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Embeddedness, Social Capital and Learning in Rural Areas: The Case of Producer Cooperatives

Abstract

To pursue development goals, policymakers and scholars alike have proposed that actors in rural areas may usefully engage in collective actions, e.g. by forming community groups, producer associations or multi-actor networks. One proposed benefit of such collaborations is the enhanced knowledge exchange and learning which may be created, and in the literature the dynamics of this are often explained via the concepts of embeddedness and/or social capital. To date however, studies tend towards a somewhat narrow, territorial, interpretation of these concepts, with the result that current understanding of how collaborations and learning evolve between rural actors is rather constrained. This paper aims to explore a broader interpretation of these concepts, through case analysis of a producer cooperative in the Scottish shellfish sector. In the case, the realities of member and management relations are revealed, along with the types of knowledge generated and the processes by which these are, or are not, shared between actors. In terms of embeddedness, our analysis reveals that, rather than the local community context which tends to dominate the literature, it is *sectoral* norms and habits which shape actor relations and learning most significantly in this case. In terms of social capital, we identify that tension-fuelled social relations are not in themselves a barrier to collaboration, again in contrast to existing claims, particularly where key actors have appropriate interpersonal skills, and where a values-based mindset ('cooperative know-how') is held in common. The findings therefore challenge popular assumptions about how embeddedness and social capital shape collective action and learning in rural areas, and illustrate the value of interpreting these concepts more expansively.

Keywords

Small firms; networks; knowledge exchange; collaboration; case study; producer cooperatives

1. Introduction

Rural areas are characterised by several features challenging to economic growth, including low rates of population in/out-migration, physical distance to end markets and low critical mass of firms. In recent years, policymakers have sought to address these by encouraging the development of networks and collaboration between actors and firms in rural areas, on the basis that such activity may bring advantages such as achievement of economies of scale and/or scope in production, and facilitation of better knowledge exchange. For example, Articles 28 and 36 of proposals under the Common Agricultural Policy Rural Development Regulation (CEC, 2011) refer explicitly to the need for public support for producer groups and cooperation, whilst priorities relating to the 2014-2020 Rural Development Programmes for England (CEC, 2015) and Scotland (CEC, 2015) make repeated reference to enhancement of cooperation to meet sustainability and competitiveness challenges. Rural studies research has likewise examined the potential of collaborative networks to achieve development goals, e.g. in endogenous community initiatives (Lorendahl, 1996; Brunori and Rossi, 2000; Fazzi, 2010), agri-environment action groups (Franks and McGloin, 2007; Taylor, 2010), and small firm clusters (Phyne et al, 2006). Indeed the network paradigm itself has been proposed as an important way of conceptualising activity in rural areas (Murdoch, 2000; Kalantaridis and Bika, 2006), with many authors in this field drawing from concepts of embeddedness and social capital to further explain the relational dynamics and consequences of collective action

To date, studies have examined empirically numerous aspects of rural firm collaborations, including the relationships between public and private actors (Taylor, 2010; Wellbrock et al, 2013), the roles of governance (Brunori and Rossi, 2007), identity (Goulet, 2013), leadership (Lorendahl, 1996; Huggins, 2000; Wellbrock et al, 2013), and the extent to which such collaborations may represent resistance to neo-liberalism (Mooney, 2004; Stock et al, 2014). Embeddedness and social capital appear frequently in this work as conceptual reference points. However, in the interpretation and application of these concepts, a tendency towards a narrow, localised, territorial framing has emerged, with the result that

ensuing explanations of the inter-relational dynamics of rural collaborations are rather constrained and unlikely to capture their full complexity. Hence in this paper, we take a broader perspective in the interpretation of embeddedness and social capital, to allow for alternative aspects and dimensions of these concept to emerge. We argue that a broadened perspective is particularly valuable for understanding how knowledge flows happen in rural collaborations. Rural knowledge exchange is a growing literature, and one in which the linkage between social relations and learning is strongly emphasised, particularly for tacit or experiential knowledge, which is created or constructed in the field as a result of social interaction (Ingram, 2008; Proctor et al, 2011). Highlighting that knowledge exchange and sharing are contingent upon relational dimensions such as power, reciprocity and trust (Sligo and Massey, 2007; Fisher, 2013), such work also refers to embeddedness and social capital as conceptual anchors. However, in spite of the growing interest in knowledge exchange and its recognised interdependency with social relations, and also the policy predictions that collective action enhances learning, rural collaborations have yet to be investigated specifically in terms of what the actors involved learn and how this happens. Hence, the key aims of this study are to (i) investigate the realities of actor relationships in a rural collaboration, exploring how actors actually interrelate and work together, (ii) investigate the types of knowledge generated within the collaboration, and the processes by which these are, or are not, shared between the actors, and (iii) in both cases, to engage with broadened interpretations of embeddedness and social capital for our theoretical underpinning, so as to generate new insights about the processes of collaboration and learning in rural areas, as well as to offer a fresh perspective on the concepts themselves.

The chosen context for this study is a small shellfish cooperative based in Scotland, whose members are located in the remote coastal and island periphery of the country. Producer cooperatives have a proportionately high representation in agricultural and natural resource sectors (e.g. in terms of farm gate sales, the average market share of all producer cooperatives in the European Union is 40% (Bijman et al, 2012)), and amongst them are several examples of long-established, economically significant enterprises (e.g. certain PDO production systems (Torre, 2006; Dentoni et al, 2012)). In

terms of research, cooperatives are studied in a dedicated literature (e.g. *Journal of Cooperatives*, *Journal of Co-operative Studies*), as well as in the fields of agribusiness (Cook and Chaddad, 2004; Chaddad and Iliopoulos, 2013), and organisation and management studies (Katz and Boland, 2002; Hamstreet, 2006; Boone and Özcan, 2014). Curiously however, the cooperative form *per se*, has rarely been the subject of specific research in rural studies (Ortiz-Miranda et al, 2010), and although recent work by Emery (2015) and Kasobov (2015) are notable exceptions, offering rich insights into the contexts of, and perceptions of farmer cooperation, neither study specifically investigates how actors relate to each other within cooperatives, nor how learning happens. As Mooney (2004) contends, the experiences of cooperative members and managers may have much to offer us in terms of understanding what happens more generally when rural actors seek to manage resources and activities in a collective way. Therefore, by conducting our study of collaboration on a producer cooperative, we seek to cast light on this relatively neglected organisational form and use the evidence to bring fresh insights into small firm collaboration in rural areas. The paper proceeds with a review of the literature on networks, collaboration and knowledge exchange in rural areas, considering how the concepts of embeddedness and social capital may explain knowledge exchange in rural areas and producer cooperatives, respectively. This is followed by an introduction to the case and then presentation of the findings. The paper finishes with a discussion and conclusion.

2. Networks, Collaboration and Knowledge Exchange in Rural Areas

2.1 Social Capital and Embeddedness in Rural Areas

For at least two decades, scholars in both rural sociology and small firm development have drawn heavily from network perspectives to conceptualise and explain development processes in their respective fields. In rural sociology, regions and localities have been conceptualised as differentiated (Marsden, 1998) and hybrid spaces (Taylor, 2010), in which economic outcomes are the result of complex, multi-layered interactions between actors, groups and institutions situated across fluid

spatial boundaries (Murdoch, 2000; Brunori and Rossi, 2007). Similarly, in small firm research, scholars have moved away from trait-based explanations of small firm growth towards theories inspired by concepts of entrepreneurial networks, clusters or milieux (Capello, 1999; Hudson, 1999; Kalantaridis and Bika, 2006). Within this conceptual trend, specific attention has been paid to initiatives whereby actors in a locality set out to jointly pursue a cause or goal, for example the development of an agri-tourism route (Brunori and Rossi, 2000), or creation of an association to address local environmental issues (Taylor, 2010). Such initiatives have been argued to draw from principles of endogenous development (Franks and McGloin, 2007) and the culture economy (Ray, 1999), to the extent that their power and advantage derive, at least in part, from the mobilisation of local resources and assets, including the socio-cultural fabric of community relations (Lorendahl, 1996) in which they are embedded. Indeed, the composition and character of existing social and community relations, or social capital, is highlighted by many authors as critical to effective collaborative initiatives (Huggins, 2000; Laschewski et al, 2002; Phayne et al, 2006). Specifically, it is argued that localities exhibiting a high density of social networks or bonding capital (Putnam, 2000) such that ties between actors are pervasively strong in nature (i.e. intimate, reciprocal), rather than weak (i.e. arm's length, one-off) (Granovetter, 1973), represent good 'soft platforms' for the development of collaborative ventures (Ring et al, 2009). In the endogenous development literature, strong ties and bonding capital are typically associated with localities characterised by stable populations and longstanding residents, which are thought to provide the opportunities for intimacy and trust to develop in social relations (Laschewski et al, 2002; Kalantaridis and Bika, 2006). In other studies, social capital is conceptualised more as a set of abilities or skills possessed by individual actors working in a collaborative context, e.g. listening, negotiating, compromising and animating (e.g. Proctor et al, 2012; Klerkx and Proctor, 2013). Taken together, social capital in rural collaborations therefore appears to stem from an interplay between individuals' skills and behaviours on the one hand, and the social characteristics and connections of the wider networks or communities in which collaborations are embedded.

Beyond this, social capital is argued to be extremely important to knowledge exchange in rural areas. Dense and rich social relations in networks or communities are argued to help individuals learn and share more easily with each other (Lawson and Lorenz, 1999; Johannisson et al, 2002) leading to further empowerment (Hassanein and Kloppenburg, 1995; Goulet, 2013). Moreover, the context of stability and continuity provided by such relations is conducive to the accumulation of knowledge at a collective spatial level (Capello, 1999). In particular, strong social bonds are thought to promote the exchange of tacit knowledge – know-how generated through practice and experience (Polanyi, 1966) – as the familiarity and reciprocity of the underlying relations facilitate the mutual understanding needed to exchange this form of knowledge, which is hard to codify or even verbalise (Hassanein and Kloppenburg, 1995; Oreszczyn et al, 2010; Morgan, 1995, cited in Hudson 1999). Indeed, as Proctor et al (2011) demonstrate, tacit knowledge is learning created or constructed in the field, as the result of social interaction, which in turn can then shift the character of social relations. Social relations, knowledge and learning are therefore intimately connected to each other, interacting in a dynamic way.

Dense and rich social relations can have a problematic dimension for collective initiatives however, and this includes the impact they may have on knowledge flows. Specifically, actors face challenges when the social contexts of their collaborations exhibit an overabundance of strong ties or bonding capital. Following Uzzi (1997), in such ‘overly-embedded’ contexts, actors tend to develop an insular reliance upon their strong-tie counterparts, to the exclusion of outside actors possessing strategically important expertise or information. As a consequence, novel information flows dry up leading to stagnation of ideas and inertia (Håkasson and Ford, 2002). In short, overly-embedded networks represent ‘highly developed groups, but undeveloped minds’ (Weick and Roberts, 1993), incapable of collective learning. For these knowledge-related reasons, scholars have long argued for networks and collaborations to exhibit a balance between rich internal social relations on the one hand, and a multiplicity of open, outward-facing connections to external actors and institutions on the other (Fisher, 2013), alternatively conceptualised as a balance between strong and weak ties (after

Granovetter, 1973) or between bonding and bridging capital (Putnam, 2000; Klerkx and Proctor, 2013). This balance may be facilitated by collaboration 'boundary spanners', whose particular role it is to make the connections between internal and external networks (Oreszczyn et al, 2010; Wellbrock et al, 2013), and/or to act as internally mobilising agents (Borgen, 2001). For collaborations between actors in rural localities, these balance-related principles have particular resonance as many rural areas exhibit a high density of social networks (Atterton, 2007) and bonding capital (Ring et al, 2009) relative to weak ties. On the one hand, these may offer actors in rural areas the reciprocity and trust-based soft platforms for development initiatives described earlier (Jack and Anderson 2002; Jack, 2005; Sligo and Massey, 2007), but by the same token, risks of over-embeddedness in collaborations are high (Ring et al, 2009). Indeed it has been found that rural communities are at greater risk of stagnation, feuds and over-support of weak members, due to actors being locked into inherited mindsets, and/or having overly developed senses of social obligation (Atterton, 2007).

Overall therefore, the literature raises intriguing questions about how different forms of social ties and capital in rural collaborations shape the way actors inter-relate, learn and exchange knowledge. In addition, interesting questions emerge about how social ties and capital are conceptualised in the first place. Specifically, it may be appreciated from the above that there is a tendency for existing studies to interpret embeddedness in a localised, territorial way: i.e., the development of rural collaborations is explained through the social characteristics of the local territories in which they reside. But is this interpretation too narrow? Could the social relations and learning processes of rural collaborations be explained more powerfully by the forms and degrees of their embeddedness in other, non-local territories or communities? Furthermore, is the social capital of rural collaborations manifest as a combination of network characteristics and individual skills as the literature suggests, or are there other dimensions involved? Our case sought to explore these questions, however first we consider existing work on social relations and knowledge exchange in producer cooperatives.

2.2 Producer Cooperatives and Knowledge Exchange

Characterised as relatively formalised (Varamaki and Versalainen, 2003) or hard forms (Huggins, 2000) of small firm collaboration, agricultural producer cooperatives (APCs) may be defined as “user-owned, user-controlled, user-benefited agricultural producer organisations” (Cook, M. 1997). They may take several forms, including machinery rings and input supply co-operatives where the main purpose is to increase efficiencies for the member farmers through sharing the costs of capital-intensive plant and arranging bulk purchasing of members’ inputs, respectively. For the purposes of this study, we focus our attention on *marketing* cooperatives: APCs where the main purpose of the collaboration is to produce and market members’ goods under a single, often place-based, identity. As with other cooperative forms in the UK, APCs are constituted under the rules of the Industrial and Provident Society, which sets the terms for membership, governance and operations. Arrangements are designed to be democratic, with minimal hierarchy and typical use of ‘one member one vote’ in decision-making. Governance resides with a Board of Directors (BoD) drawn from the membership, from which a Chair and Vice-Chair is elected. Operations are normally delegated to a Managing Director (MD) or team appointed by the BoD (Chaddad and Iliopoulos, 2013). To join an APC, prospective members typically pay a nominal fee which is redeemable at par value on exiting: this is in place of purchasing tradeable, appreciable shares, of which there are none in the traditional cooperative model (Nilsson, 2001). In APCs therefore, management and members experience key differences in status and engagement compared with what is normally found in private firms. The APC manager is in the somewhat unusual situation of being an employee of the group and answerable to the membership, but normally has no ownership stake or rights in the enterprise. By joining an APC, members are granted the right to trade through the coop (the coop effectively acts as a guaranteed buyer for their goods, paid for by levies charged proportionately against their throughput), and it gives them access to all the investments made collectively by the membership over time. However the resulting values are not appreciable to individual members for as long as the coop continues to trade,

nor can members take with them the share of assets they have contributed to, should they choose to exit.

There are several ways in which APCs, as described above, may bring benefits to their members and the communities in which they reside. First, an assumption is that by working together, APCs allow members to pool their outputs and achieve a greater volume, which in turn allows them to reach larger and/or more distant buyers than would be possible for members acting alone (or in competition with each other). Second, the formalised structure of APCs' operating arrangements can have an improving effect on the quality and consistency of members' outputs. Both of these features can increase returns to the members. Third, by collaborating in an APC, members may create a reputation and story around their activity which can contribute to a 'basket of goods' territorial strategy (Tregear et al, 2007), potentially increasing the multiplier effects for the wider community (Lorendahl, 1996). Finally, the democratic ownership structure and absence of outside investors or shareholders encourages retention of value and revenues within the membership group and their communities (Mooney, 2004; Stock et al, 2014). Beyond these benefits, the particular structure and set up of APCs may also bring advantages for knowledge exchange. Specifically, the flat, non-hierarchical decision-making structure of APCs facilitates peer-to-peer interaction of members, strengthening social bonds and thereby encouraging greater intra-group exchange (Oreszczyn et al, 2010; Goulet, 2013), not least for tacit or experiential know-how. In addition, by employing an MD or management team, APCs effectively acquire and internalise specific knowledge in key commercial aspects of the collaboration (e.g. business strategy, finance, marketing), which are often less readily available to actors engaged in looser forms of collaboration (Ortiz-Miranda et al, 2010). Finally, MDs or management teams in APCs can also act as conduits of knowledge and information between members, facilitating exchanges where they may not happen spontaneously, as well as performing a boundary spanning function (Oreszczyn et al, 2010), drawing down ideas and knowledge external to the group (e.g. from conferences, field trips) and communicating these in relevant and effective ways.

APCs are not without their problems however, particularly when we consider preceding arguments relating to social capital and over-embeddedness. By nature, the membership and patronage arrangements of APCs promote stability and longevity of association, and many have remarkably low turnovers of members. Although such stability promotes strong social relations and all the advantages they may bring, APCs are also therefore at risk of the over-embeddedness effects described earlier (Borgen, 2001), and perhaps in a more intense form than looser collaborations: the formalisation in APCs may lead more readily to a fortress mentality and myopic preoccupations with immediate concerns rather than new innovative possibilities (as revealed by Hassanein (1999), cited in Mooney (2004), and Goulet (2013)) or indeed wider community development activities (Ortiz-Miranda et al, 2010). The abundance of strong ties in APCs may also therefore place members at risk of 'heedless' rather than 'heedful' inter-relating (Weick and Roberts, 1993), locked in patterns of action and interaction with each other that are routine and disengaged, with negative consequences for learning. The propensity for sharing and exchange in APCs may be undermined further where negative experiences and ambivalent attitudes towards cooperation prevail in the wider population (as may be the case in many sectors of UK agriculture (Emery, 2015; Kasobov, 2015)), because in such contexts active and dynamic engagement of actors is less likely. In counterpoint it may be argued that in APCs, the existence of a boundary spanning and/or internally coordinating MD or management team may serve to reduce some of these problems, however this outcome depends largely on the skills, aptitudes and orientations (i.e. individual social capital) of those involved, which may be a challenge (Nilsson, 2001). In light of these tensions in the literature, insights are therefore needed into what actually goes on in APCs in terms members and management inter-relations, and the extent to which APCs can, in practice, act as vehicles for knowledge exchange. As argued previously, in undertaking such an investigation a broadened perspective of embeddedness and social capital may allow for alternative explanations of relational dynamics and learning in APCs to emerge.

3. Methods

The research adopted a case study methodology, specifically an analysis of ShellCo¹, a shellfish marketing APC based in Scotland. Of all the kinds of coops described earlier, marketing APCs place perhaps the highest demands on their members in terms of commitment, as well as requiring a considerable breadth of knowledge and skills to function effectively (e.g. in quality control, finance and negotiation, as highlighted by Kasobov, 2015). From these perspectives, a marketing APC represents a rich context for exploring social relations and knowledge generation and exchange in a rural collaboration². In terms of data collection, interviews were conducted with ten informants, namely the current and past chairmen, the managing director (MD), six members, a non-executive Board member and the head of a relevant trade association body who works closely with the group. In this way, we captured informants both 'inside' and 'outside' the cooperative (Johanson and Vahlne, 2011). Interviews lasted 60-120 minutes, and were conducted face-to-face in interviewees' own homes or places of work, following a semi-structured discussion guide. All interviews were recorded and fully transcribed. Analysis involved listening to all recordings and re-reading fieldnotes and transcripts, in order to formulate initial propositions under themes corresponding to our research objectives. Three follow-up interviews conducted with the current chair, the non-executive Board member and one ordinary member sought to confirm the veracity of our emerging propositions and to refine our understanding of particular points. Below we give a short overview of the case itself, before presenting the key findings and conclusions from this analytical process.

¹ A pseudonym to preserve anonymity

² This means that some of the patterns of social interaction and knowledge exchange we identify here may not transfer readily to other forms of rural collaboration. For example, the commercial knowledge we identify in ShellCo may not be applicable to an agri-environment collaboration.

4. Case Overview

ShellCo is a marketing APC which grows, harvests, processes and sells its members' shellfish to the retail sector in the UK. It was founded in the early 1990s by a small group of mussel and oyster growers based on the west coast of Scotland, who saw an advantage in working together to sell their harvests rather than competing with each other for limited sales outlets in what was then a very nascent market. The group grew in scale over the next ten years, such that by the early 2000s, in order to increase volumes and extend seasonality, shellfish growers located on a northern isle were invited to join, bringing the membership of ShellCo up to its current total of 20. Approximately half the members reside in locations around the northern isle, whilst the west coast members are scattered across island and coastal sites along the western seaboard. In this cooperative, governance follows a traditional model comprising a BoD elected from the membership body, from which a chair and vice-chair are then appointed. Also following convention, all operational activities in ShellCo are delegated to an MD and management team, appointed by the BoD. Less conventionally, a small number of non-members sits in an advisory capacity on the BoD, each one contributing specific expertise, for example in finance, business strategy and cooperative working (this arrangement is relatively common in northern European cooperatives, but rare elsewhere (Chaddad and Iliopoulos, 2013)). Structurally, a striking characteristic of ShellCo is its high degree of vertical integration: since the late 1990s it has leased and operated a plant in central Scotland which cleans and grades all shellfish received from the members, then either packed in net bags for live sale, or else cooked in a sauce and vacuum-packed as ready meals. The products are then transported to the regional distribution centres of most of the UK's major food multiples, from where they arrive on the fresh fish counters of supermarkets all over the country. In terms of production itself, all ShellCo mussels are rope-grown: microscopic spat released naturally in seawater by mature mussels attach themselves to ropes placed by the growers in appropriate sites, which are then reared to maturity over three years. Although husbandry involves no feeding or medication, maintaining a protected, healthy site is a complex activity requiring intimate knowledge of local marine conditions and biology (e.g. tides, currents, salinity, predators, toxins,

sources of fouling), and of different forms of equipment and their suitability for local conditions (e.g. ropes, lines, floats, rafts and harvesting kit). However at the end of this process ShellCo mussels command a premium: they are typically large, contain no grit and have high environmental quality, all monitored through testing regimes at the plant.

In the context of this research, ShellCo is a very appropriate case to investigate: structurally and managerially, ShellCo has all the features of a conventional APC, whilst also representing an excellent example of the value-capturing marketing collaboration policymakers seek to encourage in rural areas. It begs the question of how such collection action has been mobilised, notwithstanding ShellCo members' locations in some of the remotest areas in the country. How strong are the inter-firm ties in ShellCo and what kinds of social capital are exhibited? How do different forms of knowledge get learned and shared within the group? And given that ShellCo's membership and MD have been very stable for more than ten years, what does this case reveal about embeddedness or 'over-embeddedness'? Our purpose was to address these questions, in light of the arguments in the literature about social relations and knowledge exchange in rural collaborations.

5. Results

5.1 How ShellCo Members and Management Relate to Each Other

Our first area of investigation was to explore how the informants felt that ShellCo members related to each other as well as to the cooperative as a whole, and the extent to which members and management shared common goals or ambitions. In practice, all ShellCo participants conveyed a sense of identification with the cooperative, and expressed many advantages to membership. In terms of social ties, they painted a picture of cordial informal relations existing between members, although the realities of their way of life impacted on the frequency and depth of interactions:

“Everybody knows everybody...I suppose we’ve always had informal links, and since we joined the group we’ve had a fair bit more contact with the guys on the west coast as well” (Interviewee 4, northern isle).

“...I think, to be honest we’re in our own wee bubble. I’m a bit guilty of that. I think I probably concentrate more on the actual technical aspect of trying to grow them, more than keeping up with what’s going on the coop.” (Interviewee 11, west coast)

Also, interviewees identified differences within the membership on two main grounds. First, a distinction was made between members based on the west coast and those on the northern isle. Importantly, this division represented more than a geographical shorthand. It included, for example, recognition of differences in the local regulatory and funding environments in the two regions (the northern isle being regarded as more supportive to site development), and a historical evolution dimension which recognised that although the cooperative had been founded in the west coast, the centre of gravity in terms of production volumes has shifted to northern island members, some of whom have pursued high growth strategies over the last 5-10 years (in ShellCo, the largest grower’s annual harvest is approximately five times the tonnage of the smallest one, a significant disparity in a cooperative of only 20 members). For some interviewees, these characteristics were associated with differences in commercial outlook and ambitions. However, although we observed that individual interests and goals of members were not always perfectly aligned, in practice sensitivity to these issues was demonstrated as well as realisation that they needed to be addressed:

“I think that keeping people together... you have to work at it, it doesn’t just happen. I think you have to continually.. almost think of issues to keep everybody focused to have a common purpose” (Interviewee 10, west coast),

“Well in the coop we have had one or two members joining in the last two years, so we have gone through this process of discussing with the farmers what’s going to happen, how it works, what might have been difficult for them as well.” (Interviewee 4, northern isle)

Sensitivity was also demonstrated through managerial actions. For example, different member types (in terms of scale and growth orientation), were deliberately represented on the BoD, and within the last few years a voting formula equitable to different types of member has been drawn up and agreed: specifically, each member's vote is based 50% on a 'one member one vote' principle, and 50% on the members' tonnage throughput³. Through such actions, a greater sense of common cause has been encouraged than would otherwise have emerged.

In terms of the member-management relationships, interviewees recognised a basic conflict of interest at the heart of the collaboration, which gives the potential for members and management to be continually at loggerheads:

"I mean the coop's principle is supposed to get the best possible return for its farmers... but there's always a tension there. It's a processing operation, and the price of the raw material into the processing operation is key to the success of that processing... So there's a dilemma there where the machine of the coop is trying to give the best possible price to the farmer, but also it needs to keep its cost of raw materials down to make sure it is attractive to the customer" (Interviewee 10, west coast).

The ShellCo Board therefore has to address a problem common to many marketing APCs: how to maintain good membership-management relations in the face of tensions between their competing interests (Mooney, 2004), in particular between members' focus on the terms of trade set between themselves and the cooperative (e.g. handling of prices and grading losses), and management's preoccupation with the strategic concerns of the plant (e.g. securing supply contracts, and maximising the plant's throughput efficiency). In a UK context, other studies have found these tensions particularly intractable, due not least to coop members not understanding or valuing what management does, and/or being unwilling to pay for this input (e.g. Kasobov, 2015). In ShellCo

³ This formula, devised by one Board member (a small-scale producer), aimed to reconcile the democratic principle of coop membership with recognition that ShellCo's substantial commercial growth – from which all members benefit – has disproportionately resulted from the self-borne investments and risks taken by the largest producers. The fact that this formula was deliberated at length before agreement is symptomatic of the Board's careful handling of matters of governance and member relations.

however, we found that members respected and valued what the MD and his team have achieved. In part this was through members' ability to compare the present team's performance with less effective past managers (since departed). However it also stems from a thorough financial appraisal of the co-operative and management team undertaken approximately eight years ago, with the assistance of a specialist non-executive Director. This appraisal came about in the wake of an opportunity for the group to change its commercial circumstances, and although the membership ultimately chose not to pursue this opportunity, the financial assessment resulting from this episode led to members appreciating more fully what the management team contributes in monetary terms:

"I think this is where this non-Exec said 'I know you've got a long-term incentive plan for the management, but it's rubbish'" (Interviewee 9, west coast)

"We changed [ShellCo] from being farm kind-of driven to being commercial, taking in good non-executive expertise, changing the strategy, changing the objectives of the business. Funding staffing with long-term incentive plans. Which was quite revolutionary for a coop-type business" (Interviewee 6, northern isle).

"The [management team] ... we all rate very, very highly. Very difficult [to find] Managing Directors in these kind of businesses, because... there are so many competing perspectives, there's the big producers, there's the wee producers, there's the customers, there's the quality, there's the staff, and trying to balance so many balls. It does take quite a special individual." (Interviewee 1, board member).

In addition to this historic context, interviewees' testimonies also indicated considerable dedication and effort on the part of Board members in more recent years to address difficulties and deal with members' concerns, on an individual basis. In summary therefore, we found that despite comprising only 20 members, the vast majority of whom have been engaged in this collaboration for more than ten years, considerable heterogeneity existed in members' interests and ambitions in ShellCo, and some separation of interests and understanding between the membership and management was also

exhibited. Board members appeared to draw from their individual social capital (e.g. interpersonal skills and abilities) to handle these tensions. However the case evidence on internal relations does call into question the view that deep reciprocity and trust inevitably and unproblematically emerge in networks characterised by mature, stable populations.

5.2 Knowledge Types and Flows in ShellCo

Our second area of questioning involved exploring what interviewees felt they needed to know in order to work within the cooperative, where that learning comes from, and how it is used within the group. Through our analysis we found the testimonies could be categorised into three key types of knowledge: production expertise, commercial expertise, and cooperative know-how. These are now elaborated in turn.

5.2.1 Production Expertise

First, ShellCo members spoke freely, and at first hand, about production expertise, which was taken to denote everything they needed to learn about the technical process of growing, harvesting and dispatching shellfish, from site selection and maintenance to the washing and grading that takes place prior to transport to the plant. This form of knowledge is a fundamental area which any marketing collaboration needs to address, as without the technical skills necessary to produce the right quantity and quality of products, there can be no joint enterprise. The most striking finding in ShellCo was the remarkable extent to which this expertise was experiential and informally gathered by members, rather than acquired formally through courses or training. Interviewees explained this was due to the fact that mussel growing (in particular) is a young and still highly specialised industry, having developed in the UK from very small origins in the late 1980s. Almost all members of ShellCo started up their own sites from scratch, as an entrepreneurial move either from an unrelated line of work (e.g.

construction), or a related sector (fishing, salmon farming). The process of knowledge acquisition was therefore portrayed as heavily dependent on trial and error (“...these guys have built up knowledge.. just through hard work and endeavour. It’s not been as a result of any scientific prowess by any means.” Interviewee 3, trade association representative), supported by proactive individual information gathering from ‘outsider’ networks in other countries:

“Well, it’s just a case of looking at what other people are doing, and magazines. I actually went to New Zealand, when I started the mussel farming, I went for a month to New Zealand and I spent a couple of days with New Zealand mussel farmers.” (Interviewee 7, northern isle).

“Most folk get the trade press. Or just simple internet searches...you can see videos, bits and pieces of clips.... The rope manufacturers will send you DVDs with all the examples filmed aboard boats in New Zealand, Spain, France, Chile, anywhere.” (Interviewee 4, northern isle).

To this extent, the generation of production expertise by ShellCo growers was akin to the active environmental scanning and external networking of Sligo and Massey’s (2007) New Zealand dairy farmers. Interestingly however, interviewees’ testimony conveyed less proactive sharing of production expertise between ShellCo members themselves. Although it seemed ad-hoc bilateral exchanges did take place between geographically proximate members, along with sharing of techniques through seasonal staff moving between firms, the experiences and results of individual members’ small-scale trials and experiments seemed not be shared widely around the group. To date, neither the BoD nor the management team has provided a real platform to encourage the exchange of internal production expertise: although in recent years, time has been set aside for a dedicated ‘growers’ meeting’ at the AGM, it is the interactions between members and management which preoccupy this forum (in particular issues over prices and yields) rather than exchange of production experiences and expertise.

5.2.2 Commercial Expertise

The second type of knowledge interviewees talked about was commercial expertise, denoting everything members and/or management needed to know in order for the cooperative, as a business entity, to compete successfully in the marketplace. This included business strategy, finance and marketing. The value of this expertise can be overlooked by initiators of collective actions (Kasobov, 2015), particularly those with social or environmental remits, because such expertise may seem antithetical to these kinds of goals. However, we contend that any rural collaboration which relies at least to some extent on generating revenue from an external party – e.g. tourists, retailers, government agencies – requires this form of expertise. From interviewees' testimonies about the historic development of ShellCo, it was clear that commercial expertise had been acquired and internalised in ShellCo through the appointment of the current MD and his team. The considerable level of knowledge they possessed drew from a combination of decades of experience managing similar operations in a corporate environment with, in the case of the MD, experience of working in a cooperative context too. Beyond this, testimonies also conveyed that the BoD had undergone a steep learning curve in terms of management accounting and control systems during the appraisal period eight years previously, in which the business specialist non-executive director had helped develop tighter systems for monitoring financial performance, as well as a method for placing values on its different components. In the area of commercial expertise therefore, acquisition from 'outsiders' has played an important role in ShellCo, as also found by Ortiz-Miranda et al (2010), although the strategic skills of the current and previous chairmen should not be underplayed, as without these, the appointments and associated expertise would likely not have been made. In terms of how commercial expertise was used and shared within ShellCo, we observed an interesting dynamic, whereby many members expressed positivity about this knowledge residing overwhelmingly with the management team at the plant. Apart from some misgivings about communication over strategy, interviewees perceived it as advantageous that the management team shielded them from the responsibilities of commercial decision-making, allowing them to concentrate fully on production:

“That’s what’s good about the factory, they lay on transport, they pay for the lorry to come to your site. So we land them, we put them straight on the lorry, shut the doors, fill the form and he’s away. That’s it all done.” (Interviewee 11, west coast).

However, this is not to say that members acquired no business or marketing knowledge as a result of being in ShellCo. For example, all members were permitted to sell a proportion of their output into local direct sales or other non-competing markets, an option that growth-oriented members in particular had taken advantage of, giving them an opportunity to develop and wield their own business skills. Furthermore, over the years all members have had numerous opportunities to visit the plant, talk with the sales team, view product testing processes, etc. Our sense is that, for those members who engaged with such opportunities, commercial expertise is learned, even though it is not imparted in a formal way.

5.2.3 Cooperative Know-How

The third area of knowledge interviewees spoke of we have described as cooperative know-how, which denotes everything members needed to know in order to make this specific form of collaboration work. We contend that co-operative know-how is an essential area of knowledge, but perhaps even more than commercial expertise is overlooked amongst collaboration initiators. It comprises two dimensions, both of which were strongly exhibited in ShellCo. First, it involves a BoD possessing the formal, codifiable knowledge relating to cooperative rules, constitution and procedures. We found the way in which the ShellCo BoD had acquired this knowledge was similar to its acquisition of accounting and control systems knowledge: by appointing a non-executive Director with specialist expertise in this area as an advisor. This individual had worked with ShellCo since the mid-1990s and so had developed a strong rapport with the group, and our sense is that his constitutional and procedural advice has been particularly helpful at times of debate and uncertainty about the cooperatives’ direction. The second dimension of cooperative know-how refers to a highly

tacit values-based dimension which shapes individuals' priorities and perceptions of their own contribution to the collaboration, as well as their responsibilities to other members. We argue it is not captured by existing conceptualisations of social capital in the rural studies literature, being neither an expression of the network or community connections in which ShellCo members are embedded, nor a specific skill held by individuals. However we did much evidence of it in ShellCo. For example, during an algal bloom outbreak in coastal waters around Scotland in summer 2013, which prevented all but one of ShellCo's members from harvesting for a seven week period due to the risk of toxin contamination of the shellfish, the single grower with a clean site worked intensively seven days a week for the whole period, exhausting himself and his entire stock, so that management could honour its supply contracts to the supermarkets. Beyond this perhaps extreme example, other interviewees alluded to a collectively oriented mindset which they recognised in themselves, and valued for its importance to the sustainable operation of a cooperative as a whole:

"A certain type of person? Yes, I think you are totally right. You need to be willing to... collectively work together, to look at the big picture.... I mean there are several independents in [the northern isle] as well, who don't have any intention of joining coops, because they don't like working together, they like doing their own thing." (Interviewee 7, northern isle)

"It takes an intelligent grower, because you have to fight your instincts to want the best price, to go out and get the better deal. I would say greed would motivate people to go outwith that [coop] environment, because they think they can get something better." (Interviewee 5, northern isle)

"Yes... there's a personal thing there that you can get on at the guys and say 'look, I need you to do this' and he'll get up on a Sunday morning and do it. Whereas if you phone an [external supplier] then, well, the next time he'll do it is Tuesday.." (Interviewee 2, board member)

"[The growers] have to learn accommodation. They have to learn that they're part of a process and that there is give and take. Because if the group sinks, it's really serious for them. I keep going back to the balance... between self-interest and group interest, you know." (Interviewee 1, board member)

In terms of how the members acquired cooperative know-how, it appeared to come from either experiential or second-hand learning. In experiential terms, a number of interviewees explained that prior to forming or joining ShellCo (depending on the timing of their membership) they had spent at least a few years attempting to market their shellfish independently. In every testimony this was portrayed as extremely challenging, with tales of being *'run ragged'* (Interviewee 11, west coast) by wholesalers and buyers altering or terminating purchase agreements at short notice, resulting in interviewees spending intolerable levels of cost and time in sales and marketing (e.g. trying to locate and agree deals with trustworthy buyers, then washing, grading, packing and delivering product to their requirements). For these members, such tough experiences of independent trading help to explain their mindsets and commitment to peer collaboration, notwithstanding the internal conflicts and tensions which come with such arrangements. In terms of second-hand learning meanwhile, interviewees spoke of shellfish production in other countries (e.g. Ireland) and in other aquaculture sectors (e.g. salmon farming), where cooperation had not been pursued or had been abandoned, leaving growers and their communities in very vulnerable positions (*"Ireland's maybe a quite a good example, where there are several factories that process mussels... and there isn't any collective and it's a mess. It's survival of the fittest... the factories are just playing the farms against each other"*. Interviewee 9, west coast). Again, this appreciation of others' experiences helps explain cooperative know-how. Nevertheless, not all growers who experience or witness the negativities of independent trading acquire cooperative know-how. For the BoD, this raised a problem of how to know whether applicants to the group would be capable of learning this mindset, in advance of them actually becoming formal members, as values can only really be judged through experience. ShellCo dealt with this problem via a trialling model: aspiring new members have first to apply to the BoD and then undergo a period of trial membership, at the end of which both the applicant and the BoD have the opportunity to terminate the relationship (this system having been put in place on the advice of the cooperative specialist non-executive Director). In this way, the BoD can identify the extent to which applicants are absorbing the tacit dimension. ShellCo's approach is reminiscent of the period of trial

working set by members of the successful network initiative described by Huggins (2000), in which members were able to set the ground rules of how they would work together before the commercial stakes became high.

6. Discussion

The starting point for this research was the observation that networks and collaboration have become associated with many benefits in rural development, including the facilitation of knowledge exchange between participants. However, when invoking embeddedness and social capital to explain relational dynamics and learning processes in rural collaborations, studies to date have tended to adopt somewhat narrow interpretations of these concepts. Through our examination of inter-firm relations and knowledge exchange in a producer cooperative, we have revealed the existence of a different embeddedness dynamic to that discussed in the existing literature, and we have also identified a hitherto unrecognised form of social capital. In this section, we reflect on these findings.

In terms of embeddedness, studies in both the business network and rural studies literatures convey that the development trajectories of collective actions are shaped by the contexts – the social fabric, norms and routines - in which they are embedded. With their tendency to focus on local, territorial contexts, many studies further propose that collaborations in rural areas may be prone to an ‘over-embeddedness’ effect, whereby the strong ties developed in local communities as a result of long association by stable populations can lead to insular preoccupations and loss of novel ideas and knowledge from external sources (Atterton, 2007; Ring et al, 2009). In our study, we found ShellCo’s development to be shaped by the group’s embeddedness in a different kind of context. As ShellCo members are dispersed across a wide geographic area⁴, we found that what goes on in ShellCo is not driven, or ‘over-driven’, by the social relations of one local community, despite the mature, stable

⁴ For example, some west coast members are more than three hour’s drive from each other, and even on the northern isle, travel times of one hour or more between sites are not unusual.

nature of the membership population. Instead, the context we find most important to explaining ShellCo's development is a *sectoral* one. Shellfish growing is a relatively young sector in the UK, high growth but also high risk, and backed by a very modest institutional, financial and scientific support base compared with most agricultural sectors. Those who have been drawn to it are typically entrepreneurial-minded first generation transfers in from other sectors, which are themselves characterised by high levels of self-employment or personal autonomy in working practices. Embedded in this context, shellfish growers' leanings towards self-reliant problem-solving are nurtured further, which renders them typically externally-oriented, proactive learners, but used to acquiring knowledge about production in a relatively ad hoc, individualistic way⁵. For the cooperative therefore, the behavioural norms of the sector somewhat work against the free sharing of ideas and experiences between ShellCo members, a dynamic compounded by their geographic isolation from each other. The result is a collaboration where weak ties to external actors are abundant – both members and management can be construed as active 'boundary spanners' (Oreszczyn et al, 2010; Wellbrock et al, 2013) – but internally, despite the informality and cordiality of member-to-member relations, the frequency and depth of exchanges is comparatively low given the size and stability of the membership. ShellCo's experience therefore challenges some assumptions about the nature and role of embeddedness in collaborations, by serving to highlight that (i) local territory/community is not the only, or the most important, context to shape actor inter-relations and learning in a rural collaboration (e.g. sectoral context may also be important), and (ii) 'over-embeddedness' - the over-abundance, in a network, of strong internal ties relative to weak external ties - is not the only relational configuration that can pose challenges for rural collaborations (e.g. the under-representation of strong internal ties relative to weak external ties is may be potentially problematic, particularly if there is a lack of compensatory interpersonal skills or other form of internal social capital present). Overall,

⁵ The individualistic behaviours described here may seem reminiscent of Emery's (2015) observations of similar tendencies amongst land-based farmers. However, we would argue that the individualism of ShellCo members does not coincide with a loss of their economic independence (as would be expected following Emery's arguments), because ShellCo members' tendencies derive from their entrepreneurial backgrounds and experiences, rather than a legacy of involvement in state supported production.

our finding supports the general position that small firm activity in rural communities is heterogenous in nature (Atterton (2007), Laschewski et al (2002) and Kalantaridis and Bika (2006)), hence analysts should be open to the possibility that well-recognised sources and forms of embeddedness may be eclipsed by other social or structural arrangements in terms of explaining the dynamics of collaborations.

Our second reflection relates to the nature of social capital in rural collaborations. In the literature, communities or networks exhibiting abundant strong ties, or bonding capital, are proposed to represent good 'soft platforms' for collaborative initiatives to develop (Atterton, 2007; Ring et al, 2009): the inference is that where actor relations are harmonious and in alignment collaboration is facilitated, whereas networks characterised by tensions and discords in actor relations are problematic for collaboration. Given ShellCo's considerable development and growth over a 10 year period, through the actions of a largely unchanged set of actors, one might have expected to find rich, harmonious relations in this collaboration. In practice, to add to the comparatively attenuated member-to-member relations described in the preceding paragraph, we found numerous internal tensions, including disparities in goals and interests based on members' location (northern isle vs west coast), size (large vs small) and growth orientation (low versus high). On the one hand, this finding accords with Hudson's (1999) and Laschewski et al's (2002) assertions that collaborations which exhibit general common interests for the actors involved should not be assumed free of all tensions and divisions at a micro level. Indeed, following Mooney (2004), all forms of development are a struggle, requiring negotiations between actors with competing interests, and therefore cooperatives should not fear or seek to eradicate all inter-member tensions or rivalries. Indeed, it is possible that diversity of opinion within a group is a healthy feature as it means the group is unlikely to pursue either an overly cautious pathway nor an outlandishly expansionist one. Nevertheless, internal tensions may derail a collaboration completely if they become too deep or entrenched, so how has that been avoided in ShellCo? How is social capital manifest, if not through harmonious alignment of internal actor relations, nor frequent and deep member-to-member interactions? First, we would

point to the existence of key actors' social skills and abilities (Proctor et al 2012; Klerkx and Proctor, 2013), particularly the dedicated efforts of the past and current chairmen to keep everyone on board (e.g. by keeping in regular phone contact with members to discuss their concerns and, when needed, travelling to members' homes to meet in person). In addition, we would identify the BoD's skills in being scrupulously transparent and fair in its efforts to represent different factions and interests (e.g. by ensuring that the Board itself is comprised of members of different sizes and from the two main geographic areas, and by agreeing an equitable voting formula). Hence skill-based social capital has played a significant role in the collaboration. However, to this we would add the existence of what we have called 'cooperative know-how': the valued-based mindset or orientation expressed by ShellCo members which represents a deep appreciation of what the collaboration does for them, and a commitment to playing an active part in it. Stimulated at least in part from direct or second-hand experience, it manifests itself as a willingness to see beyond short-term self-interest, and to act for the long term – and collective – good. In character, we find cooperative know-how is reminiscent of Weick and Robert's (1993) heedful inter-relating, or Borgen's (2001) identification based trust, and the fact that we identify it in ShellCo highlights that such mindsets are not absent in contexts where self-reliant behaviours are the norm. Our analysis suggests that although this know-how is derived at least in part from experience, it is not a practical skill in the mould of interpersonal social skills, nor is it an expression of deep, harmonious social relations in a network. Hence, we propose that cooperative know-how may represent a hitherto unrecognised dimension of social capital, one that may be supported through interpersonal skills and enacted through community relations, but is distinct from both. Overall, our finding supports the notion that internally harmonious relations and deep, frequent interactions may not always be necessary to effective collaboration, but where these conditions exist, skill-based social capital from key actors and certain collectively-oriented values held in common by members may be important facilitative features.

Our third area of reflection relates to knowledge flows within ShellCo and their interdependence with the internal relations of the collaboration. In the literature, knowledge is normally conceptualised as

a resource which flows from some kind of pre-existing context of social relations (e.g. Lawson and Lorenz, 1999; Borgen 2001; Johansson et al, 2002), and our earlier discussion of the production-related learning habits of ShellCo members being shaped by sectoral embeddedness supports this view. Other studies however (e.g. Proctor et al, 2011) emphasise that some knowledge - particularly that which is tacit - is created or constructed in the field through social interaction, and as such its generation provides an opportunity for building or cementing strong ties in a collaboration. We argue that to date, commercial expertise has played this role in ShellCo. As all ShellCo members have experienced directly or witnessed second-hand the challenges of acquiring and wielding commercial expertise, they have a strong appreciation and admiration for the current commercial expertise of the ShellCo management team which, through its enactment, serves to cement bonds between the actors. Kasobov's (2015) work on land-based coops suggests this function of commercial expertise is unusual in a UK context, and again we would suggest the structural features of the shellfish sector which expose new entrants to the harsh realities of independent trading (e.g. fluid supply chain, little government intervention and support), may largely explain the difference. This dynamic of knowledge as a shaper of social relations is similar to that observed by Hassanein and Kloppenburg (1995), in relation to local value-based farmer networks. In terms of this discussion, the first type of knowledge we identified in ShellCo – production expertise – is fascinating because we would argue it has much potential to play a social-relations building role, although currently this is not the case. At present, in part through geographic isolation, in part through sectoral conditions and norms fuelling a culture of self-reliant learning, ShellCo members do not spontaneously share production expertise with each other in an abundant way, beyond ad hoc bilaterals with nearest neighbours and occasional discussions at formal meetings. However, as coop members, ShellCo growers are non-rivalrous peers with many common problems to solve in terms of dealing with the complexities of production and harvesting, and one imagines that greater sharing of experiences would enhance goodwill and mutual understanding. As geography and sectoral conditions have inhibited sharing of production expertise in an organic sense, we propose that the ShellCo Board and management actors have an opportunity

to wield their interpersonal and leadership skills to encourage more sharing, e.g. by staging events, workshops, visits, or facilitating better remote communications.

7. Conclusions

Policymakers are keen to encourage different forms of collaboration in rural areas, and studies in rural sociology and small firm networks identify many benefits that can derive from this kind of activity. By examining how members and management inter-relate in the relatively neglected context of producer cooperatives, this study has revealed how the social relations within a collaboration both shape, and are shaped by, the types of knowledge and learning that go on. In so doing, we have made three contributions to the literature. First, we have expanded understanding of knowledge in rural collaborations by identifying three types of knowledge and expertise which have not been categorised in this manner before: this usefully highlights that although actors' technical production skills may often be the priority and preoccupation of many rural collaborations, other knowledge forms have significant roles to play in effective collaboration, and should not be overlooked. Second, we have challenged assumptions about the role of embeddedness in shaping the dynamics of actor relations in rural collaborations, in particular highlighting that local community is only one context in which such collaborations may be embedded, and that local 'over-embeddedness' is not the only challenging relational configuration that can beset collaborations. Finally, we have cast a critical eye on the concept of social capital, and proposed cooperative know-how as a hitherto unrecognised dimension of social capital, distinct from the concept of harmonious community relations and skills-based capital at an interpersonal level.

In terms of future research, whilst we propose that cooperative know-how should apply to other types of rural collaborations beyond producer cooperatives, it would be interesting for future research to explore whether it exists in a modified form in looser collaborations, and/or whether its need is all the more intense in networks comprised of very heterogenous factions (e.g. local development alliances

comprised of farmers, developers, conservationists, etc). Second, as we find sectoral norms and routines are powerful explainers of actor behaviour in producer cooperatives, future studies could explore the role of sectoral culture in other forms of rural collaboration, in particular, the means by which actors absorb and enact aspects of sectoral culture through their social relations.

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