model ($\lambda = 0.826, p < 0.001$). The effect was significant for label trust ($F = 27.189, [1, 675], p < 0.001$), product trust ($F = 35.298, [1, 675], p < 0.001$), and purchase intentions ($F = 40.176, [1, 675], p < 0.001$). For cod, label trust ($M_{Cod} = 3.47; M_{Ling} = 3.07$) ($t = 7.819, df = 674, p < 0.001$), product trust ($M_{Cod} = 3.56; M_{Ling} = 3.09$) ($t = 8.820, df = 674, p < 0.001$), and purchase intentions were higher than for ling ($M_{Cod} = 3.32; M_{Ling} = 2.78$) ($t = 8.680, df = 674, p < 0.001$). Thus, C3 is fully supported.

The presence of producer recommendations also had a significant effect ($\lambda = 0.899, p < 0.001$). The effect was significant for label trust ($F = 22.520, [1, 675], p < 0.001$), product trust ($F = 15.596, [1, 675], p < 0.001$), and purchase intentions ($F = 11.030, [1, 675], p < 0.001$). For products with a producer recommendation, label trust ($M_{Recommendation} = 3.44; M_{No-recommendation} = 3.10$) ($t = 6.535, df = 674, p < 0.001$), product trust ($M_{Recommendation} = 3.48; M_{No-recommendation} = 3.19$) ($t = 5.258, df = 674, p < 0.001$), and purchase intentions were higher. Purchase intentions were higher for products with a producer recommendation than those without ($M_{Recommendation} = 3.18; M_{No-recommendation} = 2.92$) ($t = 4.009, df = 674, p < 0.001$). Therefore, C4 is fully supported.

8.4.3 Interaction effects of product source and producer recommendations

To test C5, the interaction between product source and the presence of a producer recommendation was analysed. The interaction was supported in the model ($\lambda = 0.984, p < 0.01$). The interaction was only mirrored for label trust ($F = 5.726, [2, 676], p < 0.01$). The interaction was insignificant for both product trust and purchase intentions.

For products with a producer recommendation, label trust was higher for locally sourced products than it was for globally sourced products ($M_{Local} = 3.77; M_{Global} = 3.04$) ($t = 8.595, df = 228, p < 0.001$). A similar result was obtained for nationally sourced products when compared to globally sourced products ($M_{National} = 3.51; M_{Global} = 3.04$) ($t = 5.461, df = 231, p < 0.001$), and for locally sourced products when compared with nationally sourced products ($M_{Local} = 3.77; M_{National} = 3.51$) ($t = 3.171, df = 227, p < 0.001$).

For products without a producer recommendation, label trust was higher for locally sourced products than it was for global products ($M_{Local} = 3.22; M_{Global} = 2.88$) ($t = 3.937, df = 217, p < 0.001$).

0.001). Similar results were obtained for nationally sourced products when compared to globally sourced products ($M_{National} = 3.18$; $M_{Global} = 2.88$) ($t = 3.443$, $df = 222$, $p < 0.001$). However, without the presence of a producer recommendation, there was no significant difference between locally and nationally sourced products.

8.4.4 Interaction effects of product source and product type

The interaction effect of product type and product source is supported in the model ($\lambda = 0.969$, $p < 0.01$). Again, the interaction was only significant for label trust ($F = 3.067$, $[2, 675]$, $p < 0.01$). The interaction for both product trust and purchase intentions were not statistically significant.

For cod, label trust was higher for locally sourced products than it was for global products ($M_{Local} = 3.60$; $M_{Global} = 3.27$) ($t = 3.956$, $df = 225$, $p < 0.001$). A similar result was obtained for nationally sourced products when compared to globally sourced products ($M_{National} = 3.54$; $M_{Global} = 3.27$) ($t = 3.473$, $df = 222$, $p < 0.001$). There was no statistically significant difference between locally and nationally sourced cod ($p > 0.1$).

For ling, label trust was higher for locally sourced products than it was for global products ($M_{Local} = 3.41$; $M_{Global} = 2.65$) ($t = 8.894$, $df = 220$, $p < 0.001$). A similar result was obtained for nationally sourced products when compared to globally sourced products ($M_{National} = 3.14$; $M_{Global} = 2.65$) ($t = 5.814$, $df = 221$, $p < 0.001$). For ling, this effect also carried for locally and nationally sourced products ($M_{Local} = 3.41$; $M_{National} = 3.14$) ($t = 3.036$, $df = 223$, $p < 0.001$).

8.4.5 Interaction effects of product type, product source, and producer recommendations

The interaction between all independent variables was supported in the model ($\lambda = 0.972$, $p < 0.01$). However, this interaction was only significant for purchase intentions ($F = 4.837$, $[2, 676]$, $p < 0.01$). The interaction was insignificant for both label trust and product trust.

8.4.6 Moderated mediation effects of producer recommendations and label trust

For completeness and to test C6, three moderated mediation models were specified using PROCESS Model 9 (Hayes, 2013) to examine the effect of seafood type and producer recommendations on the relationship between seafood source and label trust on purchase intentions. To compare the effects of product type and producer recommendation labels as moderators of the positive mediating effect that label trust has on the product source being local, the data was split three ways (local vs global, local vs national, and national vs global), with the dichotomous predictor variable (X) indicating the more local vs the more non-local source (i.e., national being more local than global, and local being more local than both national and global). In Model 1, the dependent variable was purchase intentions, the predictor variable was product source (local-global [L-G]), and the mediating variable was label trust. The two moderators selected were the presence of a producer recommendation label (W) and product type (Z) (Figure 12).

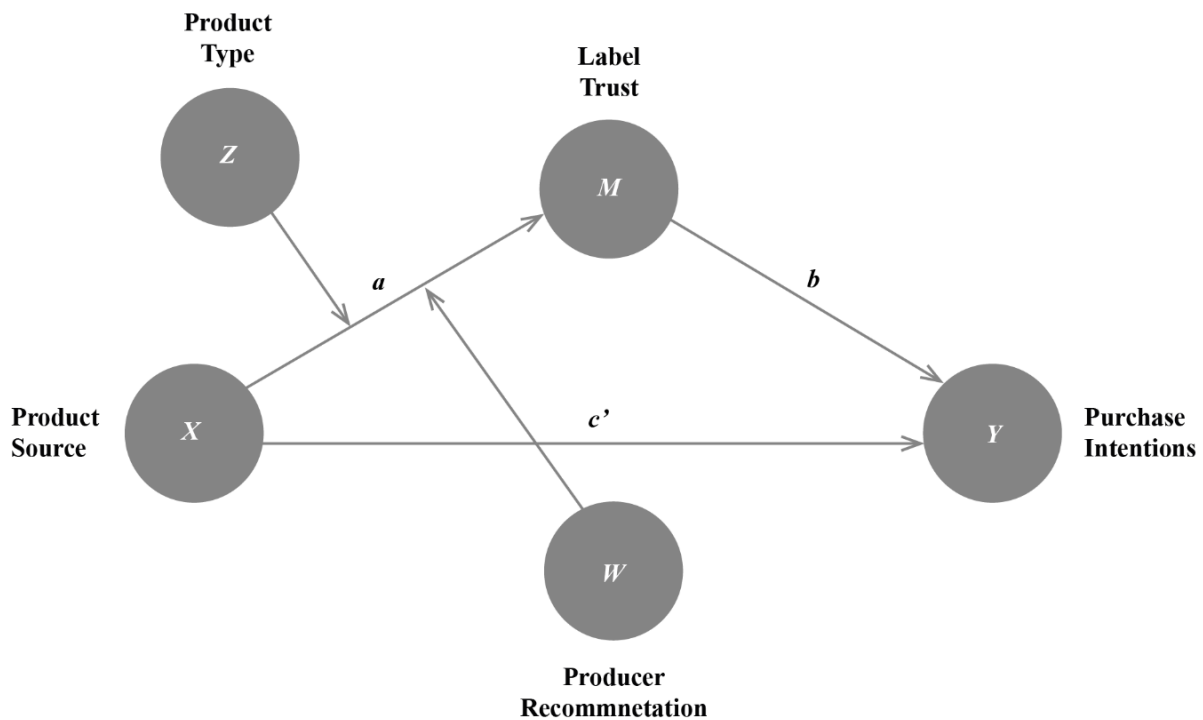


Figure 12: Label trust moderated mediation model

The model was designed to test whether seafood type and producer recommendations moderate the relationships between product source and label trust on purchase intentions. Bias-corrected

estimates with 95% confidence intervals (CI) from 5,000 bootstrapping re-samples are reported. In Models 2 and 3, the only change was the predictor variable, which became local-national (L-N) in Model 2, and national-global (N-G) in Model 3 (Table 38).

Table 38: Empirical model and indirect coefficients (models 1–3)

n = 451 per condition			
Paths	PI [L-G] (Y)	PI [L-N] (Y)	PI [N-G] (Y)
<i>Baseline model</i>			
Product Source (X)	.28 ***	.17 **	.09 NS
Label Trust (M)	.54 ***	.51 ***	.53 ***
Product Source (X) → Label Trust (M)	.70 **	.50 **	.17 NS
Producer Recommendation (W)	1.05 ***	.84 ***	.53 ***
Product Source x Producer Recommendation	.47 ***	.25 **	.20 NS
Product Source x Product Type	.36 **	.19 **	.16 NS
<i>Indirect effect (Type x Recommendation) (CI95%)</i>			
Product Source → Label Trust → (Y)			
Ling*Recommendation	.52 (.66, .39) **	.20 (.31, .09) **	...
Ling*No-recommendation	.26 (.39), .15) **	.06 (.18, -.04) NS	...
Cod*Recommendation	.32 (.19, .15) **	.10 (.22, -.01) NS	...
Cod*No-recommendation	.07 (.17, -.03) NS	.03 (.06, -.13) NS	...

***Sig < .001, **Sig < .05, NS > .05. Bootstrapped indirect effects based on 5,000 resamples, with 95% upper and lower CI.

For the moderated mediation model (Figure 12), the results show a significant positive relationship (path c') between the product source being local (as opposed to global) on purchase intentions [$\beta = -.20$; $CI_{95\%}$: from $-.34$ to $-.06$]. The coefficient of path a [$\beta = .71$; $CI_{95\%}$: from $.22$ to 1.21] shows a positive relationship between seafood source and label trust. The label trust coefficient of path b ($\beta = -.42$, $CI_{95\%}$: from $.13$ to $.72$) shows that label trust also has a positive effect on purchase intentions. The indirect positive effect (path $a*b$) of the product source being local on purchase intentions through label trust is significant for cod [$\beta = .33$; $CI_{95\%}$: from $.50$ to $.20$] and ling in the presence of a producer recommendation [$\beta = -.54$; $CI_{95\%}$: from $.71$ to $.38$]. For ling, this also carried without the presence of a producer recommendation [$\beta = .24$; $CI_{95\%}$: from $-.36$ to $-.13$]. For the cod product without a producer recommendation, the indirect effect was insignificant.

To test the indirect effects in the model, a pairwise contract between indirect conditional effects was performed. The moderated mediation of label trust on product source was highest for ling with the producer recommendation [$\beta = .54$; $CI_{95\%}$: from $.71$ to $.38$]. Results of pairwise

contrast showed that the difference in the indirect effects between ling with the producer recommendation and ling without the producer recommendation was significant [ling*recommendation $\beta = .54$; ling*no-recommendation $\beta = .24$; Contrast $\beta = .30$; CI_{95%}: from .49 to $-.12$]. For cod, the pairwise comparison between producer recommendation label and no producer recommendation label was insignificant. The pairwise contract between product types with a producer recommendation was significant [ling*recommendation $\beta = .54$; cod*recommendation $\beta = .34$; Contrast $\beta = .21$; CI_{95%}: from .34 to .07].

8.4.7 Mediating effect of product involvement on product trust and purchase intentions

C7 proposes that product involvement mediates the effect of label trust on overall product trust and purchase intentions (Figure 13). To test C7, two mediation models were specified using PROCESS Model 4 (Hayes, 2013). Bias-corrected estimates with 95% confidence intervals (CI) from 5,000 bootstrapping re-samples are reported. For Model 1, the dependent variable was purchase intentions, the predictor variable was label trust, and the mediating variable was product involvement. In Model 2, the only change was the dependent variable, which became overall product trust.

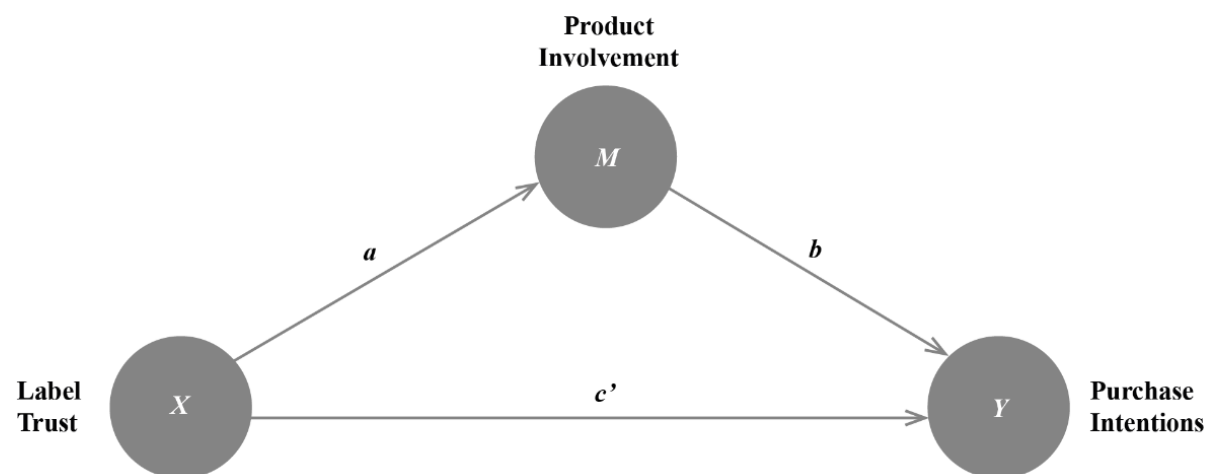


Figure 13: Product involvement mediation model

The results of the mediation analysis show a positive direct effect (path c') of label trust on purchase intentions [$\beta = -.49$; CI_{95%}: from .41 to .57]. The coefficient of path a [$\beta = -.09$; CI_{95%}: from $-.01$ to $-.17$] shows that product involvement has a positive effect on label trust. The product involvement coefficient of path b ($\beta = .34$, CI_{95%}: from .27 to .41] shows that product

involvement also has a positive effect on purchase intentions. The indirect effect (path $a*b$) of label trust on purchase intentions through product involvement is significant [$\beta = -.03$ CI_{95%}: from $-.01$ to $-.06$]. In other words, product involvement has a meaningful mediating effect, increasing the positive effect of label trust on purchase intentions. Similar results were obtained for overall product trust (Table 39). Therefore, C7 is fully supported.

Table 39: Empirical model and indirect coefficients (models 1 and 2)

n = 676 per condition

Paths	Product Trust (Y)	Purchase Intentions (Y)
Baseline model		
Label trust (X) → (Y)	.12***	.09**
Label trust (X) → Product involvement (M)	.45***	.45***
Product involvement (M) → (Y)	.77***	.85***
Indirect effects (CI _{95%})		
Label trust → Product involvement → (Y)	.34 (.43, .26)	.38 (.48, .29)

***Sig < .001, **Sig < .05, NS > .05. Bootstrapped indirect effects based on 5,000 resamples, with 95% upper and lower CI.

8.5 Discussion and conclusions

The present study assesses the impact of product source, product type, and producer recommendations on consumer perceptions of label trust and purchase intentions. The results show that the source of seafood has a significant impact on consumer perceptions and purchasing behaviours.

Picking up on the literature review in chapter 4, for locally produced products, label trust, overall product trust, and purchase intentions were higher than they were for globally sourced products. Although differences between local and national products were smaller, they were still significantly different for label trust and purchase intentions, indicating greater intentions to buy locally sourced seafood. Overall product trust between locally and nationally sourced products, however, was insignificant, suggesting that product trust is similar for local and national seafood. While there were no differences between locally and nationally sourced seafood for product trust, significant differences remained between nationally and globally sourced products. The moderated mediation models used in the study further highlight the importance of both product source and label trust in consumer purchase intentions. The results

show that label trust is higher for local compared to nationally and globally sourced products, and that this increased label trust has a positive mediating effect on purchase intentions. In other words, for local products, label trust is higher, which in turn increases consumer purchase intentions.

The results show that familiarity with the product type is also an important factor in consumer purchase intentions towards seafood. The current study looked at the whitefish product category, in which several species – both well-known and lesser-known – are available in the UK. Focus groups comprising industry experts chose cod as a widely known whitefish species, and ling as a relatively unknown whitefish species with similar properties to cod. The results show that consumers have higher purchase intentions for cod, a species they are more familiar with, when compared to ling, a less familiar whitefish species. Similarly, consumers have higher label trust and higher overall product trust for cod compared with ling, showing that familiarity is associated with more positive consumers in the whitefish seafood category, despite this familiarity relating only to the name of the species. Furthermore, the results identify product type (better-known vs less-known species) as a moderator of the relationship between product source (local vs non-local) and consumer purchase intentions. That is, for a better-known seafood product we can expect a more positive moderating effect for product source.

Producer information provided through recommendation labelling emerged as a crucial factor influencing consumer purchase intentions for seafood products. The inclusion of a producer recommendation label significantly impacted all dependent variables. Purchase intentions, label trust, and overall product trust were notably higher for products featuring a producer recommendation label compared to those without, regardless of product source or type. However, delving into the interaction between producer recommendations and product source offers additional insights. Concerning product source, producer recommendations exerted a significant positive influence only on label trust, with no discernible effect on purchase intentions or overall product trust. When comparing local versus global products, as well as national versus global products, label trust was elevated for items featuring a producer recommendation. Nonetheless, there was no notable distinction between locally and nationally sourced products. Put simply, consumer trust in seafood labels bearing a producer

recommendation tends to be higher for products sourced locally or nationally compared to those sourced globally.

The interaction effect of all the factors in the model was significant only for consumer purchase intentions. As such, purchase intentions was used as the primary independent variable of investigation in the moderated mediation analysis carried out in the present study. Label trust was shown to have a significant role in the interaction effects between product source and product type, and between product source and the presence of producer recommendations; label trust was thus used as the mediating variable in the model to test for its role in the relation between product source and consumer purchase intentions when product type (cod vs ling) and producer recommendations (present vs not present) are considered as moderators. The key conclusion from the analysis highlights a comparison between locally sourced and globally sourced products. For both product types (cod and ling), label trust had a positive mediating effect on the relationship between product source and consumer purchase intentions if a producer recommendation was present on the product.

For products without a producer recommendation label, this effect only carried for the lesser-known product of ling, and not for the better-known product of cod. In the simplest terms, if a product is locally produced and has a producer recommendation label, consumers have higher label trust, which in turn leads to higher purchase intentions. Furthermore, for lesser-known seafood types, the effect of a product being locally sourced is more important. In the present study, the effect of label trust with and without the presence of a producer recommendation is significant for locally produced ling compared to globally sourced ling. When comparing locally and nationally sourced ling, the interaction effect of a producer recommendation remains significant. In other words, for lesser-known seafood, the presence of a producer recommendation is important in increasing consumer label trust, which in turn increases purchase intentions. Without a producer recommendation, there is no significant difference between local and nationally sourced products, nor is there a difference between nationally and globally sourced products. For the cod product, producer recommendation still had a positive effect for local vs global products. This further supports the importance of producer recommendations in consumer responses to locally produced seafood.

Finally, significant conclusions emerged from the additional model used to further test the relationship between label trust and purchase intentions, and to check for the effects of product involvement. The model confirmed the relationship between consumer label trust and purchase intentions, while identifying product involvement as a mediating factor in this relationship. The results indicate that consumer product involvement – the emotions of interest, excitement, motivation, and enthusiasm that consumers experience towards a particular product category (Pappas *et al.*, 2016) – has a positive mediating effect on the relationship between consumer label trust and purchase intentions. That is, higher product involvement leads to higher label trust, which in turn increases consumer intentions to purchase the product.

8.6 Summary

In summary, the study identifies product source and product type to be important factors affecting consumer behaviours in the UK. While better-known seafood types are more popular, regardless of their provenance, the results show that for lesser-known seafood types, a local source has a significant positive impact on consumer trust and purchase intentions. The study also shows that a connection to the producer of seafood (i.e. the fisher) has a positive impact on consumer trust in the product and its label, which in turn positively impacts purchase intentions. The results show that for large retailers wanting to offer locally sourced seafood, producer recommendation labels can be a marketing strategy to increase purchase intentions, particularly for lesser-known, and often more sustainable, seafood products.

Chapter 9. Discussion

9.1 Introduction

Through the previous three chapters of results, five core points of discussion underpinning the development of SFSCs in fisheries areas were identified, related to the research objectives of this thesis. Chapter 9 discusses these findings across five corresponding sections. Firstly, social capital and the impact of FLAG on SFSCs are discussed in section 9.1. Secondly, normative-cognitive social capital and its impact on producer willingness to participate in SFSCs are then discussed in section 9.2. Thirdly, producer characteristics and the role of entrepreneurial orientation are outlined in section 9.3. Fourthly, barriers to SFSCs and producer adaptation strategies are discussed in section 9.4. Finally, in section 9.5, seafood marketing and consumer purchase intentions towards local seafood are discussed.

9.1 Social capital and FLAG influence on SFSCs

9.1.1 Breaking down social capital

A common misapprehension about social capital theory in its practical application is that it is a singular concept (Woolcock and Narayan, 2000). This gives rise to the criticism that if social capital can result in everything, then it also results in nothing at the same time (Durlauf and Fafchamps, 2005). On the contrary, a key finding of the present research, in the context of SFSCs as an economic outcome, is that breaking down social capital into its component parts is an important consideration in sustainable territorial development strategies.

The results from both chapters 6 and 7 identify the need to consider different and very specific types of social capital in assessing the development of SFSCs and producers' engagement with them. Social capital, as a singular concept, is too broad to be useful in identifying specific actions or groups of actions that foster the development of SFSCs. Understanding the nuances of specific types of social capital, on the other hand, holds significant importance in understanding its multifaceted influence on the creation of SFSCs.

To recap, the first two objectives of this thesis were, firstly, to investigate the specific territorial and sectoral factors that play a role in the creation of fisheries SFSCs within a territory, and secondly, to explore what conditions, and combinations of conditions, within a FLAG and its

territory are optimal for the creation of SFSCs as a means of sustainable local development. By exploring the various facets of social capital and how they work in combination, as well as how they interact with other local contextual factors, the present study establishes how social capital influences the creation and success of SFSCs. While structural and governance social capital have a considerable influence in the creation of SFSCs, normative-cognitive social capital is established as a key factor, suggesting that cultivating this form of social capital is pivotal to fostering the cooperation within FLAG area required for SFSCs to flourish. Each of the sub-dimensions of normative-cognitive social capital – including social cohesion (i.e. connectedness amongst actors) (Taylor, 2005; Smith *et al.*, 2016), closeness (Ilbery and Maye, 2006; Kebir and Torre, 2013), trust (Stevenson and Pirog, 2008; Heiss *et al.*, 2015; Pisani *et al.*, 2017), and collaboration among actors (León-Bravo *et al.*, 2017) – are requisites for the development of SFSCs, and producers' willingness to participate in them (Charatsari *et al.*, 2018).

The intricate interplay between these different types of social capital, in combination with local factors, emphasises the need for tailored and context-specific FLAG strategies. Recognising the diverse socio-economic contexts and dynamics within each FLAG area, it becomes imperative to adopt flexible and adaptive approaches that harness the strengths of existing social capital while addressing specific challenges and barriers hindering SFSC development. A refined understanding of social capital and its dimensions could enable FLAGs to develop informed strategies that further leverage local strengths and opportunities in fostering collaboration, and in cultivating and enabling environments that allow for the sustainable growth of SFSCs. Furthermore, it offers insights into adoption strategies and how FLAGs can support fisheries areas collectively overcome barriers to SFSCs which are discussed in section 9.4.

9.1.2 The impact of FLAGs on SFSCs

Chapter 6 examines how combinations of social capital and other territorial characteristics affect the nature of fisheries SFSCs. The focus of the chapter was the impact of FLAGs as an intervention programme designed to create and/or increase social capital in local areas.

While thriving SFSCs are a common goal, some initiatives and localities have been more successful than others in nurturing their development, so it is important to understand the factors that lead to such desired outcomes. To establish this understanding, an fsQCA was used to better understand the combinations of conditions that lead – or do not lead – to a higher degree of SFSCs being present in a FLAG area.

The results indicate that all three social capital types, as well as the territorial characteristics, matter when it comes to realising SFSCs in a FLAG area. This supports the notion that social capital is multi-faceted (Lewis, 2010). The fsQCA analysis reveals how these variables can work in differing combinations, thus forming a deeper insight into the role of social capital and counteracting some of the criticisms of its application as being imprecise and lacking explanatory power (e.g., Woolcock, 1998; Durlauf and Fafchamps, 2005). The results show that by breaking down social capital by type, FLAGs can harness its economic and social potential in achieving desired outcomes such as SFSCs. Moreover, the results also show that an understanding of an area's territorial situation is equally important to the types of social capital that will have the greatest impact on achieving such outcomes. The findings offer practical implications for FLAGs and LAGs in developing more focused local development strategies under the European territorial development programmes, as well as better insights into how such programmes and their impacts can be measured and evaluated.

Structural social capital is a core condition in three of the seven solutions. The results show that for structural social capital to yield a higher degree of SFSCs, other conditions are required: either other forms of social capital or the presence of particular territorial conditions. There is a strong correlation between structural social capital and network governance, indicating the importance of a connection between the structure of the FLAG and how it is governed. Either structural or network governance social capital can act as the only social capital type associated with a high degree of SFSCs, but in such cases the FLAG area must also have both a strong absolute and a strong relative dependency on its fisheries sector. One difference is the role of reflexive localism (i.e. pre-existing attitudes towards the benefits of local food systems); the effect of this is more apparent on network governance than it is on structural social capital.

The results show that normative-cognitive social capital can work in a different way to structural and network governance social capital. The main difference is that normative-cognitive social capital is the only social capital type that can lead to a higher degree of SFSCs, without the presence of any other condition in the conceptual model. That is, normative-cognitive social capital can be associated with a favourable result with or without the presence of structural and network governance social capital, and whether or not an area has any type of dependency on its fisheries sector. This supports the notion that interpersonal trust and shared values are essential to fostering SFSCs (e.g., Kneafsey *et al.*, 2008). An important finding, however, is that normative cognitive social capital, while important, is not the only way to increase SFSCs in FLAG areas; in areas with a strong dependency on fisheries, structural and network governance social capital can also lead to the presence of SFSCs.

The results indicate that normative-cognitive is the only social capital type that can lead to SFSCs independently of a FLAG's governance and structure. This offers important insights for FLAGs wanting to achieve SFSCs as a strategic objective, particularly in areas that have no direct or indirect dependency on fisheries but do have small-scale fisheries producers operating in the area. This suggests a key role for FLAGs in fostering normative-cognitive social capital as a basis for encouraging SFSCs, meaning that trust, the quality of the network, participation, and shared values put in place through the FLAG can help realise more substantial fisheries SFSCs in an area. Furthermore, irrespective of an area's dependency on fisheries – in either absolute or relative terms – high levels of normative-cognitive social capital in a FLAG area can lead to more substantial SFSCs. In other words, in the complete absence of absolute and relative fisheries dependency in a FLAG area, high levels of SFSCs can still be present if high levels of normative-cognitive social capital are produced through the FLAG's activities.

Overall, the findings provide insights for any FLAG wanting to focus on SFSCs in its local development strategy, by hinting at the best ways in which to develop social capital in its area, depending on the territorial situation. For example, FLAG areas with higher levels of absolute and relative fisheries dependency might want to focus their efforts on fostering structural social capital (i.e., relational properties, members of the network, the network's horizontal structure, accountability, and transparency) and network governance social capital (i.e., the network's vertical structure, organisational culture and capacity, decision-making processes, efficiency

and effectiveness). Both types of social capital work in isolation, and also together in areas where there is high absolute and relative fisheries dependency. As FLAGs try to focus their resources, those that have unclear understandings of their areas' fisheries dependency or reflexive localism may find that normative-cognitive social capital might be the best focus as a way to develop SFSCs. These results establish a direct link between how social capital types combine in achieving SFSCs as a means of territorial development which is a novel contribution to the literature. The results also underpin the importance of FLAGs as neo-endogenous intermediaries (Ray, 2001; Ray, 2006), and the critical role they can play in revitalising coastal communities, promoting economic diversification, and establishing sustainable food systems as a means of local development and community empowerment.

FLAGs can act as a catalyst for community empowerment by bringing together local knowledge, skills, and resources through local development projects that reflect the specific socio-economic and environmental circumstances of respective coastal areas. Thus, the present study shows that FLAGs can encourage SFSCs and sustainable management of marine resources by giving local stakeholders – including fisheries and aquaculture producers, processors, consumers and other community stakeholders – a voice and a sense of collective responsibility. Furthermore, the ability of FLAGs to bring together several other stakeholder groups including civil society, public agencies, academics and researchers in their partnerships places them as crucial experimental centres, where new SFSCs can be developed and tested. This includes added-value processing, direct marketing through mobile apps and online sales, and collaborative branding projects which can be tested and ultimately scaled up (FARNET, 2019; FARNET, 2021a). As such, FLAGs are also vital in pushing for changes to institutional support for SFSCs; as such they help to create policies that encourage sustainable practices, boost local entrepreneurship and open up markets to small-scale producers.

In summary, through promoting community empowerment, stakeholder engagement, innovation and policy support, FLAGs are well placed to foster the sustainable development of SFSCs in fisheries and coastal areas. The present study identifies that through social capital, this can be achieved in several ways. Key to these findings is the role of normative-cognitive social capital as a key driver for SFSCs being present in an area. The results show that normative-cognitive social capital can act alone as a social capital type in leading to higher

degrees of SFSCs. Furthermore, the findings show this type of social capital to be highly important to producers operating in fisheries and coastal areas. As well as having a positive effect on producer willingness to participate in SFSCs, normative-cognitive social capital also has a positive impact on individual characteristics, such as IEO, among consumers, which is a key area of interest for many FLAG strategies. These findings, therefore, are pertinent to FLAGs' ability to strengthen coastal communities, food systems, and sustainable territorial development by reconnecting producers and consumers, which is discussed in the following sections.

9.2 Normative-cognitive social capital and willingness to participate in SFSCs

Normative-cognitive social capital has been shown in the literature to have a positive effect on social relationships and economic outcomes (Christoforou, 2017; Da Re, Castiglione and Burlando, 2017; Chiffolleau *et al.*, 2019). In the present research, four of the main individual sub-dimensions of normative-cognitive social capital were tested for their effects on willingness to participate in SFSCs. Of the four sub-dimensions (perceived trust, connectedness, closeness and collaboration) only connectedness was a significant predictor of willingness to participate in SFSCs. While this does not diminish the importance of trust, closeness and collaboration in producer willingness to participate in SFSCs, it highlights that connectedness between local actors is a critical factor. The results show these elements of social capital to be a foundation in facilitating market access for producers engaged in SFSCs. Through social networks within local communities, producers can establish direct connections with consumers, thereby gaining access to local markets and distribution channels (Charatsari, Kitsios and Lioutas, 2020). Such direct engagement fosters normative-cognitive types of social capital including transparency and trust, and ultimately enhances the credibility of SFSCs, bolstering the contributions they make to sustainable territorial development.

Moreover, social capital can also play a pivotal role in fostering consumer engagement and participation within SFSCs. By nurturing interpersonal relationships and fostering shared values, social networks can create a sense of community ownership over food production and distribution (Pisani *et al.*, 2017). This heightened engagement not only promotes loyalty to local producers but can also strengthen consumer demand for locally sourced food, driving the growth and sustainability of SFSCs. Social capital can also serve as a catalyst for innovation

and adaptation within SFSCs, in addition to enhancing market access and consumer engagement. Through the exchange of information, knowledge, and best practices among stakeholders, social networks (including those animated by FLAGS) can stimulate creativity and foster the development of innovative production methods, products, and supply chain channels. This culture of innovation enables SFSCs to respond effectively to changing market dynamics and evolving consumer preferences, ensuring their continued relevance and competitiveness. In terms of sustainable territorial development, such social capital empowers producers and their communities to advocate for supportive policies and regulations that facilitate the creation of SFSCs. By leveraging collective influence and networking capabilities, stakeholders can effectively lobby policymakers and decision-makers to enact policies that promote the development of sustainable food systems. Such advocacy efforts could help to address barriers and challenges hindering participation in SFSCs, or their development, thus creating an enabling environment for their sustainable growth and development.

The present study highlights that social capital positively influences producers' participation in SFSCs through interconnected social networks, shared resources, expertise and market insights, thus enhancing their capacity to engage in SFSCs. Normative-cognitive social capital can cultivate an entrepreneurial mindset among producers, as shown by the PLS-SEM model in the present study, inspiring them to explore innovative business models and seize emerging opportunities within SFSCs. By providing access to networks, mentorship, and collaboration opportunities, the social capital generated through FLAGS can empower producers to experiment with value-added offerings, diversify their product ranges and explore new market niches. Furthermore, social capital plays a critical role in mitigating internal barriers such as lack of marketing skills and external barriers such as regulatory constraints, thereby facilitating the smooth operation of SFSCs. Through collective problem-solving and knowledge sharing, stakeholders can overcome obstacles and challenges encountered in the operation of SFSCs. These collaborative approaches foster a culture of innovation that further drives the ongoing development and resilience of SFSCs.

In summary, normative-cognitive social capital, as a specific social capital type, can play a vital and multifaceted role in shaping the success and sustainability of SFSCs. The results of the fsQCA highlight the importance of normative-cognitive social capital in nurturing SFSCs

when compared to other social capital types, leading to higher degrees of SFSCs being present in FLAG areas. The results from the PLS-SEM modelling further supports these claims in shedding light on how normative-cognitive social capital affects producer responses to SFSCs, from facilitating market access and consumer engagement to driving innovation and advocacy. Although building alternative food systems that place an emphasis on regional production and territorial development require all aspects of social capital, the present study highlights the importance of normative-cognitive social capital as a focal point for developing SFSCs.

9.3 Producer characteristics and willingness to participate in SFSCs

The results in chapter 7 indicate that producer characteristics play an important role in willingness to participate in SFSCs. Age proved to be a predictor of willingness to participate with younger producers being more likely to engage in shorter supply chains. In terms of entrepreneurial orientation, the results identify innovativeness as a significant predictor of willingness to participate in SFSCs among fisheries and aquaculture producers. The findings suggest that fisheries producers who are more likely to explore new and unknown ways of operating are significantly more likely to show higher willingness to participate in SFSCs. An interesting finding was that the results for the other dimensions of IEO – risk-taking and proactiveness – were significant.

A finding from the PLS-SEM model used in the present study is that normative-cognitive social capital has a positive impact on producer willingness to participate in SFSCs. The results show that each of the component parts of normative-cognitive social capital contributed to its impact on producer willingness to participate in SFSCs. Connectedness, closeness, collaboration and trust among actors thus exert a positive effect on social capital, which in turn has positive impact on how willing a producer is to participate in SFSCs. In other words, the normative-cognitive social capital present in an area plays an important role in increasing producer willingness to engage in SFSCs.

Another conclusion drawn from the PLS-SEM model is the importance of a producer's individual entrepreneurial orientation (IEO), and the relationship between IEO and social capital. Research on entrepreneurship and social capital has increased in recent years (e.g.,

García-Villaverde *et al.*, 2018; Rodrigo-Alarcón *et al.*, 2018; Hernández-Carrión, Camarero-Izquierdo and Gutiérrez-Cillán, 2020; Sahasranamam and Nandakumar, 2020), with several studies focusing on the role of IEO (Jiang *et al.*, 2018; Basco, Hernández-Perlines and Rodríguez-García, 2020; Kollmann *et al.*, 2021). However, there has been little research on how IEO affects willingness to participate in SFSCs, and this is addressed in the present research. The results show higher social capital in an area to have a positive effect on a producer's IEO. That is, increased collaboration, connectedness, closeness and trust among actors within an area leads to higher entrepreneurial tendencies amongst producers. Furthermore, the results show that the positive effects of IEO can further strengthen the positive impact of social capital on producers' willingness to participate in SFSCs. In the simplest terms, IEO and social capital are positively associated with each other, and their combined effects lead to higher willingness to participate in SFSCs among producers.

It is established that the willingness of a producer to engage in SFSCs is favourably influenced by IEO. Traits of increased initiative, risk-taking tendencies and a desire for autonomy motivate producers to participate in SFSCs in order to build relationships with customers and seize potential added value. Findings from the present research suggest that producers with a strong entrepreneurial orientation are more able to adapt to changing consumer tastes and market demands. By being proactive, they can find niche markets, customise their goods and services to fit those needs, and take advantage of new opportunities. Capitalising on such opportunities could increase market shares and give producers a competitive edge as they respond to changing market dynamics and align their products with consumer trends, as well as enticing new customers interested in more sustainable product alternatives.

By encouraging cooperation, trust, and a common set of values among supply chain participants, social capital plays an important role in nurturing producer IEO and vice versa. Entrepreneurs are more inclined to create networks, utilise resources, and foster collaboration and relationships with other stakeholders. These actions correlates with prevalence of SFSCs in fisheries areas, as revealed in the fsQCA analysis of FLAGS in the present research. Such engagement enhances the resilience and effectiveness of SFSCs. Producers play a significant role in this process through innovative characteristics such as IEO. Such entrepreneurial traits can contribute to more pro-active identification of market opportunities, consumer trends and

technological advances, which, in turn, can lead to the creation of innovative products, manufacturing processes and distribution networks (Greenwood, 2019). It may be that producers with higher IEO identify profitability and sustainability in engaging in SFSCs, and that producers with higher IEO are likely more skilled in finding inefficiencies in the supply chain, streamlining procedures, and offering distinctive value propositions to customers, thus making SFSCs an attractive proposition (Covin *et al.*, 2020).

Entrepreneurs in the seafood sector can charge a premium through SFSCs by differentiating themselves and their products, allowing them to maximise value for both themselves and their customers. The present study offers insights into how producers could sell lesser-known species through shorter supply chains using simple yet effective marketing techniques aligned with consumer trends, namely a desire for more information about who is producing their food (Rupprecht *et al.*, 2020), and the sustainability of the products offered (De Jonge *et al.*, 2007). Exports may offer a premium for more valuable species – for example, Asian markets attract significant prices for certain seafood. Local markets, however, may be more profitable for entrepreneurial producers wanting to capitalise on changing trends while selling catches that would fetch lower prices if they were sold through longer supply chains. Furthermore, multiple entrepreneurs engaging in SFSCs may create local markets that were previously lacking – an obstacle cited in the present research. Building such markets in the fisheries sector can attract investment, diversify local economies, and support local economic growth (e.g., Altintzoglou *et al.*, 2010; Claret *et al.*, 2012; Risius, Janssen and Hamm, 2017; Zander and Feucht, 2018; Maesano *et al.*, 2020; Witter, Murray and Sumaila, 2021; Carreras-Simó *et al.*, 2023; Martino *et al.*, 2023). Entrepreneurs are a key driver of innovation, which in turn is crucial to the processes mentioned above and to boosting community resilience and territorial development.

9.4 Barriers to SFSCs and adoption strategies

Referring back to the second objective of this thesis – to identify the challenges perceived by producers in their involvement with fisheries SFSCs – the present study identifies that fisheries and aquaculture producers face several challenges (or barriers) to being able to engage in SFSCs. In chapter 7, the present research splits these barriers into internal and external factors. Of the several internal barriers to engaging in SFSCs, three are significant in hindering producers' willingness to participate. The significance of a lack of financial resources as a

predictor for increased willingness to participate in SFSCs was an interesting finding, as it highlights the need for small-scale producers to diversify their operations. Lower levels of financial resources are associated with increased willingness to participate in SFSCs, highlighting the importance of shorter supply chains for smaller-scale producers.

The results identify that a lack of marketing and management skills is also a significant internal barrier in terms of reducing producer willingness to participate in SFSCs. While not all SFSCs require producers to have extensive marketing and management skills, some of the newer and more viable SFSCs available to seafood producers – such as online sales, mobile apps, box schemes, cooperatives, and even direct sales to restaurants and dedicated retailers – requires certain marketing and management skills to achieve a market share. Many fisheries producers focus on production; they land or produce seafood and that is where their involvement in the supply chain ends. Many SFSCs require producers to develop new markets and to make themselves more visible to other supply chain actors and businesses. If such skills are lacking, the findings from the present research shows that producers are significantly less willing to participate in SFSC initiatives. Consequently, selling significantly more produce through new channels would force producers to adapt their entire business models, as production and marketing strategies are intertwined (Nuthall, 2011).

A similar finding was that a lack of premises or viable locations for sales is also a significant predictor of reduced willingness to participate in SFSCs. Unlike most other food products, fish and shellfish require immediate treatment once they arrive at the dock. Without the appropriate facilities and infrastructure to store and process seafood, producers are unable to engage in shorter supply chains. While selling through a pre-agreed longer supply chain may mean reduced prices for producers, they do offer security and the guarantee of sales without perishable losses. Sales to restaurants, fishmongers, or local stores in small to medium quantities require storage and some processing capacity, which can be a barrier to producers engaging in such supply chains.

More direct SFSCs such as home deliveries, website sales, and mobile apps requires further storage infrastructure, as orders may not be immediate or guaranteed and sales can thus be further delayed. A lack of points of sale is also an important factor for some types of SFSCs

such as dockside sales or harbour stalls. Without such premises, producers show significantly lower willingness to participate in SFSCs. Despite this, one of the most prevalent SFSC types reported by producers in the present research is dockside and harbour sales. This indicates that producers will take immediate sales when they land a catch, but that a lack of processing and storage facilities ultimately leads to the need for an intermediary (i.e. a retailer or fishmonger) and the loss of a direct connection with the end consumer. This finding supports the need to connect fisheries producers and consumer through other more ‘proximate’ means of connection, such as labelling information (e.g. producer recommendations).

These findings offer insights into how FLAGs, and wider policy initiatives, can support fisheries and aquaculture producers to engage in SFSCs. Aside from the impact of the social capital they create, FLAGs also offer several practical solutions to some of the barriers identified in blocking producers from engaging in SFSCs. The first of these concerns dockside infrastructure related to storage and processing. FLAGs are well placed to support producers in addressing such needs in a collaborative way, with several FLAG projects across both the EFF and EMFF focused on pooling resources and offering producers shared resources and opportunities for storage, access to premises, processing facilities and the development of markets and points of sale (FARNET, 2013b; FARNET, 2019). Secondly, FLAGs are also well-placed to offer support in developing the capacities which have shown to be lacking among producers (i.e., marketing, processing, management, and technology). This is particularly pertinent given the role that producers’ individual entrepreneurial orientation plays in producer willingness to participate in SFSCs.

For external barriers to SFSCs, sectoral and market policies and regulations scored highly as barriers to SFSCs. Immature markets (i.e. an apparent lack of consumer interest in buying through SFSCs) was also seen as a significant barrier to SFSCs, as was a lack of local communication, marketing and selling opportunities. Thus, on the one hand, producers identify a lack of consumer interest and access as a key obstruction to SFSCs, while on the other hand market policies act as a barrier to SFSCs regardless of the maturity of local markets and interest.

An interesting finding was the effect of producer experience (i.e. the number of years a producer has worked as fisheries producer) on barriers to SFSCs. Experience correlates with

decreased collaboration between supply chain actors so as producers become more experienced they become less likely to collaborate in SFSCs. Producer experience was also found to be a potentially important factor in mitigating some external barriers to SFSCs in sectoral and market policies and regulations. As producers gain more experience in the profession and in the fisheries sector, they perceive EU regulations and sectoral policies such as the CFP as less of a barrier to SFSCs for producers. The results also suggest that a lack of resources becomes less of a barrier to SFSCs as experience increases. Furthermore, the education of producers and capacity in key skills is also an important consideration. The results show that increased levels of education lead to marketing and management, technological development and processing skills being less of a barrier to SFSCs.

SFSCs in fisheries areas require producers to break away from the status quo and to try new channels of sale. The vast majority of the literature on SFSCs is grounded in rural development where experimentation with new supply chains may come easier and at less of a cost than would be the case for many seafood producers. A key challenge for fisheries producers, is that many SFSC models are grounded in this rural context, which in large are not transferable to fisheries and aquaculture. A lack of viable sales and storage locations was shown to be a key factor for fisheries producers; this is not typically the case for farmers and other food producers (e.g., Ilbery and Kneafsey, 1999; Venn *et al.*, 2006; Kneafsey *et al.*, 2008; Kneafsey, 2012; Kneafsey *et al.*, 2013; Enthoven and Van den Broeck, 2021). In a rural context, farmers have an abundance of space and storage; in fact, this wealth of space is often the driving force behind diversifying SFSCs such as farm shops and on-site sales, as such initiatives can take advantage of disused yards and buildings. Other than their vessels, which may have small storage holds, fishers do not have the same spare space often used by farmers for small-scale initiatives. This makes the fisheries case distinct from the literature on SFSCs in a rural context. While farmers see an abundance of space, storage, and available points of sale as an opportunity, the present research identifies that the opposite is true of fishers, who see a lack of these resources as a key barrier to engaging in SFSCs.

9.5 Seafood marketing and consumer behaviours

As with any food product, how seafood is marketed is an important factor in understanding consumer responses (Zander and Feucht, 2018). To develop territorial markets for locally

caught fish, an appreciation of consumers' responses to the product and their purchase intentions is imperative, as these are critical to continuing viability. In this sense, it is critical to examine innovative marketing approaches to reconnect producers and consumers and to understand customers' perceptions of 'value' in the products offered to them (Sellitto et al., 2017).

In addressing the fourth objective of this thesis – to investigate which factors impact consumer purchase intentions for locally produced seafood – the results set out in chapter 8 provide a better understanding of consumer responses to seafood products, paying particular attention to three factors: product source, product type, and the presence of a producer recommendation label. The study identifies which consumer-based factors constrain, hinder or support marketing efforts for locally produced seafood and, in turn, contribute to the territorial development of the fisheries sector. The study reveals that all three factors are important to consumer purchase intentions, and that all three factors interact in consumers' perception of both label and product trust. These results are now discussed in three main sections. The first section focuses on consumer responses to locally sourced seafood products, the second on consumer trust in lesser-known seafood types, and the third on the impact of producer recommendations. Finally, we draw conclusions on producer-consumer reconnection.

9.5.1 Consumer trust in lesser-known seafood products

The literature on seafood consumer behaviours largely concerns the *big five* seafood species (tuna, cod, prawns, haddock and salmon) (Harrison *et al.*, 2023). These five species dominate the UK market, accounting for approximately 80% of fish and seafood eaten by UK consumers (FAO, 2022). There has been much discussion on the prominence of the big five, with several researchers indicating that limited tastes amongst UK consumers is putting these five species under increased pressure when similar alternatives are largely ignored (Symes and Phillipson, 2019). One key factor for the dominance of these species in the UK market is awareness and consumer preferences (Harrison *et al.*, 2023). In a country with a coastline twice the length of Spain's, British consumers eat one-third as much seafood as their Spanish counterparts (FAO, 2022). Some of the main reasons for this aversion to fish and seafood in the UK include poor cooking and preparation skills, and a dislike of the smell and touch of seafood products (Vittersø *et al.*, 2019) – trends that are reversed in Spain, a fact that is attributed to higher

seafood consumption (Carreras-Simó *et al.*, 2023). These factors were confirmed in the present research as some of the most prevalent reasons among consumers for not consuming seafood on a regular basis, alongside other factors such unfamiliarity, aversion to change, and high prices.

High prices are an important factor in consumer behaviours concerning fish and seafood, as higher prices for the big five species can be largely attributed to the high demand placed on those fisheries (Greenwood, 2019). In other words, consumers' preferences for those five species is what drives some consumers to avoid them, and seafood, altogether. Other alternative species, however, are available in the UK market, and are generally cheaper than their better-known counterparts. This is particularly the case for whitefish species, where there are several alternatives which share almost identical properties with the market-dominating cod and haddock (Seafish, 2021c). However, these alternatives are lesser-known species with little to no awareness among UK consumers. It is true that some whitefish species are increasing in popularity in the UK. For example, whiting has become more prominent in recent years, as have species such as pollock as an alternative to cod and haddock in the popular UK takeaway of fish and chips (Seafish, 2021c). However, some cod alternatives such as ling, hake, cusk and coley remain relatively unknown to UK consumers, despite being suitable alternatives (Greenwood, 2019). As such, whitefish was the focus of the UK consumer research in the present study, which compared consumer responses to cod and ling whitefish fillets.

The results set out in chapter 8 indicate that consumers have lower purchase intentions for ling when compared to cod. Ling, like other whitefish species such as haddock, is comparable to cod in terms of taste, texture and appearance (Seafish, 2021c). In terms of cooking methods and dishes, the two fish types are highly comparable (Seafish, 2021c), yet the present results indicate that consumers are significantly less likely to buy ling than they are cod. The results show trust to be a significant factor. In particular, just seeing the name 'cod' on the seafood product label, despite all other attributes remaining the same, instils greater label trust in consumers, which in turn leads to higher purchase intentions. For territories and their producers, this poses challenges when trying to engage consumers in purchasing lesser known, yet equally suitable alternatives. Methods of persuading consumers to purchase and consume lesser-known

seafood types that share the properties of better-known types are required by producers who engage directly with consumers through SFSCs, and by marketers serving retail outlets.

The following section discusses how promoting the source of product is one factor which can influence consumer responses to lesser-known species. Section 9.5.3 then discusses how the use of producer information in the form of recommendation labelling also impacts consumer responses to lesser-known seafood types before section 9.5.4 discusses how these factors affect producer-consumer reconnection.

9.5.2 Consumer responses to locally sourced seafood products

While the results of the present research indicated that UK consumers still have a preference for better-known species, they also revealed some important factors that affect consumer purchase intentions for lesser-known seafood species. One such factor was the origin of the product. Product origin is an important factor in consumer responses to food. Several studies on country of origin have indicated that consumers have certain preferences (e.g., Davies and MacPherson, 2010; Bitzios *et al.*, 2017; Saidi *et al.*, 2023). Multiple studies have also shown increased consumer preferences towards local vs non-local food (e.g., Zepeda and Leviten-Reid, 2004; Zepeda and Deal, 2009; Grebitus, Lusk and Nayga Jr, 2013; Feldmann and Hamm, 2015; Enthoven and Van den Broeck, 2021).

Research has also identified that these consumer preferences towards local food apply to fish and seafood (e.g., Altintzoglou *et al.*, 2010; Claret *et al.*, 2012; Risius, Janssen and Hamm, 2017; Zander and Feucht, 2018; Witter, Murray and Sumaila, 2021; Carreras-Simó *et al.*, 2023; Martino *et al.*, 2023). However, few studies have explored how the local nature of a product affects consumer purchase intentions for lesser-known seafood alternatives. This is a particularly novel contribution to the literature given that the UK market has become increasingly dependent on imports in recent decades (Bell, Watson and Ye, 2017; FAO, 2020; FAO, 2022), yet faces the implications of Brexit and stricter customs controls on perishable foods (Seafish, 2021b).

In the 1970s, UK production from fisheries and aquaculture accounted for 89% of all seafood consumed in the UK (Bell, Watson and Ye, 2017). As of 2019, this figure was only 40% (FAO,

2020; FAO, 2022). More recently the UK left the EU, the CFP and the European Single Market, which had previously removed many barriers to trade for UK producers between the UK, other EU member states, and important fishing countries such as Iceland and Norway (Symes and Phillipson, 2019). While the EU-UK Trade and Cooperation Agreement (2020) provides tariff-free trade for UK fisheries and aquaculture products from territorial waters (12 nm), it does not include seafood landed outside of territorial waters, and thus excludes many fin-fish species. Such effects may alter the structure of the UK fishing sector: re-focusing on locally landed seafood, and in particular alternative species, is one way to reduce reliance on imports and shorten supply chains.

The results of the present study show that the source of seafood has a significant impact on consumer perceptions and purchasing behaviours. For locally produced products, label trust, product trust and purchase intentions were higher than they were for nationally and globally sourced products. Although differences between local and national products were smaller, they were still significantly different, indicating greater intentions to buy seafood that is from sources that are more local. The moderated mediation models used indicate that consumers have higher trust in a product label that indicates a local source, and that this trust has a significant positive mediating effect on purchase intentions.

The significant locality effect observed for both better-known and lesser-known seafood types underscores the transformative potential of local food through SFSCs in shaping consumer perceptions and behaviours. SFSCs serve as a conduit for forming connections between producers and consumers, thereby influencing how consumers engage with and perceive locally produced seafood. In the case of ling, a lesser-known seafood type, the impact of SFSCs on consumer responses becomes particularly pronounced. The findings suggest that SFSCs play a pivotal role in enhancing consumer trust and purchase intentions for ling, highlighting the importance of shorter supply chains in strengthening the market presence of lesser-known seafood types. These findings contribute to the literature showing that SFSCs offer more than just convenience for producers and consumers alike, emphasising their role in reshaping consumer attitudes towards local products and how these attributes interact.

The results identify a preference among consumers for nationally sourced products over those sourced globally. This preference further intensifies when comparing locally sourced seafood to that which is sourced globally. These findings underscore the SFSC literature on proximity and how it and how it can lead to increased perceptions of authenticity and trustworthiness in food product (e.g., Hobbs and Goddard, 2015; Kaiser and Algers, 2017; Macready *et al.*, 2020; de Vries *et al.*, 2023; Yuan, Jin and Wu, 2024). Such studies are typically grounded in a rural context; the present study identifies that these findings extend to seafood product categories and SFSCs. This also further supports the literature showing that consumers are increasingly demanding transparency and sustainability in their consumption choice behaviours (Tonkin *et al.*, 2015; Rupprecht *et al.*, 2020; Wu *et al.*, 2021; Cook *et al.*, 2023). Put a different way, the research shows that the more local a seafood product is, the more favourably it is received by consumers, highlighting the pivotal role of geographical proximity and origin in shaping consumer perceptions and preferences within the seafood market (e.g., Zepeda and Leviten-Reid, 2004; Zepeda and Deal, 2009; Grebitus, Lusk and Nayga Jr, 2013; Feldmann and Hamm, 2015; Enthoven and Van den Broeck, 2021).

These insights carry significant implications for both producers and the SFSCs in which they operate. For producers, the findings underscore the importance of leveraging SFSCs as a means of enhancing consumer trust and engagement, particularly for lesser-known seafood varieties where higher profit margins are obtainable if there is added value in selling locally. By participating in SFSCs, producers can effectively bridge the gap between their products and consumer preferences, thereby capitalising on the inherent value attributed to locally sourced seafood. Additionally, the preference for nationally sourced products over globally sourced ones highlights the potential market advantage for producers operating within local or national contexts. These findings underscore the critical role SFSCs play in facilitating direct producer-consumer interactions and fostering consumer appreciation for locally sourced seafood. Furthermore, FLAGs are well placed to support these connections by championing the principles of transparency, authenticity, and community connection. As an economic objective and outcome, SFSCs can serve as catalysts to revitalise local seafood markets and strengthen the bond between producers and consumers, and a mechanism for territorial development.

9.5.3 The impact of producer recommendations

A key benefit of SFSCs, as outlined in chapter 4, is greater connections between consumers and the people who produce their food (e.g., Davies and MacPherson, 2010; Bitzios *et al.*, 2017; Saidi *et al.*, 2023) with consumers becoming increasingly interested in the source of their food and how it was produced (Nikolaidou, Kouzeleas and Goussios, 2023; Pedersen *et al.*, 2023). As such, food certification and labelling has proliferated in recent years (Tonkin *et al.*, 2015; Macready *et al.*, 2020; Lucas, Soler and Revoredo-Giha, 2021; Perumal, 2023; Potter *et al.*, 2023), as food marketers try to meet the rising need to provide information on how food is produced (Aprile, Caputo and Nayga Jr, 2012; Newman *et al.*, 2014; Tonkin *et al.*, 2015; Rupprecht *et al.*, 2020; Wu *et al.*, 2021; Cook *et al.*, 2023). Furthermore, the question of trust in these marketing claims has also become prominent (Macready *et al.*, 2020). The current study investigates the complex dynamics of producer recommendations and their impact on customer perceptions and purchase intentions for seafood products. The findings illustrate the varied nature of consumer decision-making processes, shedding light on the importance of producer endorsements in shaping consumer behaviours regarding seafood products.

Producer recommendations have emerged as a significant influencer on both consumer trust and purchase intentions. Notably, the presence of producer recommendation labels significantly increases consumer trust in seafood product labels. While several studies have examined the impact of various certification labels on product origin, the present work highlights the fact that a simple label of endorsement from the producer amplifies consumer trust in claims on the source of the product, as well as significantly increasing consumer trust in lesser-known seafood varieties.

These findings highlight the importance of producer endorsements in instilling confidence and credibility in seafood products which, in turn, lead to higher purchase intentions among consumers. For producers wanting to sell through SFSCs, and marketers wanting to place products that align with consumers' desire for more sustainable local seafood products, producer recommendations are one avenue they can explore to increase consumer trust and purchase intentions, particularly when offering novel or lesser-known seafood types as sustainable alternatives to more prominent products. Moreover, the study findings reveal that

the impact of producer recommendations is nuanced in terms of product source and seafood type (better vs lesser-known products).

While producer endorsements enhance label trust for both locally and nationally sourced seafood products, their influence is stronger for products sourced locally, highlighting a tendency among consumers to place greater trust in recommendations for those products that are more local. An interesting finding is that nationally sourced products are still favourable over those sourced globally. This is important considering the nature of seafood supply chains in areas that are distant from the coasts and thus proximity from local fisheries. In such cases national producer recommendations are still effective in attributing higher levels of authenticity and trust, even though these levels are lower than for seafood products that are sourced locally.

Similarly, the effect of producer recommendations extends to product familiarity. The results reveal that producer recommendations play a pivotal role in enhancing consumer responses towards less mainstream seafood types, such as ling, when compared to more widely recognised types like cod. This emphasises the role producer recommendations can play both in developing trust in lesser-known seafood types and in stimulating purchase intentions. Lesser-known species are often the more sustainable options, and are thus a good match for recent consumer trends (Carreras-Simó *et al.*, 2023). However, the results of the present study suggest that consumers still need convincing to purchase ‘unknown’ types of seafood, and that producer recommendations are one way to achieve this objective. Furthermore, the mediating role of label trust in the relationship between producer recommendations and purchase intentions reveals further insight into consumer decision-making processes.

Higher levels of label trust, enabled through producer recommendations, are a catalyst for increased purchase intentions, suggesting that building consumer trust in seafood products should be a cornerstone of marketing efforts. Trust can be achieved through product labelling and producer information which showcases either the expertise or the integrity of the producers who are recommending the product (Rupprecht *et al.*, 2020; Wu *et al.*, 2021; Pedersen *et al.*, 2023; Yuan, Jin and Wu, 2024).

By cultivating label trust, marketers can enhance consumer confidence and drive purchase intentions for seafood products. The present study shows that the producer information included on seafood labelling can be as simple as an endorsement of quality; this in turn highlights the impact of producer recommendations on consumer perceptions and purchase intentions within the seafood market. By leveraging producer endorsements effectively, producers, marketers and policymakers alike can not only enhance consumer trust and confidence but also promote sustainable sourcing practices and drive purchase decisions, thereby fostering more resilient and consumer-centric seafood markets as well as sustainable territorial development.

Moreover, the results offer insights onto the importance of tailoring marketing strategies based on product source and type. For locally sourced seafood, emphasising local origin and the involvement of local producers can resonate with consumers who value authenticity. On the other hand, for lesser-known seafood varieties, marketers can leverage producer endorsements to increase consumer familiarity and confidence in products that are also more sustainable and viable. In other words, by highlighting producer recommendations prominently on product packaging, marketers can instil trust and credibility among consumers. This can be particularly effective in driving purchase intentions, as consumers are more likely to choose products endorsed by trusted producers.

9.5.4 Producer-consumer reconnection

SFSCs have emerged in response to growing concerns regarding the economic, environmental, and social impacts of conventional food systems (Harris, 2010; Harrison *et al.*, 2023) (Harris, 2010). Central to the success of SFSCs is the relationship between the actors involved and their motivations for change, particularly the connection between producers and consumers within a specific territory (Harrison *et al.*, 2023); the definition of SFSCs by the EIP-AGRI Focus Group (EIP-AGRI, 2015) (2015), for example, emphasises the importance of the relationships among all actors in local and alternative food systems. Whether in rural, peri-urban, or urban settings, SFSCs are perceived not only as a means of restructuring food supply chains but also as a way of re-localising economic control over food production (Kneafsey *et al.*, 2013; EIP-AGRI, 2015).

How supply chains are shortened, and the shared motives of producers and consumers, are therefore significant factors that need to be contextualised within each territory to gain an understanding of the underlying relationships and structures that form SFSCs (Copus, Skuras and Tsegenidi, 2008; EIP-AGRI, 2015; Charatsari, Kitsios and Lioutas, 2020; Enthoven and Van den Broeck, 2021). Some SFSCs provide a clearer understanding of the connections between producers and consumers than others. For instance, *slow food* systems often stem from a collective local motive that opposes conventional food systems, and resonates with a sense of place and people, reflecting a shared concern among producers and consumers (Pretty, 2001). In other SFSCs, however, the connection between producers and consumers may vary between areas (Sellitto, Vial and Viegas, 2018; Rupprecht *et al.*, 2020).

Similar to industrial agriculture, commercial fisheries are integral to a complex globalised food system. The geographical and social distance between fisheries producers and consumers has increased due to technological advances in catching methods, overexploitation of marine resources and growing demand for seafood (Carreras-Simó *et al.*, 2023). Assessing the spatial and social distance between producers and consumers is crucial for understanding the viability of SFSCs and the concept of 'reconnection' (DesRivières, Chuenpagdee and Mather, 2017). Connections between different actors along the supply chain are vital for the success of many alternative food initiatives and for shortening supply chains (Hinrichs, 2000; Winter, 2003; Campbell *et al.*, 2014). However, for short food chains to deliver the hoped-for social, environmental, and economic benefits, production and distribution systems must prioritise environmental sustainability and social inclusion. Assumptions about SFSCs should not be made before fully understanding the underlying relationships, structures, and motivations of those involved.

In recent years, new types of consumer-producer cooperation in food networks have emerged, where consumers actively participate in the operations of supply chains, making supply chains more than just the provision of food. Examples include consumer co-ops, solidarity buying groups, community-supported agriculture and collective urban gardening initiatives, all of which contribute to the re-localisation of food production and consumption (Renting, Schermer and Rossi, 2012). SFSCs innovate by re-socialising food, thus fostering proximity and trust between producers and consumers (Marsden, Banks and Bristow, 2000; Renting, Marsden and

Banks, 2003). Moreover, trust and proximity build relationships that form a foundation of SFSCs in which local stakeholders promote the consumption of local seafood based on the profiles of local buyers (Carreras-Simó *et al.*, 2023).

The present research underscores the significance of producer recommendations in shaping consumer behaviour towards seafood purchases. The findings show that products featuring a producer recommendation label garner notably higher levels of purchase intentions, label trust, and overall product trust compared to those lacking such endorsements. This stresses the value consumers place on producer recommendations as indicators of product quality and reliability. The findings highlight the need to foster more direct connections between seafood producers and consumers within supply chains, regardless of their length. When consumers have direct knowledge of the sources and producers behind seafood products, they are more likely to trust product labels and base their purchasing decisions accordingly. Where direct contact between the producer and consumer is not possible, this connection can be created through more proximate SFSC types.

A central challenge in developing territorial markets for locally caught fish is understanding the motives and behaviours of key stakeholders and the relationships between them. The lengthening of supply chains due to the multiplication of intermediaries has introduced wide-ranging economic, environmental and social-cultural issues, leading to an apparent disconnect between local producers and consumers (Bloom and Hinrichs, 2011; Carreras-Simó *et al.*, 2023). The present research offers insights into consumer preferences related to SFSCs which can support marketing efforts and thus, territorial development. The results indicate that consumers, in the most part, buy seafood from larger retail stores (supermarkets) and dedicated retail outlets such as fishmongers and dedicated stores.

Customers are less likely to directly purchase seafood through SFSC types such as dockside and harbour sales, festivals and events, or mobile apps, indicating that traditional retail channels and brick-and-mortar stores will likely continue as the main place of purchase for seafood products. This is an important consideration when combined with the findings associated with producers' willingness to participate in SFSCs and their perceptions of barriers to SFSCs. It is therefore apparent that there are limited opportunities for direct connections

between fisheries producers and consumers in the UK. Limited dockside space and limited capacity to develop opportunities through more novel SFSCs remains a key hindrance, and a key difference from other food sectors such as those associated with agriculture.

These limitations are two-fold. Firstly there are the initial limitations on the producer. Secondly, and in turn, this leads to a lack of consumer access and interest in such SFSCs. One of the key barriers to SFSCs, producers report, is a lack of storage facilities and available points of sales. This is also a key barrier to fisheries producers having a place and proximity in connecting with consumers through SFSCs. The literature on SFSCs widely points to the need for producers and consumers to experience such proximity through time and space, not only to build trust (Hobbs and Goddard, 2015; Kaiser and Algers, 2017; Macready *et al.*, 2020; de Vries *et al.*, 2023; Yuan, Jin and Wu, 2024) but also to exchange local meaning through products, which is a key aspect of the added value of locally produced food (Kneafsey, 2012). Without viable points of sale, the SFSC types that fisheries producers can engage in becomes limited to those that involve either involve an intermediary (Marsden, Banks and Bristow, 2000; Renting, Marsden and Banks, 2003) or a technology (FARNET, 2019).

The 18 FLAGs operational in the UK were well placed to offer solutions to these limitations through the development of dockside points of sale, improvements to harbour infrastructure, and collective action such as communal resources, both physical – through events and festivals – and through the early adoption of technologies such as sales mobile phone applications and websites. It remains to be seen how similar support for territorial development will continue in the UK post-Brexit. The present findings in terms of social capital and its impact on SFSCs in fisheries areas indicates that such partnerships are imperative in finding optimum relationships between territorial and sectoral development approaches (a critical issue for the UK's new Industrial Strategy), and in reconnecting coastal communities with the fishing sector at numerous points along the supply chain.

The present research draws attention to other indirect means of reconnecting producers and consumers in the fisheries sector. While much of the literature on SFSCs is grounded in direct contact between the producer of food and the end consumer, 'proximate' connections are also key to SFSCs and their benefits. As previously stated, the vast majority of seafood in the UK

is consumed at home via supermarket and specialist store sales. This presents opportunities for proximate connections which carry many of the same benefits as more direct SFSC types. The results show that a simple connection to the consumer by way of a recommendation label can have significant effects on consumer perceptions and could serve as a key starting point to more elaborate producer-consumer connections through more direct points of sale.

The findings yield some contradictions in producer-consumer reconnection. On the one hand, the results from chapter 8 identify consumers trends towards better connections with both the source and the production of food, and how this can lead to higher purchase intentions. On the other hand, the results from chapter 7 suggest that these consumer trends are not always apparent to producers, many of whom see lack of consumer demand as a barrier to engaging in SFSCs. However, the results set out in chapter 8 suggests that reconnection between producers and consumers is possible through slightly longer SFSCs, without any direct contact between producers and consumers. The experiment outlines the importance of re-establishing direct connections between seafood producers and consumers, particularly within the context of the UK market.

The study reveals the substantial impact of the seafood source on consumer perceptions and purchasing behaviours. Specifically, locally produced seafood items evoke higher levels of label trust, overall product trust, and purchase intentions compared to globally sourced counterparts. Such findings suggest that consumer sentiment favours locally sourced seafood and highlights the influential role of product familiarity in shaping consumer preferences. Furthermore, consumers indicated preferences for well-known seafood types, such as cod, over lesser-known varieties, such as ling. The findings show that familiarity contributes to heightened levels of label trust and overall product trust, emphasising consumers' inclination to trust and make purchasing decisions based on their familiarity with specific products.

9.6 Summary

In summary, the findings outlined in the three previous results chapters were recapped in this discussion. The main themes and issues identified in the results were discussed as a means of drawing out the significance of the research findings on the development of SFSCs as a means of territorial development in fisheries areas. In the following chapter, the primary findings of

the present research are summarised, and recommendations are proposed on how the creation of SFSCs through increased producer-consumer connection facilitated through FLAGs and social capital can contribute to the sustainable development of fisheries areas. Avenues of future research and the wider implications of the findings discussed in the present chapters will also be examined to help further the findings of this research.

Chapter 10. Conclusion

10.1 Introduction

Chapter 10 presents the conclusions from the present study, over five sections. Section 10.2 offers a summary of the research findings. Section 10.3 outlines the implications of the study from research and policy perspectives. Section 10.4 then offers recommendations, both for policymakers and practitioners, before section 10.5 suggests future avenues of research. Section 10.6 discusses avenues of future research. Finally, section 10.7 provides personal reflections on both this thesis and its development.

10.2 Summary of findings

Normative-cognitive social capital plays a pivotal role in the presence of SFSCs in an area: The research underscores the significance of normative-cognitive social capital in enabling the establishment of SFSCs in FLAG areas. It emerges as a key independent driver, emphasising the importance of trust-building efforts by FLAGs and its capacity to bridge gaps in structural and governance social capital. This highlights the foundational necessity of nurturing trust and shared values within local networks to catalyse SFSC development.

Normative-cognitive social capital plays a crucial role in producers engaging in SFSCs: Added to the fact that normative-cognitive social capital is a key driver of SFSCs' presence in fisheries areas, the study also highlights the significant influence of normative-cognitive social capital on producers' willingness to participate in SFSCs. Collaboration, connectedness, closeness, and trust among actors within a community positively affect social capital, thereby increasing producer engagement in SFSCs. This underscores the pivotal role of community and shared values in fostering participation in local food systems and the development of SFSCs.

Diverse combinations of social capital types lead to the presence of SFSCs: A pivotal insight arises from the diverse combinations of social capital types, indicating the absence of a one-size-fits-all approach to SFSC establishment. While normative-cognitive social capital, particularly when coupled with reflexive localism, enhances SFSC presence, structural and

governance social capital also exert considerable influence. However, their effectiveness often hinges on interdependencies with other contextual factors. This underscores the intricate interplay of social capital elements and contextual dynamics in shaping SFSC landscapes.

These findings related to social capital and social capital type offer key findings and strategic implications for FLAGs: The findings hold significant implications for FLAGs as they navigate the evolving landscape under the new European Maritime and Fisheries Fund (EMFAF). The imperative for tailored local development strategies is underscored, with an emphasis on fostering sustainable Blue Economy practices and shorter supply chains. Practical guidance emerges for FLAGs seeking to foster SFSCs, emphasising the need for nuanced approaches that account for the multifaceted nature of local development. By aligning their strategies with the identified social capital dynamics and contextual nuances, FLAGs can better position themselves to drive SFSC development and contribute to sustainable fisheries management.

Insights into the impact of territorial dynamics on the presence of SFSCs: Beyond strategic implications, the study offers valuable insights into the dynamics underpinning the emergence of SFSCs in certain areas. By delineating the intricate interrelationships between social capital components and territorial factors, it provides an understanding of the conditions conducive to the creation of SFSCs. This nuanced understanding is crucial for informing policy decisions, guiding local development initiatives, and fostering collaborative efforts aimed at enhancing food system sustainability.

Insights into the key barriers to producers engaging in SFSCs: Internal factors such as high processing costs, limited production volume, and lack of marketing skills emerge as significant barriers to producers' engagement in SFSCs. Additionally, experience and education levels influence collaboration among supply chain actors, indicating the importance of addressing skills gaps and resource constraints to promote SFSC participation. External barriers, including sectoral policies, market regulations, and immature markets, pose challenges to SFSC development. Despite producers' interest, regulatory constraints and market dynamics inhibit the growth of SFSCs, highlighting the need for supportive policy frameworks and market interventions to facilitate their expansion.

The impact of SFSC type is varied in the seafood sector: The study identifies various types of SFSCs prevalent among fisheries and aquaculture producers, with direct harbour and dockside sales being the most common. This face-to-face interaction between producers and consumers fosters closer connections and trust, distinguishing it from more "proximate" SFSC types that involve intermediaries. However, in assessing consumer perceptions of proximate SFSCs through products sold through intermediaries such as supermarkets or fishmongers, the study identifies that producer-consumer connections are still possible and effective through such SFSCs. Understanding the diversity of supply chains sheds light on the dynamics of producer-consumer relationships within SFSCs.

Significance of producer recommendations as a proximate connection between producers and consumers: Producer recommendations emerge as a crucial factor influencing consumer purchase intentions. Products featuring producer recommendations experience higher purchase intentions, label trust, and overall product trust, irrespective of their source or type. This finding stresses the influential role of producer endorsements in shaping consumer perceptions and behaviours.

Product source is an important factor in consumer perceptions of seafood products: The study reveals the substantial impact of product source on consumer perceptions and purchasing behaviours. Compared to globally sourced products, locally sourced seafood consistently garners higher levels of label trust, overall product trust and purchase intentions. This sheds light on a strong preference among consumers for locally produced seafood, indicative of growing support for local food systems.

The moderating role of product type and the effect of familiarity: Consumers' familiarity with different seafood product types significantly influences their purchase intentions. Notably, well-known species like cod exhibit higher purchase intentions, label trust, and overall product trust compared to lesser-known varieties such as ling. This suggests that consumer preferences are influenced by familiarity with the product, highlighting the importance of product knowledge in consumer decision-making processes. The familiarity of product types acts as a moderator in the relationship between product source and purchase intentions. Consumers demonstrate a stronger preference for locally sourced seafood, especially for better-known

varieties. This moderation effect underscores the importance of considering product familiarity when evaluating consumer preferences within seafood supply chains.

The mediating role of label trust: The study highlights the mediating role of label trust in shaping consumer purchase intentions. Label trust mediates the relationship between product source, producer recommendations and consumer purchasing behaviours. This underlines the significance of building consumer trust through transparent labelling practices and the endorsement of producers in driving consumer willingness to purchase seafood products.

Entrepreneurship and business orientation are an important factor in producers engaging in SFSCs: Findings suggest that a producers' individual entrepreneurial orientation (IEO) plays a crucial role in shaping their willingness to participate in SFSCs. Higher levels of social capital within an area positively impact a producer's entrepreneurial tendencies, further reinforcing their engagement in SFSCs. This highlights the importance of fostering an entrepreneurial mindset among producers to enhance their involvement in local food networks and SFSCs. These findings have significant implications for policymakers wanting to foster entrepreneurship as a mechanism for territorial development.

Methodological considerations and future directions: The present study advances understandings of territorial development in fisheries and coastal areas, and SFSCs. It uses alternative and novel approaches that deepen and broaden existing understandings through the application of fsQCA in examining the conditions shaping SFSC presence within designated territories. While offering valuable insights, it also acknowledges its limitations, paving the way for future research avenues. The call for longitudinal studies and exploration of emerging forms of social capital emphasises the need for continued inquiry into SFSC dynamics and their implications for sustainable food systems.

10.3 Implications

The research highlights some conceptual ambiguity in the definitions and boundaries of territorial development. Territorial development involves the interaction of multiple actors and institutions across local, regional, national, and international levels; as a result, competencies and understanding of territorial development can differ significantly. The same can be said for

territorial inequalities. While the primary objective of territorial development is to encourage balanced growth and to lessen inequities across the various regions of Europe, addressing territorial disparities raises questions on the causes of disproportionate development, its processes, and its impact, as well as the best course of action for governmental initiatives that support cohesion through the integration of sectoral and territorial policies.

The present research shows that the impact of FLAGs and the social capital they create are important in leading to territorial development outcomes such as the creation of SFSCs. It also shows, however, that disparities between areas have an important effect, and that there is no one-glove-fits-all solution. This is particularly important when considering the integration of territorial and sectoral policies. Territorial development requires the integration of various sectoral policies such as economic development, social cohesion, spatial planning and environmental sustainability. Diverging objectives, stakeholder interests and administrative structures are some of the key challenges for territorial development that are highlighted in the present study. However, an important finding is that while sectoral and territorial integration is challenging, there can be several routes to achieving the same objective across local areas.

Thus, the findings offer practical implications for FLAGs, LAGs and local areas for developing more focused local development strategies under territorial development programmes, as well as better insights into how such programmes and their impact can be measured and evaluated. In the EU context, under the EMFAF – the third manifestation of fisheries CLLD – FLAGs are encouraged to hone their development strategies and focus on specific objectives that contribute to the growth of the blue economy (EU, 2021). To do so, FLAGs must pool their resources into specific areas where they can achieve the most impact (EU, 2021). In the UK context, much remains to be seen as to how former FLAG areas will be supported post-Brexit. The present research offers insights into how fisheries areas can tailor their local development strategies.

In the EU, one way of achieving this focused approach is through “smart specialisation”: innovative place-based approaches to boosting growth and local development, in which competitive advantages are identified and cultivated by directing efforts and resources towards innovation niches (Polido *et al.*, 2019). Under the EMFAF, FLAGs are well-placed to support

the implementation of smart specialisation given their new focused approach and role in fostering the blue economy (EC, 2023a). The inception of the Smart Specialisation Strategy (S3) was rooted in fundamental principles aimed at mitigating the risk of dispersing investments in research and innovation, including expenditures on research and development training, while also aiming to improve and increase the existing innovation potential within a particular area or region (Foray and Goenaga, 2013). The implementation of the smart specialisation strategies has initiated integrated actions aimed at devising targeted plans for a specific and place-based economic transformation, focused on leveraging the strengths of individual territories and their competitive advantages (McCann and Ortega-Argilés, 2014). Given the unique economic characteristics of different regions and the institutional differences, there is no one-size-fits-all smart specialisation template or blueprint that can be applied uniformly across all regions. Instead, regions must operate within their own governance frameworks to identify and implement the most suitable solutions for their specific contexts (McCann and Ortega-Argilés, 2014). Furthermore, in many Member States national EMFAF programmes, CLLD and FLAGs are placed at the forefront of contributing to the blue economy at local and regional levels. However, it remains a moot point whether they can be integrated into smart specialisation strategies. The present research highlights the need for such integration in regions with ambitions to develop local food systems and SFSCs as a specialisation.

In a fisheries context, Brexit was largely driven by the desire to regain sovereignty and control over UK territorial waters and fisheries resources. As a former member of the EU, the UK adhered to the regulations and quotas set by the CFP, which UK fishers often perceived as unfair. With Brexit, the UK now has the opportunity to establish its own fisheries management policies and to negotiate bilateral agreements with the EU and other coastal states. FLAGs play a crucial role in this process by representing the interests of local fishing communities and providing input into fisheries management decisions. As outlined in the literature, Brexit raises concerns regarding EU fishing vessels' access to UK waters and vice versa (Gallic, Mardle and Metz, 2018; Huggins *et al.*, 2018; McAngus *et al.*, 2018; Symes and Phillipson, 2019; Symes, 2023; Dixon *et al.*, 2024). The UK seeks to regulate entry into its Exclusive Economic Zone (EEZ) and give priority to UK fishers.

The negotiations on fisheries access have been controversial, as the EU has aimed to maintain access to UK waters as part of a wider post-Brexit trade deal. Future UK-EU interactions are expected to entail intricate negotiations about fishing rights and quotas, as both parties aim to secure advantageous conditions for their respective fisheries sectors. Moreover, the fishing sector is intricately connected to wider commercial and economic factors, especially concerning the availability of markets for seafood goods. The UK-EU Trade and Cooperation Agreement (TCA) established in December 2020 contains regulations regarding fisheries, setting out a structure for upcoming collaboration and entry to fishing grounds (Dixon *et al.*, 2024). Challenges persist with customs procedures, taxes, and non-tariff obstacles to trade that may affect the flow of marine products between the UK and the EU. FLAGs will remain crucial in advocating for the interests of local fishers and ensuring that trade agreements prioritise the sustainability of fisheries resources and the lives of fishing communities. The results of the present study highlight the crucial role FLAGs in expressing the interests of local fishing communities and promoting alternative sustainable management methods. The loss of the UK FLAGs could be critical, and alternative schemes could be crucial to tackling the issues brought about by Brexit and in establishing new sustainable fisheries management.

Furthermore, as FLAGs in the EU move into a third programming period of CLLD under the EMFAF, there is an expectation of local development strategies that are more focused. Specifically, under the new EMFAF, FLAGs are expected to focus their activities around fostering a sustainable Blue Economy in which shorter supply chains are paramount. The present research offers practical implications for new and existing FLAGs wanting to stimulate SFSCs through their activities, as well as providing a novel approach to assessing CLLD and its future directions for related policy. While CLLD is a bottom-up approach to development driven by local actors, the findings of the present fsQCA show that there is no one-size-fits-all approach to achieving specific outcomes through local development. Importantly, the study demonstrates equifinality in the combinations of conditions, social capitals, and circumstances that lead to SFSCs having a high market share in a FLAG area.

Finally, the study offers a novel application of fsQCA: the ability to examine the conditions within a designated territory associated with strong SFSCs. It is subject to some limitations, which can inform future research. Firstly, the approach is cross-sectional as it only addresses

responses at one point in time, limiting the ability to understand dynamic changes. Secondly, while fsQCA is a theory-based approach, there may be other important factors, beyond social capital, that we do not capture in this research. Further research could expand the coverage by applying the same method to LAGs under other European Structural and Investment Funds, particularly the European Agriculture Fund for Rural Development (EAFRD). By applying the method to the context of rural LAG areas and agriculture, several food and supply chain types could be explored, forming valuable comparisons. Further research could also investigate emerging forms of social capital in the context of SFSCs. For example, digital social capital within a network could be an important factor to consider. Notwithstanding these limitations, the present research presents a novel way of assessing the impact of LAGs and social capital on economic objectives such as the creation of SFSCs.

10.4 Recommendations

Taking into consideration implications in section 10.3, several policy recommendations arise which can be put forward promoting SFSCs as one avenue for achieving sustainable territorial development in fisheries and coastal areas. Recommendations are offered in terms of policy, as well as producer and marketing practices.

Enhanced monitoring and evaluation of interventional programmes: Under the EMFAF, more rigorous monitoring and evaluation systems are to be put in place by Member States at both national and regional levels through the FLAGs – the present research supports the needs for these advances. Governments and stakeholders should invest in robust monitoring and evaluation mechanisms to track the performance of LAGs and FLAGs more comprehensively. This would involve collecting data on a range of economic outcomes beyond just SFSCs, including businesses created, GDP changes, employment rates, balance of trade, and consumer confidence index. By adopting a holistic approach to measurement, policymakers can gain a clearer understanding of the overall impact of FLAG initiatives and tailor interventions more effectively. Similarly, the UK could the end of FLAG programme as a baseline study for future support to its fisheries areas.

Tailored local support programmes: A key success of CLLD and the EU network of FLAGs under the EFF and EMFF has been its bottom-up approach which allows fisheries and coastal

areas to decide their own developmental trajectories (Budzich-Tabor, 2014). However, how a FLAG's strategy reflects in the projects the FLAG supports is mixed, as outlined in chapter 3, with many FLAGs reporting a very different landscape of projects under the EMFF compared to their initial objectives (Miret-Pastor, Svets and Freeman, 2020). Policymakers should design and implement support programmes that cater to the specific needs and challenges of different regions, taking into account their unique territorial factors. This could involve targeted funding, capacity-building initiatives, and technical assistance to help FLAGs leverage their social capital effectively and address local development priorities. By adopting a tailored approach, policymakers can ensure that interventions are contextually relevant and responsive to the diverse socio-economic landscapes across regions.

Specific emphases on social capital development and social capital types: In the context of CLLD, a common problem is the notion that social capital is everything, and therefore nothing at the same time (Woolcock, 1998; Durlauf and Fafchamps, 2005), particularly when such programmes are evaluated (Pisani *et al.*, 2017). Social capital is mentioned as a fundamental objective of CLLD at policy level, but this can become lost during the implementation of the programme. As outlined in chapter 5, one such problem is how social capital is attributed and measured. Another is the way in which any positive outcome is attributed to social capital, thus removing any real added value (Woolcock, 1998; Durlauf and Fafchamps, 2005).

In territorial (and rural) development research, social capital is frequently used to explain why varied levels of economic performance are shown in places with comparable amounts of capital (physical or natural, institutional, and human) (Tamásy and Diez, 2016). According to the literature, social capital accounts for these inequalities (Putnam, Leonardi and Nanetti, 1994; Putnam, 2000; Tamásy and Diez, 2016; Pisani, 2017). However, policymakers should prioritise specific investment in initiatives that strengthen certain types of social capital within local communities, and those which are applicable to the area's individual characteristics and its specific and focused local development strategy. In the context of SFSCs, the present study outlines a series of paths to achieving higher degrees of this particular economic outcome in an area. In other words, the very nature of an area's territorial characteristics can be used to determine potential routes to achieving specific outcomes in more focused local development strategies. Added to this, another strength of the FLAG programme is the international

networking it offers across Europe. Policymakers could further support this networking by using social capital types as a means to offer tailored networking to areas with common objectives in building social capital. By breaking down social capital types, policies can be more targeted allowing for more concentrated resources.

Increased multi-sectoral collaboration: FLAGs as public-private partnerships do foster multi-sectoral collaboration. However, to further increase the consumption of local food through alternative food systems and SFSCs, policymakers should further encourage collaboration and partnership building between stakeholders from various sectors, including government agencies, civil society organisations, producers and local businesses, and community groups. This could be facilitated through the establishment of multi-stakeholder platforms or networks that foster dialogue, knowledge exchange, and increased joint decision-making. By promoting cross-sectoral collaboration, policymakers can harness the collective expertise, resources, and social capital of different actors to drive the sustainable development of fisheries and coastal areas more effectively.

Knowledge sharing and national networks: Some EU Member States did form national networks as part of their EMFF programmes, and under the EMFAF this is expected to continue. How the former UK FLAG areas will continue to network following Brexit, however, remains a moot point. UK policy should facilitate further knowledge-sharing and learning networks among fisheries and coastal areas, enabling them to exchange best practices, lessons learned, and innovative approaches. Further support could be facilitated through the establishment of virtual platforms, peer-to-peer exchanges, study visits, and topic-specific capacity-building workshops. By fostering a culture of learning and continuous improvement, policymakers can empower local actors to identify and replicate successful strategies, adapt to changing circumstances, and be more focused in their implementation of funding.

Promotion of local seafood and consumer familiarity: Policymakers should encourage and support initiatives that promote locally sourced seafood products through marketing campaigns that champion local lesser-known species and their attributes. Such campaigns have been trialled in the UK – an example is the Love Seafood campaign (Seafish, 2021a). However, the present study demonstrates that consumers exhibit higher levels of label trust and purchase

intentions for locally produced seafood compared to globally sourced products. Therefore, policies that incentivise local sourcing can contribute to boosting consumer confidence and stimulating demand for locally sourced seafood, thereby fostering economic growth and sustainability in local fishing communities. Such national campaigns could also be beneficial to FLAG areas (and fisheries and coastal areas in the UK) in achieving a critical mass for their own local initiatives and attempts at fostering the consumption of local seafood in their areas through SFSCs. As well as growing confidence in locally produced lesser-known seafood, such national campaigns could promote SFSCs as a viable opportunity for fisheries producers who have identified a lack of consumer awareness as being a key barrier to their participation in SFSCs. Policymakers should take into consideration the power and role of the big retailers in the UK, and support entry to market for small-scale producers. The present study highlights the potential for SFSCs through retail and shows that there is consumer demand for locally produced seafood sold via supermarkets which national sustainability campaigns should highlight. Additionally, such national campaigns would engage entrepreneurial producers in seeking new opportunities – a driver for increased willingness to participate in SFSCs among fisheries and aquaculture producers as highlighted in the present study.

Furthermore, FLAGs, marketers, and entrepreneurial producers should invest in their own consumer education initiatives to increase familiarity with lesser-known seafood varieties. The present study highlights the fact that consumers exhibit higher purchase intentions for better-known species compared to lesser-known species (such as cod vs ling in the whitefish category). Producers and marketers can develop educational campaigns, product samplings, and interactive experiences to educate consumers about the unique qualities and benefits of lesser-known seafood products, thereby diversifying consumer choices and expanding market opportunities. Producers and marketers should adapt their strategies to align with evolving consumer preferences and expectations in the seafood market. By understanding the factors that influence consumer perceptions, such as product source, type, and recommendations, producers and marketers can tailor their branding, messaging, and distribution channels to meet consumer needs and preferences effectively. Additionally, staying informed about market trends and consumer insights can help producers and marketers anticipate shifts in demand and adjust their strategies accordingly to remain competitive in the dynamic seafood industry. Policymakers should acknowledge the impact on purchase intentions of consumer familiarity

with seafood products. The present study highlights that consumers have higher purchase intentions, label trust, and overall product trust for better-known species such as cod compared to lesser-known species like ling. Therefore, policymakers could focus on initiatives that educate consumers about lesser-known seafood varieties to increase familiarity and confidence in purchasing these products, thereby diversifying consumer choices and supporting sustainable fisheries management.

Marketing the local catch: Firstly, the preference for consuming seafood at home suggests that marketing efforts should focus on promoting the convenience, versatility, and health benefits of preparing seafood dishes at home. This could include recipe sharing, cooking tutorials, and meal planning ideas tailored to different types of seafood. Moreover, since supermarkets are the preferred market chain for purchasing seafood, suppliers should prioritise securing partnerships and prominent placements within supermarket chains. This may involve implementing eye-catching displays, offering competitive pricing, and highlighting the freshness and quality of their seafood products through effective packaging and labelling. Producers and marketers should adapt their strategies to align with evolving consumer preferences and expectations in the seafood market. By understanding the factors that influence consumer perceptions, such as product source, type, and recommendations, producers and marketers can tailor their branding, messaging, and distribution channels to meet consumer needs and preferences effectively. Additionally, staying informed about market trends and consumer insights can help producers and marketers anticipate shifts in demand and adjust their strategies accordingly to remain competitive in the dynamic seafood industry.

To this end, producer-consumer connections in the present study were shown to be key. Policymakers should recognise the importance of label trust and product involvement in driving purchasing decisions within the seafood market. The present research underscores that higher levels of trust and product involvement amplify the impact of label trust on purchase intentions. Policymakers could explore strategies to enhance consumer engagement and emotional connection with seafood products, such as informative labelling, educational campaigns, and experiential marketing initiatives, to foster trust and stimulate demand.

Furthermore, policymakers and FLAGs alike should recognise the significant influence that producer recommendations can have on consumer perceptions and purchasing behaviours. Products featuring a producer recommendation label experience notably higher purchase intentions, label trust, and overall product trust. Therefore, policymakers could consider implementing regulations or initiatives that encourage seafood producers to provide transparent and credible recommendations on their products, as this can enhance consumer trust and drive sales. Furthermore, FLAGs with a strategic focus on alternative food systems and SFSCs could consider projects that explore such labelling. Additionally, the importance of producer recommendations in influencing consumer trust and purchase intentions highlights the value of partnerships and endorsements from trusted sources. Suppliers should consider incorporating producer recommendations into their marketing materials, such as product packaging, advertisements, and promotional campaigns, to enhance consumer confidence and loyalty.

Marketers of seafood should capitalise on the influence of producer recommendations on consumer perceptions and purchasing behaviours. Products featuring a producer recommendation label experience notably higher purchase intentions, label trust, and overall product trust. Hence, producers and marketers should consider incorporating credible and transparent recommendations into their product packaging and marketing strategies to enhance consumer confidence and drive sales. Overall, understanding and adapting to consumer preferences and purchasing behaviours are essential for effective seafood marketing strategies. By aligning marketing efforts with consumer trends and leveraging the insights from research findings, seafood suppliers and retailers can enhance brand visibility, increase product sales, and foster greater consumer engagement and loyalty.

Finally, a critical point for policies related to territorial development and SFSCs is the need for the enhancement and priority of entrepreneurship. A key finding from the present study was the impact of individual entrepreneurial orientation on increasing both social capital and the interest and willingness amongst producers to engage in SFSCs. Theories of supply chain development assert the importance of innovation in creating consumer value propositions and fostering long-term sustainability (Arlbjørn et al., 2011; Munksgaard et al., 2014; Neutzling, 2018). Thus, policymakers should provide opportunities and platforms for entrepreneurs in the

fisheries sector to experiment and try new ideas that could build over time into long-term sustainable alternative supply chains and food networks. The present research presents a strong case for IEO having a significant relation with social capital in fisheries areas. Under the EMFAF, EU FLAGs could further recognise the role of entrepreneurs and funding beneficiaries – particularly in light of the need for more focused strategies related to the blue economy. As developing SFSCs often meet marketing problems in their early adoption stages (Chopra and Meindl, 2012), FLAGs are ideal test beds for entrepreneurs wanting to trial new ideas and initiatives. As shown by projects funded under the EMFF, early failure can ultimately lead to long-term success. For example, several early adopters of sales apps failed to grow, but later examples flourish through transnational exchanges of knowledge across the FLAG network (FARNET, 2019).

10.5 Future research

Like any research, the present study threw up as many questions as it did answers. There were aspects of the research that I was not able to fully address, and new questions and avenues of research which came to light. The impact of the UK's withdrawal from the EU during the midst of the project posed many questions (and changes) for the directions of future work. The present research outlines the important role EU interventional programmes have on territorial development outcomes such as SFSCs. Without FLAGs, and the CLLD programme, there are a lot of unknowns surrounding the possible detrimental effects on the UK's fisheries. Future work should assess this impact and explore how the UK can replicate or even improve such initiatives in developing its coastal areas. Given the similarities in culture, geography, consumer behaviours, and fishery types, a comparative analysis between the UK and Ireland could be particularly insightful into the future development of former UK FLAG areas.

The use of fsQCA as a novel approach to assessing interventional programmes is also an avenue of future research which could offer much in the understanding of bottom-up approaches to the development of local areas. The number of FLAG areas across Europe funded under European fisheries funds (EFF, EMFF, EMFAF) is relatively low compared to the number of LAGs funded under the European agricultural fund for rural development (EAFRD). Future research on the combinations of social capital types produced by LAGs in other contexts, and across different funds, would add to and broaden the current findings. Such

studies would benefit from significantly larger sampling frames when selecting economic outcomes of interest. In terms of SFSCs, this larger sampling frame of around 4000 LAGs – as opposed to around 350 for fisheries – could provide insights into individual SFSC types or individual project types, potentially offering more detailed findings. A collection of such fsQCA studies on LAGs and CLLD could help to direct future interventional programmes.

While fsQCA offers much to this field of research, it is not without its limitations. Dealing with scenarios and outcomes in fsQCA presents several challenges related to analysis and interpretation. As fsQCA requires the examination of how variables combine in leading to potentially intricate conclusions, researchers must invest time and effort in grasping and explaining the relationships uncovered by fsQCA (Pappas and Woodside, 2021). Decisions regarding data transformation and measurement methods may introduce bias or inaccuracies into the analysis process, influencing the accuracy and reliability of the results (Rihoux, 2006). Moreover, using set membership scores may not completely capture the intricacies of data potentially leading to oversimplification or the missing of subtle details during analysis. As such, future research should look to both replicate and build upon the findings presented in the current study. As fsQCA is a theory-building, as opposed to theory-confirming, method (Pappas and Woodside, 2021), further research on CLLD and the impact of FLAGs on a range of economic outcomes will build a more complete understanding of how fsQCA can contribute to research on territorial development.

Future research might also look at large-*N* fsQCA studies on FLAGs, social capital and SFSCs. While the present study used a small-*N* sample, which conforms to standard fsQCA practices (Greckhamer, Misangyi and Fiss, 2013), future studies could use larger samples where possible. Similar studies assessing the LEADER LAGs could encompass larger samples due the larger sampling frame possible.

The presence of SFSCs is just one potential outcome of interest when examining LAGs using fsQCA. While the creation of SFSCs offer several insights into how LAGs impact local economies and contribute to sustainable territorial development, further research could investigate diverse economic outcomes to gain more comprehensive findings. For example, future research could explore metrics like business establishments changes in Gross Domestic

Product (GDP), changes in employment rates and shifts in trade balances, or even look more directly at consumer responses, for instance through the Consumer Confidence Index (CCI). Each of these metrics provides perspectives on how effectively LAGs promote territorial development within their respective areas. Furthermore, specific economic outcomes are closely linked to the indicators used to assess, monitor and evaluate FLAG programmes making them highly relevant for examining social capital using fsQCA. Non-economic outcomes could also be considered to further broaden understandings; for example, social and environmental outcomes could be considered.

Future studies should also explore other territorial characteristics and their influence on social capital types across a variety of outcomes of interest. The present study used fisheries dependency to build theories of how social capital interacts with an area's dependency on its fisheries sector. Further research could assess other regional attributes such as population demographics, geographical locations, population demographics, industry and social structures. Such research would further enrich and develop a framework of how social capital types operate, as well as providing practical advice for policymakers and practitioners seeking to optimise the impact of FLAG interventions in diverse socio-economic settings.

Brexit also poses significant challenges and changes to the UK fisheries sector and brings a need to engage consumers to consume more local seafood. Brexit imposed as many barriers as it removed for UK fishers (Elvestad and Bjørndal, 2023; Symes, 2023), and navigating this change will be key to the survival and success of many small-scale producers. The present research considered the impact of normative-cognitive social capital on producer willingness to participate in SFSCs; future work should focus on how normative-cognitive social capital interacts with other dependent variables. As producer traits are a factor, future research should focus on other personal and situational traits and their impact on producer willingness to participate in SFSCs.

Future studies might further investigate individual entrepreneurial orientation (IEO) along with other entrepreneurial traits and their influence on SFSC participation, building on the present findings in terms of IEO's positive impact on social capital and producer willingness to participate in SFSCs. This could involve conducting qualitative interviews or surveys to assess

how traits such as risk-taking propensity, innovativeness, and proactiveness influence producers' decisions to participate in SFSCs. Such studies might also investigate the relationship between IEO and other factors such as producer demographics, business size, and market conditions, and could provide valuable insights into the drivers of entrepreneurial behaviour within the seafood sector.

Related to IEO, further research should examine the role of producer experience (time spent in the sector) on SFSCs engagement as well as how producer experience mitigates barriers to SFSCs. Given the mixed findings regarding the impact of experience on producers' willingness to participate in SFSCs and their perceptions of barriers, future research could seek to disentangle the complex relationship between experience and engagement in SFSCs. This could involve longitudinal studies or comparative analyses to track changes in producers' attitudes and behaviours over time and assess how experience influences their ability to overcome internal and external barriers to SFSCs. Additionally, exploring the specific skills and knowledge gained through experience that enable producers to navigate regulatory, market, and operational challenges could inform targeted capacity-building initiatives and support programmes.

Furthermore, considering producer perceptions to barriers related to market policies, consumer demand, and access to marketing and selling opportunities, future research could also focus on identifying the strategies producers employ to overcome these constraints and enhance their participation in SFSCs. Such research could involve case studies or qualitative interviews with successful SFSC practitioners to explore their marketing tactics, distribution channels, product differentiation strategies, and partnerships with other actors in the supply chain; thus adding context and deeper understanding of individual cases not available through the quantitative methods used in the present research. Additionally, examining the role of collective action, collaborative networks, and cooperative marketing initiatives in enabling producers to address common challenges and access broader markets could offer valuable insights for enhancing the viability and scalability of SFSCs within the seafood sector.

Consumer responses to seafood are changing (e.g., De Jonge *et al.*, 2007; DesRivières, Chuenpagdee and Mather, 2017; Vittersø *et al.*, 2019; Rupprecht *et al.*, 2020; Enthoven and

Van den Broeck, 2021; Truong, Conroy and Lang, 2021; Truong, Lang and Conroy, 2021). Trends towards sustainability offer several avenues into future research on SFSCs. While the present study identifies consumer behaviours towards two species in the whitefish category, future studies could expand upon and add to these findings by analysing multiple product categories. Studies into shellfish would offer future insights, as would research focused on aquaculture products. Further studies on local products could assess specific places as opposed to specifying simply a local, national or global source for products. Such studies could use qualitative methods to offer more contextualised insights into consumer preferences for local seafood. Finally, while the present study looks at consumer trust and purchase intentions, future studies should assess consumer willingness to pay for local seafood products, thus forming an understanding of the premium consumers are willing to pay for more sustainable local seafood, and whether producer recommendations have an impact.

10.6 Reflections

Following the sections on implications, recommendations and suggested future research, this short final section or afterword acts as a reflective exercise to explain the personal journey taken during this PhD. It also reflects upon choices made in terms of the methodology and direction during the PhD, as well as the personal and working relationships developed during the project. I have vastly enjoyed the journey, and it has been a genuine privilege and joy to work with those involved in developing fisheries areas across the UK and EU. As a marketer by trade before embarking on this project, I never imagined the advocate I would become for small-scale fisheries, their communities, and the stakeholders that support them.

Conducting research during the worst pandemic experienced in modern times presented a unique set of challenges. Little more than one year into the research, the criteria, in terms of what was realistic and possible within the PhD, shifted significantly. The main challenge for me personally was uncertainty and lost time, and to a lesser extent the impact this lost time had on motivation and productivity. In early 2020, as the pandemic began in Europe, I was close to beginning a phase of on-location field research which had to be cancelled. Ultimately, this research was never completed, which meant that months of preparation were wasted. Here I found myself rather fortunate in my pragmatic mixed-methods approach, as dealing in a practical and realistic way with the challenges presented by the pandemic became paramount.

Mixed methods was always the intended approach to addressing the research questions at hand, but some elements had to change, and this eventually turned out for the better.

The use of fsQCA was not part of the original methodology, but it turned out to be a novel and unique approach to analysing social capital and FLAGS, which, as outlined in the previous section, offer much in the way of opening up a new avenue of research into the impact of intervention programmes such as CLLD on a wide variety of economic outcomes in fostering and achieving territorial development. On reflection, through its pragmatic approach, the fsQCA method used ultimately turned out to be more practical in answering the research question at hand in terms of scope and implications, when compared to the originally proposed case study method. Furthermore, as a marketer who spent many years working with small NGOs, making methods best fit the problem at hand seems natural to me, and the shift in methods was an obvious one to take given the challenging circumstances presented by the COVID-19 pandemic. The intention of this research was to inform as many people as possible, from academia, policymakers and marketing practitioners, through to producers and local stakeholders. As such, the fsQCA method used was advantageous in making the findings both more accessible and more generalisable. It allowed for the assessment of several FLAGS instead of offering isolated case examples, as are commonplace in the literature.

The methods used in the present study also led to some theoretical reflections on gaps in the literature on territorial development of fisheries areas, which predominantly concerns single case studies or the analysis of national programmes. By applying novel methods such as fsQCA to this field, on the other hand, broader understandings can be obtained.

Several researchers have commented on the resistance and scepticism that can be encountered when conducting research with fisheries producers (Chiswell *et al.*, 2021; Gustavsson, 2021a; Korda *et al.*, 2021). Some of the data collected in the second phase of this research with fishers and aquaculture producers involved sensitive topics. As I was keen for this research to be as relevant as possible to both the fishers themselves and to future policy, it was important to obtain as much information as possible on their activities and opinions. This at times led to fraught encounters and failed interviews with producers based around my motives as a researcher. Often this scepticism centred around my support from and role with the FARNET

Support Unit, who I used as an initial survey dissemination channel and with whom I was employed professionally. Issues such as the reporting of catch sizes, species, and income were common. So too were turbulent political contexts, notably Brexit, which at the time of conducting the field work for the present study, posed a significant threat to the stability of European fisheries management for many producers (Phillipson and Symes, 2018). Here I reflect on Chiswell *et al.*'s (2021) discussion around the connection between a researcher and the fisheries industry. They found their non-fisheries status to be beneficial in fostering a positive relationship with fishers, since they were not perceived as "insiders" with their own opinions or hidden agendas, nor were they seen as "threatening authority figures". I encountered these problems as a researcher with a greater connection to these 'threatening authority figures' in the form of FARNET Support Unit and its ties to the European Commission. This connection granted access to many fisheries producers, particularly in hard-to-reach locations. It also acted as a barrier to trust in some cases, slowing the data collection process and ultimately resulting in the loss of several good subjects. Nevertheless, these challenges were, in part, overcome with assurances of anonymity and the independence of the research.

Appendix A. FLAG survey

Thank you for participating in this survey which is being conducted to better understand fisheries supply chains in FLAG areas. The data gathered is completely anonymous and will be used for research purposes only. The survey **will take approximately 50 minutes to complete** and most of the questions are multiple choice and only estimates are required. We realise that 30 minutes is a significant amount of time, and we are very grateful for your participation.

By completing this survey, you indicate your understanding of the following:

Any information you provide will be treated with strict confidentiality and it will not be possible to identify individuals. If you have any questions, please contact the principal investigator, Mr. Richard Freeman (richard@farnet.eu).

You may refuse to participate or withdraw from participation at any time by closing your browser window.

PLEASE NOTE: In this survey, you will be asked to provide figures about your FLAG and fisheries supply chains in your area. If exact figure is not readily available, please still provide estimates.

In which country is your FLAG located?

Please select your FLAG from the following list:

Please provide your email address:

1. What is your role in the FLAG?

- ☐ FLAG manager
- ☐ Chair of the board
- ☐ Member of the board
- ☐ Other (please specify): _____

2. What is the total annual value of the fisheries industry in your area? (e.g., €20 000)

3. What is your areas total annual export of fisheries products in value? (e.g., €20 000)

4. What type of short fisheries supply chains are operational in your area? (You can make more than one selection)

- ☐ Local markets
- ☐ Dockside sales
- ☐ Festivals and events
- ☐ Box schemes
- ☐ Home deliveries
- ☐ Online orders
- ☐ Mobile app
- ☐ Consumer cooperatives
- ☐ Local shops
- ☐ Dedicated retailers (fishmongers)
- ☐ Local restaurants
- ☐ Tourism enterprises
- ☐ Catering for institutions (schools/hospitals)

5. What are the main fisheries in your area? (i.e., target species)

6. Approximately, what percentage of your areas catch is sold and consumed locally (within a 100-mile radius)?

7. Please describe the nature of fisheries supply chains in your area and how they have changed since the introduction of your FLAG.

8. Approximately, what percentage of your areas fishing fleet is small-scale (i.e., under 10-metres)?

9. Please provide the market share as a percentage for the five largest fisheries producers in your area: (values must equal 100%)

Producer 1	Producer 2	Producer 3	Producer 4	Producer 5
%	%	%	%	%

10. Please rate the following statements in relation to your areas fisheries industry since the introduction of your FLAG.

Please rate each statement using the scale of 'Strongly Agree' to 'Strongly Disagree'.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
There has been a significant increase in fisheries employment	☐	☐	☐	☐	☐
There has been a significant increase in the number of fisheries businesses	☐	☐	☐	☐	☐
There has been a significant increase in the profits of fisheries businesses	☐	☐	☐	☐	☐

11. How many people (full time equivalents; FTEs) are employed in fisheries related activities in your area?

12. Please provide as a percentage how these FTEs relate to the flowing categories (values must equal 100%)

Fishing	Aquaculture	Processing	Business support/Marketing	Other
%	%	%	%	%

13. To what extent do you agree or disagree that the following statements in relation to your FLAG area?

Please rate each statement using the scale of 'Strongly Agree' to 'Strongly Disagree'.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
There is high outmigration	☐	☐	☐	☐	☐
There is high depopulation	☐	☐	☐	☐	☐
There is an ageing population	☐	☐	☐	☐	☐

14. To what extent do you agree or disagree that the following statements in relation to your area's fisheries and aquaculture industry?

Please rate each statement using the scale of 'Strongly Agree' to 'Strongly Disagree'.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
There are strong entrepreneurial skills	☐	☐	☐	☐	☐
There are strong business skills	☐	☐	☐	☐	☐
There is strong business networking	☐	☐	☐	☐	☐
There is high added value	☐	☐	☐	☐	☐
There is well-developed infrastructure in relation to harbours	☐	☐	☐	☐	☐
There is a well-developed infrastructure in relation to local markets	☐	☐	☐	☐	☐
There is a well-developed infrastructure in relation to processing	☐	☐	☐	☐	☐

15. To what extent do you agree or disagree that the following statements in relation to your area?

Please rate each statement using the scale of 'Strongly Agree' to 'Strongly Disagree'.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
Fisheries are side-lined and marginalised	☐	☐	☐	☐	☐
Fishing is locally important but dependent mainly on small-scale enterprises	☐	☐	☐	☐	☐
There is a well-balanced regional economy	☐	☐	☐	☐	☐
There are good opportunities outside of fisheries	☐	☐	☐	☐	☐
There is high diversification of fisheries activities into other sectors	☐	☐	☐	☐	☐
There is a good tourism industry	☐	☐	☐	☐	☐
There are good provisions for training/retraining	☐	☐	☐	☐	☐
There is potential for job/social mobility	☐	☐	☐	☐	☐
There are good opportunities for women	☐	☐	☐	☐	☐
There are good opportunities for minority groups	☐	☐	☐	☐	☐

16. To what extent do you agree or disagree with the following statements in relation to fisheries producers and consumers in your area
Please rate each statement using the scale of 'Strongly Agree' to 'Strongly Disagree'.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
Fisheries producers and consumers are socially distanced (generally - not due to COVID-19)	☐	☐	☐	☐	☐
There is high social interaction between fisheries producers and consumers	☐	☐	☐	☐	☐
There is proximity (nearness in space, time, and relationships) between fisheries producers and consumers	☐	☐	☐	☐	☐
There is proximity (nearness in space, time, and relationships) between actors in fisheries supply chains	☐	☐	☐	☐	☐
There are open and dutiful relationships and discourse between local stakeholders	☐	☐	☐	☐	☐
There is a common local interest in correcting the negative impacts of standardised (globalised) fisheries food systems	☐	☐	☐	☐	☐

17. To date, how many calls for project proposals have been made by your FLAG?

18. To date, how many projects have been funded by your FLAG?

19. To date, how many calls for project proposals have been made by your FLAG?

20. To date, what has been the total cost of projects funded (e.g., €20 000)?

21. How many FLAG projects are focus on the diversification of fisheries activities (e.g. allow fishers to move into other sectors such as tourism and gastronomy)?

22. Please indicate the percentage of your FLAG budget (not including running and animation costs) spend for each of the following project categories:

Adding value, innovation and the creation of jobs along the supply chain

Diversification within and outside fisheries, learning and job creation in fisheries areas

Enhancing and capitalising on the environmental assets and mitigating climate change

Promoting social wellbeing and cultural heritage in fisheries areas

Strengthening local fisheries governance and involving fishermen in local governance

Other (please specify)

23. To date, approximately how many beneficiaries have been funded?

How many supply chains are operational in your area? (You can make more than one selection)

- ☐ Legal person
- ☐ Individual person

- FLAG
- Public authority
- Fisher organisation
- Research Centre/ University
- NGO
- Producer organisation
- Social enterprise
- Mixed
- Other (please specify): _____

25. Are there categories of actors that are eligible for funding but that you have not been able to reach through calls for proposals? (You can make more than one selection)

- Legal person
- Individual person
- FLAG
- Public authority
- Fisher organisation
- Research Centre/ University
- NGO
- Producer organisation
- Social enterprise
- Mixed
- Other (please specify): _____

26. To date, approximately how many formal meetings of the Board of Directors have there been?

27. To date, approximately how many formal meetings of the General Assembly have there been?

28. To date, how many informal meetings of the General Assembly have there been?

29. Are there categories of actors that are eligible for funding but that you have not been able to reach through calls for proposals? (You can make more than one selection)

- Formal meetings promoted by the FLAG
- Informal meetings

30. Which channels does the FLAG use to promote its role in the territory? (You can make more than one selection)
- ☐ FLAG website
 - ☐ Email
 - ☐ Local media/ press
 - ☐ Social media
 - ☐ Local government website
 - ☐ Events
 - ☐ Other (please specify): _____
31. Which groups are the FLAG able to reach through this promotion? (You can make more than one selection)
- ☐ The young
 - ☐ The elderly
 - ☐ Women
 - ☐ Ethnic minorities
 - ☐ The unemployed
 - ☐ Other (please specify): _____
32. Are there any groups the FLAG has been unable to reach? (You can make more than one selection)
- ☐ The young
 - ☐ The elderly
 - ☐ Women
 - ☐ Ethnic minorities
 - ☐ The unemployed
 - ☐ Other (please specify): _____
33. What type of information does the website of the FLAG include? (You can make more than one selection)
- ☐ Calls for projects
 - ☐ Calls for collaboration
 - ☐ Project information
 - ☐ Information about local products
 - ☐ Information about local producers
 - ☐ Information about where to buy local fisheries products
 - ☐ Other (please specify): _____
34. Can you monitor the number of visitors to the website?
- ☐ Yes
 - ☐ No

35. How many times has the FLAG printed informational material for public dissemination?

36. Is there a system to archive observations and suggestions made by beneficiaries?

37. Are observations and suggestions made by beneficiaries used in decision-making process is?

- ☐ Never
- ☐ Sometimes
- ☐ About half the time
- ☐ Most of the time
- ☐ Always

38. Within the FLAG, who has been assigned the task of responding to beneficiary inquiries?

- ☐ FLAG Manger
- ☐ FLAG Chair
- ☐ FLAG Employee
- ☐ Other (please specify): _____

39. With regards to members of the assembly, would you say that most members can be trusted, or do you have to be cautious when dealing with members?

- ☐ I trust all members
- ☐ I trust the majority of members
- ☐ I trust about half of the members
- ☐ I am cautious when dealing with some members
- ☐ I am cautious when dealing with all members

40. Over the current programming period, is your trust in the members of the assembly:

- ☐ Much lower
- ☐ Slightly lower
- ☐ About the same
- ☐ Slightly higher
- ☐ Much higher

41. In your opinion, how would you rate trust among FLAG members?

- ☐ Very low
- ☐ Somewhat Low
- ☐ Moderate
- ☐ Somewhat High
- ☐ Very high

42. What is your level of trust in the following institutions?

Please rate each statement using the scale of 'Very Low' to 'Very High'.

	Very Low	Low	Moderate	High	Very High
Government (EU level)	☐	☐	☐	☐	☐
Government (National level)	☐	☐	☐	☐	☐
Government (Regional level)	☐	☐	☐	☐	☐
Trade associations and professional organisations	☐	☐	☐	☐	☐
Voluntary associations	☐	☐	☐	☐	☐

43. Does your FLAG propose training activities for beneficiaries?

- ☐ Yes
- ☐ No

44. During FLAG meetings of the Assembly, who expresses their opinions?

- ☐ Members do not express their opinions
- ☐ A minority of members express their opinion
- ☐ About half of members express their opinion
- ☐ The majority of members express their opinion
- ☐ The discussion engages all members

45. In your opinion, what is the level of interest among FLAG members?

- ☐ Very low
- ☐ Somewhat Low
- ☐ Moderate
- ☐ Somewhat High
- ☐ Very high

46. How many active members are there in the Assembly?

47. How many participants were at the last Assembly?

48. In your opinion, does the Board of Directors represent the interests of the members?

49. Never

50. Sometimes

51. About half the time
52. Most of the time
53. Always

54. To what extent do you agree or disagree that the following shared values are present in your FLAG territory?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat agree	Strongly Agree
Capacity to keep agreements	☐	☐	☐	☐	☐
Truthfulness in social relationships	☐	☐	☐	☐	☐
Truthfulness in economic relationships	☐	☐	☐	☐	☐
Capacity to trust others	☐	☐	☐	☐	☐
Responsiveness and respect for the rule of law	☐	☐	☐	☐	☐
Capacity to avoid opportunistic behaviours or free riding	☐	☐	☐	☐	☐

55. Do you think that these shared values have changed over the past 10 years?

Please rate each statement using the scale of 'Much Worse' to 'Much Better'.

	Much worse	Somewhat Worse	About the Same	Somewhat Better	Much Better
Capacity to keep agreements	☐	☐	☐	☐	☐
Truthfulness in social relationships	☐	☐	☐	☐	☐
Truthfulness in economic relationships	☐	☐	☐	☐	☐
Capacity to trust others	☐	☐	☐	☐	☐
Responsiveness and respect for the rule of law	☐	☐	☐	☐	☐
Capacity to avoid opportunistic behaviours or free riding	☐	☐	☐	☐	☐

56. Do you identify with your FLAG territory?

- ☐ Never
- ☐ Sometimes
- ☐ About half of the time
- ☐ Most of the time
- ☐ Always

57. Are internal relationships between the political and technical spheres a source of conflict?

- ☐ Never
- ☐ Sometimes
- ☐ About half of the time
- ☐ Most of the time
- ☐ Always

58. Which areas led to the most conflict in the FLAG?

59. Are you able to manage these conflicts?

- ☐ Never
- ☐ Sometimes
- ☐ About half of the time
- ☐ Most of the time
- ☐ Always

60. Do complex issues ever emerge with actual or potential beneficiaries?

- ☐ Never
- ☐ Sometimes
- ☐ About half of the time
- ☐ Most of the time
- ☐ Always

61. Is the time frame allocated to the planning period appropriate for achieving the objectives of your FLAGs local development strategy in the territory?

- ☐ Yes
- ☐ No

62. Are the following steps respected with regards to the selection of criteria used in calls for proposals?

Sharing of information relevant to decision-making and informal discussions

- ☐ Yes
- ☐ No

Formal consultations with stakeholders

- ☐ Yes
- ☐ No

Discussion with FLAG members

- ☐ Yes
- ☐ No

Sharing of the final decisions

- ☐ Yes
- ☐ No

63. Are the following steps respected with regards to the management of projects directly by the FLAG?

Sharing of information relevant to decision-making and informal discussions

- ☐ Yes
- ☐ No

Formal consultations with stakeholders

- ☐ Yes
- ☐ No

Discussion with FLAG members

- ☐ Yes
- ☐ No

Sharing of the final decisions

- ☐ Yes
- ☐ No

64. Please answer the following questions in relation to your FLAG:

Does the FLAG monitor the projects it finances?

- ☐ Yes
- ☐ No

Does the FLAG have contact with other transnational FLAGs?

- ☐ Yes
- ☐ No

Does the FLAG have contact with other local action groups (e.g., LEADER LAGs)?

- ☐ Yes
- ☐ No

Does the FLAG website offer information on the specific tasks of staff?

- ☐ Yes
- ☐ No

Does the FLAG publish regularly on its own activities?

- ☐ Yes

- ☐ No

Does the FLAG use indicators for self-evaluation?

- ☐ Yes
- ☐ No

In developing the project selection criteria, does the FLAG provide a context analysis?

- ☐ Yes
- ☐ No

Do the FLAG staff attend professional development courses?

- ☐ Yes
- ☐ No

Does the FLAG apply for financial resources external to those of the EMFF?

- ☐ Yes
- ☐ No

Does the FLAG commission research projects?

- ☐ Yes
- ☐ No

Has the FLAG ever dealt with the topic of social capital?

- ☐ Yes
- ☐ No

65. Please answer the following questions in relation to your FLAG:

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
The FLAG capable of promoting social capital in the territory	☐	☐	☐	☐	☐
The FLAG capable of commenting and criticising the regional bodies related to the procedures of specific aspects of the implementation of the EMFF programme	☐	☐	☐	☐	☐
The FLAG has the capacity to influence the planning process of the EMFF programme	☐	☐	☐	☐	☐

66. How would you describe the FLAGs relationship with the paying agency?

- ☐ Extremely bad

- Somewhat bad
- Neither bad nor good
- Somewhat good
- Extremely good

67. Please answer the following questions in relation to your FLAG:

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
The FLAG has been able to support new businesses, organisations, services, and products	☐	☐	☐	☐	☐
The FLAG has been able to support approaches to value creation and policy/service delivery	☐	☐	☐	☐	☐
The FLAG has been able to involve new people in the creation of value and has been able to shift control of processes	☐	☐	☐	☐	☐
The FLAG has been able to involve new people in the creation of value and has been able to shift control of processes	☐	☐	☐	☐	☐
The FLAG has been able to serve the breadth of society	☐	☐	☐	☐	☐
The FLAG has been able to respond to social needs (local demands) of the area	☐	☐	☐	☐	☐
The FLAG has been able to maximise the use of local resources (natural, human, and social)	☐	☐	☐	☐	☐
The FLAG has been able to maximise the use of networking and form innovative partnerships in the area	☐	☐	☐	☐	☐

68. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Prefer not to say

69. Please type your age (in years) using numbers into the box below (e.g., 25, 18, or 50)?

70. How many years have you been in your role with the FLAG?

71. Before joining the FLAG, what was your professional background?

Appendix B. Producer survey

Thank you for participating in this survey which is being conducted to better understand fisheries supply chains. The survey will take approximately 10 minutes to complete and most of the questions are multiple choice and only estimates are required. We realize that 10 minutes is a significant amount of time, and we are very grateful for your participation.

By completing this survey, you indicate your understanding of the following:

Any information you provide will be treated with strict confidentiality and it will not be possible to identify individuals. If you have any questions, please contact the principal investigator, Mr. Richard Freeman (richard@farnet.eu).

You may refuse to participate or withdraw from participation at any time by closing your browser window.

In which country do you operate?

Please provide your email address:

1. Is there a Fisheries Local Action Group (FLAG) in your area?

- ☐ Yes
- ☐ No

What is the FLAG name:

2. Regarding the FLAG members in your area, would you say that most of the members are trustworthy, or do you need to be cautious in dealing with them?

- ☐ I am cautious in dealing with all members
- ☐ I trust few members
- ☐ I trust about half of the members
- ☐ I trust the majority of the members
- ☐ I trust all members

3. Over the current programming period, is your trust in the members of the FLAG:

- ☐ Much lower
- ☐ Slightly lower
- ☐ About the same
- ☐ Slightly higher
- ☐ Much higher

4. To what extent do you agree or disagree with the following general statements related to your FLAGs members?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
There is a high level of trust between members	☐	☐	☐	☐	☐
There is a high level of interest amongst members	☐	☐	☐	☐	☐
There is a high rate of attendance at FLAG meetings	☐	☐	☐	☐	☐
During FLAG meetings, all members express their opinion and engage in the discussion	☐	☐	☐	☐	☐
The FLAG Board represents the interests of the members	☐	☐	☐	☐	☐

5. To what extent do you agree or disagree that the following shared values are present in your territory?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Capacity to keep agreements	☐	☐	☐	☐	☐
Truthfulness in social relationships	☐	☐	☐	☐	☐
Truthfulness in economic relationships	☐	☐	☐	☐	☐
Capacity to trust others	☐	☐	☐	☐	☐
Responsiveness and respect for the rule of law	☐	☐	☐	☐	☐

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Capacity to avoid opportunistic behaviours or free riding	☐	☐	☐	☐	☐

6. To what extent do you agree or disagree that the following shared values present in your territory have changed over the past 10 years?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Capacity to keep agreements	☐	☐	☐	☐	☐
Truthfulness in social relationships	☐	☐	☐	☐	☐
Truthfulness in economic relationships	☐	☐	☐	☐	☐
Capacity to trust others	☐	☐	☐	☐	☐
Responsiveness and respect for the rule of law	☐	☐	☐	☐	☐
Capacity to avoid opportunistic behaviours or free-riding	☐	☐	☐	☐	☐

7. To what extent do you agree or disagree with the following statement about you and your community and territory?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
The community makes me feel that I am a part of it	☐	☐	☐	☐	☐
I believe that others feel a special connection to me	☐	☐	☐	☐	☐

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Others make me feel as an integral part of the community	☐	☐	☐	☐	☐
I believe that other people in the community feel very close to me	☐	☐	☐	☐	☐
Most of the members of my community believe that they can trust me	☐	☐	☐	☐	☐
I feel that other members [...] believe that I am 'of the same stuff' as them	☐	☐	☐	☐	☐
Others ask me to take part in local initiatives	☐	☐	☐	☐	☐
Other members of the community want to collaborate with me	☐	☐	☐	☐	☐
Others ask me to take part in joint ventures	☐	☐	☐	☐	☐

8. Please briefly describe how these shared values have change:

9. To what extent do you agree or disagree that the following statements in relation to conflicts within your FLAG?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Internal relationships between the political and technical spheres are a source of conflict	☐	☐	☐	☐	☐

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
It is difficult for public and private actors to coexist within a single organisation	☐	☐	☐	☐	☐
The FLAG is able to manage conflicts between members	☐	☐	☐	☐	☐
Complex issues emerge between actual and potential beneficiaries	☐	☐	☐	☐	☐

10. Approximately, what percentage of your catch is sold and consumed locally (Within a 100-mile radius)?

e.g., 30%

11. To what extent has this percentage changed over the last 10 years?

- ☐ Much lower
- ☐ Slightly lower
- ☐ About the same
- ☐ Slightly higher
- ☐ Much higher

12. What type of short fisheries supply chains do you sell through? (You can make more than one selection)

- ☐ Local markets
- ☐ Dockside sales
- ☐ Festivals and events
- ☐ Box schemes
- ☐ Home deliveries
- ☐ Online orders
- ☐ Mobile app
- ☐ Consumer cooperatives
- ☐ Local shops
- ☐ Dedicated retailers (fishmongers)
- ☐ Local restaurants
- ☐ Tourism enterprises
- ☐ Catering for institutions (schools/hospitals)

13. What are your main target species?

14. To what extent do you agree or disagree with the following statements in relation to fisheries producers and consumers in your area?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Fisheries producers and consumers are socially distanced (generally - not due to COVID-19)	☐	☐	☐	☐	☐
There is high social interaction between fisheries producers and consumers	☐	☐	☐	☐	☐
There is proximity (nearness in space, time, and relationships) between fisheries producers and consumers	☐	☐	☐	☐	☐
There is proximity (nearness in space, time, and relationships) between actors in fisheries supply chains	☐	☐	☐	☐	☐
There are open and dutiful relationships and discourse between local stakeholders	☐	☐	☐	☐	☐
There is a common local interest in correcting the negative impacts of standardised (globalised) fisheries food systems	☐	☐	☐	☐	☐

15. To what extent do you agree or disagree that the following are barriers to short fisheries supply chains developing in your area?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
EU Regulations	☐	☐	☐	☐	☐
Regional or local regulations	☐	☐	☐	☐	☐
Sectoral policies	☐	☐	☐	☐	☐
Market policies (e.g., the CFP)	☐	☐	☐	☐	☐
Territorial supply constraints	☐	☐	☐	☐	☐
Low priority for the FLAGS Local development strategy	☐	☐	☐	☐	☐
Lack of information and support to develop short food supply chains	☐	☐	☐	☐	☐
Lack of communication, marketing and selling	☐	☐	☐	☐	☐
Immature market (false local claims)	☐	☐	☐	☐	☐
Lack of consumer awareness	☐	☐	☐	☐	☐

16. To what extent do you agree or disagree that the following are barriers to you participating in short supply chains?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Limited volume (e.g., unpredictable, or irregular supply of produce/ catch)	☐	☐	☐	☐	☐
Perishability of produce (e.g., lack of storage ahead of sales)	☐	☐	☐	☐	☐

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
through short chains such as direct to consumers)					
Lack of production infrastructure (buildings, equipment, cold stores)	☐	☐	☐	☐	☐
Lack of financial resources (liquidity)	☐	☐	☐	☐	☐
Lack of available labour	☐	☐	☐	☐	☐
High costs related to logistics/processing due to being small-scale	☐	☐	☐	☐	☐
Lack of premises or viable locations for sales	☐	☐	☐	☐	☐
Poor access to consumers (limited access to market, lack of marketing knowledge, lack of information on market trends)	☐	☐	☐	☐	☐
Lack of consumer trust (e.g., lack of consumer understanding of the benefits of SFSCs, food safety concerns, bad image of local fisheries)	☐	☐	☐	☐	☐
Low negotiation power (i.e., reliant on selling to larger buyers)	☐	☐	☐	☐	☐
Lack of collaboration with other supply chain actors	☐	☐	☐	☐	☐
Lack of processing/technological development skills	☐	☐	☐	☐	☐
Lack of marketing and management skills	☐	☐	☐	☐	☐

17. To what extent do you agree or disagree that the following statements in relation to your area's fisheries and aquaculture industry?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
There are strong entrepreneurial skills	☐	☐	☐	☐	☐
There are strong business skills	☐	☐	☐	☐	☐
There is strong business networking	☐	☐	☐	☐	☐
There is high added value	☐	☐	☐	☐	☐
There is well-developed infrastructure in relation to harbours	☐	☐	☐	☐	☐
There is a well-developed infrastructure in relation to local markets	☐	☐	☐	☐	☐
There is a well-developed infrastructure in relation to processing	☐	☐	☐	☐	☐

18. To what extent do you agree or disagree that the following statements in relation to your area?

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
Fisheries are side-lined and marginalised	☐	☐	☐	☐	☐
Fishing is locally important but dependent mainly on small-scale enterprises	☐	☐	☐	☐	☐

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
There is a well-balanced regional economy	☐	☐	☐	☐	☐
There are good opportunities outside of fisheries	☐	☐	☐	☐	☐
There is high diversification of fisheries activities into other sectors	☐	☐	☐	☐	☐
There is a good tourism industry	☐	☐	☐	☐	☐
There are good provisions for training/retraining	☐	☐	☐	☐	☐
There is potential for job/social mobility	☐	☐	☐	☐	☐
There are good opportunities for women	☐	☐	☐	☐	☐
There are good opportunities for minority groups	☐	☐	☐	☐	☐

19. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Prefer not to say

20. Please type your age (in years) using numbers into the box below (e.g., 25, 18, or 50)?

21. What is your marital status?

- ☐ Single
- ☐ Married. Or in a domestic partnership
- ☐ Divorced
- ☐ Separated
- ☐ Prefer not to say

22. What is your highest level of education?

- ☐ No formal education

- Secondary education
- Further education
- Undergraduate degree
- Postgraduate degree
- Prefer not to say

23. How many people are in your household?

24. How many children do you have?

25. How many years' experience do you have as a fisheries or aquaculture producer?

26. Please rate the following statements in relation to yourself:

Please rate each statement using the scale of 'Strongly Disagree' to 'Strongly Agree'.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
I like to take bold action by venturing into the unknown	☐	☐	☐	☐	☐
I am willing to invest [...] that might yield a high return	☐	☐	☐	☐	☐
I tend to act “boldly” in situations where risk is involved	☐	☐	☐	☐	☐
I often like to try new [...] activities that are not typical but not [...] risky	☐	☐	☐	☐	☐
In general, I prefer [...] unique, one-of-a-kind approaches [...]	☐	☐	☐	☐	☐
I prefer to try my own unique way when learning new things [...]	☐	☐	☐	☐	☐

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
I favour experimentation and original approaches to problem solving [...]	☐	☐	☐	☐	☐
I usually act in anticipation of future problems, needs or changes	☐	☐	☐	☐	☐
I tend to plan ahead on projects	☐	☐	☐	☐	☐
I prefer to [...] get things going [...] rather than sit and wait [...]	☐	☐	☐	☐	☐

Appendix C. Participant consent form

Project Title: Short food supply chains and producer-consumer reconnection: Achieving sustainable territorial development in the fisheries sector

Researcher: Richard Freeman

Supervisors: Professor Jeremy Phillipson, Professor Matthew Gorton, Dr Barbara Tocco

I, the undersigned, confirm that (please tick where appropriate):

I have read and understood the information about the project, as provided in the Information Sheet dated [relevant date provided]. ☐

I have been given the opportunity to ask questions about the project and my participation in it. ☐

I voluntarily agree to participate in the project. ☐

I understand I can withdraw at any time without giving reasons. ☐

The procedures regarding confidentiality have been clearly explained to me. ☐

The use of the data in research, publications, sharing and archiving has been explained to me. ☐

I understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I have specified in this form. ☐

I, along with the Researcher, agree to sign and date this informed consent form. ☐

Signature (Participant)

Signature (Researcher)

Date:

Date:

Appendix D. Consumer experiment stimuli

Group 1: Cod; local; recommendation



Group 2: Cod; national; recommendation



Group 3: Cod; global; recommendation



Group 4: Cod; local; no recommendation



Group 5: Cod; national; no recommendation



Group 6: Cod; global; no recommendation



Group 7: Ling; local; recommendation



Group 8: Ling; national; recommendation



Group 9: Ling; global; recommendation



Group 10: Ling; local; no recommendation



Group 11: Ling; national; no recommendation



Group 12: Ling; global; no recommendation



Appendix E: Consumer experiment survey

Thank you for taking part in this survey. The data gathered is completely anonymous and will be used for research purposes only. The survey is being conducted to understand consumer responses to seafood products and labelling. This study is University-led and is **NOT** funded by, or conducted in conjunction with, and brands or advertising companies.

This survey is expected to last **5 minutes**.

By completing this survey, you indicate that you understand the following:

It is not anticipated that you will experience any discomfort from answering the questions, but you may withdraw from the survey at any time. You can refuse to participate or withdraw from participation by closing the browser window.

Any information you provide during the study will be treated with strict confidence and it will not be possible to identify individuals. If you have any questions, please contact the researcher, Mr Richard Freeman (r.freeman2@ncl.ac.uk).

PLEASE NOTE: In this survey, there will be an attention check. If you fail this attention check, you will be exited from the survey without payment.

1. *In this survey, 'seafood' refers to any edible aquatic life (from marine or fresh water), including fish (e.g., salmon, cod, tuna, trout), molluscs (e.g., clams, oysters, octopus), crustaceans (e.g., shrimp, crab, lobster), and algae (edible seaweeds). This includes fresh, frozen, canned, smoked, pre-prepared, and all other product forms.*

Have you purchased seafood for consumption in your household within the last year?

- ☐ Yes
- ☐ No

2. Although you do not currently purchase seafood for your household, do you currently consume seafood?

- ☐ Yes
- ☐ No

3. What are your reasons for not currently purchasing or consuming seafood?

Please select all that apply.

- ☐ High price
- ☐ Dislike taste
- ☐ Lack of availability
- ☐ Difficult to prepare
- ☐ Environmental impacts
- ☐ Health reasons
- ☐ Vegan/Vegetarian
- ☐ Other (please specify): _____

4. Where do you primarily consume seafood?

Please select one option.

- ☐ At restaurants or other food service establishments
- ☐ At home
- ☐ Other (please specify): _____

5. How often do you typically purchase the following types of seafood for your household?

	Never	Once every 2-3 months	Once per month	2-3 times per month	Twice or more per week
Salmon	☐	☐	☐	☐	☐
Cod	☐	☐	☐	☐	☐
Prawns	☐	☐	☐	☐	☐
Haddock	☐	☐	☐	☐	☐
Tuna	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

6. If you indicated purchasing other type(s) of seafood, please specify them here:

[Text entry]

7. Where do you buy seafood? (Please select all that apply)

[Drop-down list]



[Please now view the product below and answer the subsequent questions]

8. To what extent do you agree or disagree with the following general statements related to whether you would buy this product?

Please rate each statement using the scale of 'Strongly disagree' to 'Strongly agree'.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I intent to buy this product in the near future	☐	☐	☐	☐	☐
I plan to buy this product on a regular basis	☐	☐	☐	☐	☐
I am eager to check out this product	☐	☐	☐	☐	☐

9. To what extent do you agree or disagree with the following general statements related to your trust in the product label?

Please rate each statement using the scale of 'Strongly disagree' to 'Strongly agree'.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I can trust what this label says	☐	☐	☐	☐	☐
This label is honest	☐	☐	☐	☐	☐
The creator of this label has good intentions	☐	☐	☐	☐	☐
The creator of this label has passed strict tests before issuing it	☐	☐	☐	☐	☐
This label inspires confidence	☐	☐	☐	☐	☐
I would buy this product	☐	☐	☐	☐	☐

10. To what extent do you agree or disagree with the following general statements related to your trust in this product?

Please rate each statement using the scale of 'Strongly disagree' to 'Strongly agree'.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I am confident this product is safe	☐	☐	☐	☐	☐
I am confident this product is healthy	☐	☐	☐	☐	☐
I am confident this product has been produced sustainably	☐	☐	☐	☐	☐
I am confident this product is authentic	☐	☐	☐	☐	☐
I am confident this product will be tasty	☐	☐	☐	☐	☐

11. What type of seafood featured in the product?
[Dropdown list]

12. To what extent do you agree or disagree with the following general statements related to seafood products?

Please rate each statement using the scale of 'Strongly disagree' to 'Strongly agree'.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Seafood is a topic that I could talk about for a long time	☐	☐	☐	☐	☐
I understand the different types of seafood well enough to recognise them	☐	☐	☐	☐	☐
Seafood is a subject that interests me	☐	☐	☐	☐	☐
I have a preference for one or more types of seafood	☐	☐	☐	☐	☐
I am not familiar with different styles of seafood (reverse coded)	☐	☐	☐	☐	☐
There are specific places I regularly purchase seafood from	☐	☐	☐	☐	☐

13. What is your gender?

- ☐ Female
- ☐ Male

14. Please type your age (in years) using numbers into the box below? (e.g., 25, 18, or 50)
[Text entry]

15. Please type your ethnicity in the box below:
[Text entry]

16. What is the highest level of education that you have attained?

- ☐ High school or less
- ☐ College or technical school
- ☐ Some university or undergraduate degree
- ☐ Graduate degree

17. What is your occupation?

- Full time work
- Part time work
- Unemployed
- Student
- Retired

18. What is your marital status?

- Single (never married)
- Married, or in a domestic partnership
- Divorced
- Separated
- Widowed

19. What was your annual total household income (in Pounds Sterling) during the last year?

- Below £20,000
- £20,000-£39,999
- £40,000-£59,999
- £60,000-£79,999
- £80,000-£99,999
- More than £100,000

20. How many children are in your household?

[Text entry]

21. To what extent do you agree or disagree with the following general statements related to how you trust others?

Please rate each statement using the scale of 'Strongly disagree' to 'Strongly agree'.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I generally trust other people	☐	☐	☐	☐	☐
I feel that people are generally trustworthy	☐	☐	☐	☐	☐
I feel that people are generally reliable	☐	☐	☐	☐	☐

22. To what extent do you generally trust the following food supply chain actors?

Please rate each statement using the scale of 'Very low trust' to 'Very high trust'.

	Very low trust	Low trust	Neither low nor high trust	Somewhat high trust	High trust	Very high trust
Fishers and producers (producing aquatic life and plants for human consumption)	○	○	○	○	○	○
Fisher organisations for producers	○	○	○	○	○	○
Environmental organisations	○	○	○	○	○	○
Food manufacturers (preparing, preserving, and packaging food)	○	○	○	○	○	○
Retailers (supermarkets, markets, food stores)	○	○	○	○	○	○
Authorities (government agencies at national and EU level)	○	○	○	○	○	○

Appendix F: PROCESS Output – Local vs global

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 beta *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 9
Y : PI
X : Source
M : LTrust
W : Label
Z : Seafood

Sample
Size: 467

OUTCOME VARIABLE:
LTrust

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.5468	.2990	.3935	39.3274	5.0000	461.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.2486	.3992	5.6321	.0000	1.4640	3.0332
Source	.6971	.2505	2.7824	.0056	.2048	1.1894
Label	1.0499	.1836	5.7197	.0000	.6892	1.4106
Int_1	-.4651	.1162	-4.0030	.0001	-.6935	-.2368
Seafood	.1417	.1836	.7720	.4405	-.2190	.5025
Int_2	-.3610	.1162	-3.1059	.0020	-.5894	-.1326

Product terms key:

Int_1	:	Source	x	Label
Int_2	:	Source	x	Seafood

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0244	16.0240	1.0000	461.0000	.0001
X*Z	.0147	9.6467	1.0000	461.0000	.0020
BOTH(X)	.0398	13.0886	2.0000	461.0000	.0000

Focal predict: Source (X)
Mod var: Label (W)
Mod var: Seafood (Z)

Conditional effects of the focal predictor at values of the moderator(s):

	Label	Seafood	Effect	se	t	p	LLCI
ULCI							
	1.0000	1.0000	-.1290	.0997	-1.2943	.1962	
	-.3249	.0669					
	1.0000	2.0000	-.4900	.1029	-4.7626	.0000	-.6922
	-.2878						
	2.0000	1.0000	-.5942	.0997	-5.9602	.0000	-.7901
	-.3983						
	2.0000	2.0000	-.9551	.1002	-9.5289	.0000	-1.1521
	-.7582						

```

*****
OUTCOME VARIABLE:
  PI

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .5339    .2850    .5612   92.4954    2.0000   464.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant   1.7053   .2302   7.4091   .0000    1.2530    2.1576
Source     -.2750   .0745  -3.6934   .0002   -.4213   -.1287
LTrust      .5422   .0500  10.8418   .0000    .4440    .6405

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
    -.2750    .0745  -3.6934   .0002   -.4213   -.1287

Conditional indirect effects of X on Y:

INDIRECT EFFECT:
Source    ->    LTrust    ->    PI

      Label    Seafood    Effect    BootSE    BootLLCI    BootULCI
    1.0000    1.0000    -.0700    .0521    -.1719    .0313
    1.0000    2.0000    -.2657    .0612    -.3874    -.1521
    2.0000    1.0000    -.3222    .0663    -.4599    -.1990
    2.0000    2.0000    -.5179    .0707    -.6621    -.3866

Indices of partial moderated mediation:
      Index    BootSE    BootLLCI    BootULCI
Label    -.2522    .0679    -.3918    -.1257
Seafood  -.1957    .0652    -.3243    -.0715

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

----- END MATRIX -----

```

Appendix G: PROCESS Output – Local vs national

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 beta *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 9
Y : PI
X : Source
M : LTrust
W : Label
Z : Seafood

Sample
Size: 467

OUTCOME VARIABLE:
LTrust

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4445	.1976	.3716	22.7045	5.0000	461.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.4390	.3892	6.2673	.0000	1.6742	3.2037
Source	.5067	.2453	2.0652	.0395	.0246	.9888
Label	.8404	.1783	4.7123	.0000	.4899	1.1908
Int_1	-.2556	.1129	-2.2650	.0240	-.4774	-.0338
Seafood	-.0291	.1783	-.1630	.8706	-.3795	.3214
Int_2	-.1902	.1129	-1.6851	.0926	-.4120	.0316

Product terms key:

Int_1	:	Source	x	Label
Int_2	:	Source	x	Seafood

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0089	5.1301	1.0000	461.0000	.0240
X*Z	.0049	2.8397	1.0000	461.0000	.0926
BOTH(X)	.0139	3.9944	2.0000	461.0000	.0191

Focal predict: Source (X)
Mod var: Label (W)
Mod var: Seafood (Z)

Conditional effects of the focal predictor at values of the moderator(s):

	Label	Seafood	Effect	se	t	p	LLCI
ULCI							
	1.0000	1.0000	.0609	.0974	.6254	.5320	
	-.1305	.2523					
	1.0000	2.0000	-.1293	.0988	-1.3087	.1913	
	-.3234	.0648					
	2.0000	1.0000	-.1947	.0968	-2.0104	.0450	-.3850
	-.0044						
	2.0000	2.0000	-.3849	.0979	-3.9300	.0001	-.5773
	-.1924						

```

*****
OUTCOME VARIABLE:
PI

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .4526    .2048    .5578   59.7558    2.0000   464.0000   .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant   1.6419   .2186    7.5109   .0000    1.2123    2.0714
Source     -.1673   .0697   -2.4009   .0167   -.3042   -.0304
LTrust      .5296   .0515   10.2777   .0000    .4284    .6309

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
    -.1673    .0697   -2.4009   .0167   -.3042   -.0304

Conditional indirect effects of X on Y:

INDIRECT EFFECT:
Source    ->    LTrust    ->    PI

      Label    Seafood    Effect    BootSE    BootLLCI    BootULCI
    1.0000    1.0000    .0323    .0461    -.0591    .1210
    1.0000    2.0000   -.0685    .0540    -.1741    .0413
    2.0000    1.0000   -.1031    .0548    -.2111    .0000
    2.0000    2.0000   -.2038    .0542    -.3115   -.0993

Indices of partial moderated mediation:
      Index    BootSE    BootLLCI    BootULCI
Label    -.1354    .0607    -.2561    -.0158
Seafood  -.1007    .0598    -.2205    .0177

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

----- END MATRIX -----

```

Appendix H: PROCESS Output – National vs global

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 beta *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 9
Y : PI
X : Source
M : LTrust
W : Label
Z : Seafood

Sample
Size: 467

OUTCOME VARIABLE:
LTrust

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4765	.2270	.3805	27.0826	5.0000	461.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.2797	.3890	8.4302	.0000	2.5152	4.0442
Source	.1727	.2447	.7056	.4808	-.3082	.6535
Label	.5317	.1807	2.9422	.0034	.1766	.8868
Int_1	-.2025	.1143	-1.7725	.0770	-.4271	.0220
Seafood	-.2460	.1807	-1.3610	.1742	-.6011	.1092
Int_2	-.1634	.1143	-1.4302	.1533	-.3880	.0611

Product terms key:

Int_1	:	Source	x	Label
Int_2	:	Source	x	Seafood

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0053	3.1416	1.0000	461.0000	.0770
X*Z	.0034	2.0455	1.0000	461.0000	.1533
BOTH(X)	.0090	2.6782	2.0000	461.0000	.0698

Focal predict: Source (X)
Mod var: Label (W)
Mod var: Seafood (Z)

Conditional effects of the focal predictor at values of the moderator(s):

	Label	Seafood	Effect	se	t	p	LLCI
ULCI							
	1.0000	1.0000	-.1933	.0975	-1.9836	.0479	-.3848
	1.0000	2.0000	-.3568	.1009	-3.5366	.0004	-.5550
	2.0000	1.0000	-.3958	.0991	-3.9934	.0001	-.5906
	2.0000	2.0000	-.5593	.0983	-5.6901	.0000	-.7524

```

*****
OUTCOME VARIABLE:
PI

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .4683    .2193    .6240   65.1696    2.0000   464.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant   1.2407   .2323    5.3414   .0000    .7842    1.6971
Source     -.0930   .0758   -1.2268   .2205   -.2420    .0560
LTrust      .5775   .0544   10.6185   .0000    .4706    .6844

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
    -.0930    .0758   -1.2268   .2205   -.2420    .0560

Conditional indirect effects of X on Y:

INDIRECT EFFECT:
Source    ->    LTrust    ->    PI

      Label    Seafood    Effect    BootSE    BootLLCI    BootULCI
    1.0000    1.0000    -.1116    .0558    -.2245    -.0071
    1.0000    2.0000    -.2060    .0607    -.3298    -.0929
    2.0000    1.0000    -.2286    .0638    -.3579    -.1120
    2.0000    2.0000    -.3230    .0675    -.4657    -.1969

Indices of partial moderated mediation:
      Index    BootSE    BootLLCI    BootULCI
Label    -.1170    .0667    -.2479    .0077
Seafood  -.0944    .0664    -.2299    .0314

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

----- END MATRIX -----

```

Appendix I: PROCESS Output – Product involvement

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 beta *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : ProductT
X : LabelT
M : ProductI

Sample
Size: 700

OUTCOME VARIABLE:
ProductI

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.1086	.0118	.5382	8.3316	1.0000	698.0000	.0040

Model	coeff	se	t	p	LLCI	ULCI
constant	2.8292	.1296	21.8318	.0000	2.5747	3.0836
LabelT	.1118	.0387	2.8864	.0040	.0358	.1879

OUTCOME VARIABLE:
ProductT

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.6157	.3791	.3444	212.8232	2.0000	697.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	.9320	.1345	6.9310	.0000	.6680	1.1960
LabelT	.6130	.0312	19.6590	.0000	.5517	.6742
ProductI	.1237	.0303	4.0864	.0000	.0643	.1832

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y	Effect	se	t	p	LLCI	ULCI
	.6130	.0312	19.6590	.0000	.5517	.6742

Indirect effect(s) of X on Y:	Effect	BootSE	BootLLCI	BootULCI
ProductI	.0138	.0062	.0034	.0274

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

----- END MATRIX -----

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