New business model and local governance in supporting social and environmental solutions: A social network analysis to evaluate the Italian local action group's "Terra è Vita" role

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ARTICLE INFO

ABSTRACT

Current issues, such as climate change and social and economic disparities, are complex and context-dependent, influencing several economic and social actors. Micro-small and medium enterprises that populate rural areas often have lower risks than other companies but less innovation and fewer financial resources and capabilities. Here, a local convenor could help support these enterprises to drive their social, environmental, and economic behaviours to safeguard natural resources, respond to social community needs, and fulfil their economic goals. The European Union's Community-Led Local Development programme defines local action groups as actors who help develop and grow local areas in social and economic fields. We analyse this role, highlighting that by focusing on social and environmental issues, the convenor can stimulate changes in the traditional business model and the social business model characterised by the business ambidexterity involved in producing economic value that is also relevant to addressing the community's needs. We study the effectiveness of a local action group in its convenor role for local actors' behaviours on economic, social, and environmental themes. The study uses social network analysis to extract the network backbone that links 150 local area entrepreneurs according to their perceptions of the local area's main weaknesses. The results are twofold: they indicate that the local action group is perceived as an effective convenor and that its activities are instrumental in improving local area stakeholders' performance.

1. Introduction

Society faces many pressing and wide-ranging local and global challenges, such as those related to health care and environmental sustainability, including climate change, biodiversity loss, and air and water pollution [1–3]. These issues are highly complex and context-dependent, with their genesis and persistence involving multiple and overlapping social, economic, political, and environmental agents operating in nested social-ecological systems [4–6]. Thus, stimulating change in public institutions must adapt to a new, more proactive role. The new innovation pushing processes become a collective endeavour, as they involve economic and social stakeholders, such as companies, scientists, and non-government organisations. Accordingly, all the involved actors become co-creators while being mutually responsible for the success of these processes, as they will benefit, directly or indirectly, from the outcomes [7,8].

Consequently, new "network structures" are developing and defining a form of stakeholder capitalism [9] aimed at supporting an open social innovation process built on mutual understanding and knowledge exchanges between heterogeneous actors (profit and non-profit organisations, non-government organisations, public institutions, etc.). These actors participate in finding answers to social and environmental needs and in implementing some win–win solutions in the local area. Despite the "death of distance" [10,11], geography is still important in explaining collaboration. Co-location facilitates and face-to-face contact eases sharing tacit knowledge [12,13] and both enhance the likelihood of serendipitous, fruitful collaborations [14], although several authors have shown that geographical distance impedes collaboration [15–18].

We contribute to this debate by proposing a new conceptual framework and testing the relevance of a focal actor in improving the fit

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between local businesses and the local area in rural areas with an economy composed of micro, small, and medium entrepreneurs (MSMEs) that co-create new processes to address community needs, as the central government is unable to safeguard healthcare and/or natural resources. We examine the beneficial effects of the action of a "convenor"—that is, any public or private organisation able to initiate and facilitate regional-based sustainable behaviours, identifying, and engaging the other area thanks to their reputation [19]—in stimulating and coordinating land development and societal value creation [20]. Accordingly, our work is aligned with the research stream that considers co-creation in the public sector as "a process through which two or more public and private actors attempt to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences and ideas that enhance the production of public value" [20].

We investigate the role of a local action group (LAG)—that is, an actor designed in the European Union (EU)'s Community-Led Local Development (CLLD) policy for regional development—as a potential convenor by examining how its activities are perceived by other local actors. To reach this objective, we leverage social network analysis [21] to link entrepreneurs according to their perception of the main local area weaknesses, subsequently extracting the backbone of these complex network structures [22]. We posit this is a meaningful aspect because by taking on the role of convenor, the LAG becomes a cornerstone actor in rural development, as it may help to engage the various actors in the local area in the development process itself.

The paper is divided into six sections. After this introduction (Section 1), Section 2 reviews the literature on multi-level governance, particularly on the CLLD approach and place stakeholders. Section 3 presents the hypothesis development. The data and methodological approach used to identify the nodes and connections within a network are described in Section 4. The results of the research are analysed and discussed in Section 5. Section 6 concludes the paper, highlighting the theoretical and practical implications of the study.

2. Literature review

A wide variety of studies have highlighted the importance of five main factors in understanding regional development. These are (a) the relationship between spatiality and territoriality [23] and the role of space as both a 'means' and an 'objective' for local area governance [24]; (b) the multi-level governance architecture of the process and the vertical and horizontal shift of competences and power [25]; (c) the construction of new politics as a policy arena [26] and their institutional design; (d) the community and business role in the process [27]; and (e) the legitimacy of the socio-spatial constituency [28].

We aim to contribute to this variegated field of knowledge interconnected with the role of business responsibility and sustainability. We start from the EU's policy instrument Community-Led Local Development (CLLD), which was one of the novelties presented for the EU programming period 2014–2020, to explore various dimensions of the existing debate on marginal and rural areas and to combine them in a thorough interpretative approach for these socio-spatial and political phenomena. In CLLD, local business community engagement is a primary connotative characteristic, as local actors should participate voluntarily, committing to a specific process in which a given marginal area's social and environmental problems are first identified and then addressed with a strategic plan developed with a co-created, shared, and participated process [29].

Hooghe and Marks [25] argued that these initiatives do not seek to resolve fundamental disagreements using hierarchical tools, but they aim to share among local area stakeholders a socially and innovative project to address a common need through collective decision-making. According to some scholars [30,31], these processes are aimed at creating new social relations, not only to meet a collective need but also to create social value. It follows that socially innovative initiatives in

these processes might result from the choices and decisions made by individuals, actors, groups, and communities to negotiate the shared use of local resources and capacities, care for the quality of the natural environment, and give priority to equity in human needs satisfaction and sustainability values [27]. This approach shows a multi-agent governance model in which a public-private organisation, such as the LAG, stimulates, coordinates, and supports local businesses (mainly MSMEs), contributing to creating communal value, addressing shared territorial challenges, and preserving their independence.

This scenario contributes to the idea that social and economic agents in a given local area do not just create stand-alone strategies and behaviours targeted to achieve advantages over other agents, relying only on their resources, knowledge, and capabilities. On the contrary, they are increasingly focused on the community/local area needs, motivation, shared resources, network externalities, knowledge spillovers, local endowments, and governmental support to create communal conditions beyond the firm-specific competitive advantage [32,33].

In this context, social business and land sustainability have been studied using different approaches. For example, Westley and Antadze [34] analysed various players' (i.e. government, non-profit organisations (NPOs), volunteer groups, financial groups, and business corporations) innovative approaches to social topics such as HIV/AIDS in the community, crime prevention, and support for the disabled. Mulgan et al. [35] examined the characteristics of the different approaches shown by various social actors on fair trade, hospices, correspondence courses, open universities, and other cases. These authors concluded by arguing that addressing a part of the profit for a social or ecological cause as a social commitment concept is acknowledged for its potential contribution to land development.

On this wave, many researchers (e.g. Ref. [36,37]) have argued that social businesses are more suitable than traditional profit-only business firms to protect and underpin the socio-economic and ecological challenge of land. Therefore, social businesses operate to generate a more sophisticated understanding of the multi-dimensional linkages needed to support community development in our global era, and they may be considered a more suitable business model for the different types of public and private sector businesses affected by local area development. Furthermore, social businesses share many similarities with traditional entrepreneurship, mainly differing in the type of value generated—from capturing to creating value [38].

The social innovation literature highlights the role of relationships between heterogeneous and numerous agents actively co-creating and co-producing to address the social, economic, and environmental needs of the territory/community. These ties may be read as a form of engagement between heterogeneous stakeholders focused on helping other territorial agents in creating a series of stable relationships, facilitating knowledge flows, and helping to create a more stable and more robust network that is easier to coordinate and that may help actor's interaction[39]. Accordingly, these practices help to create a community where the various social and economic actors maintain their autonomy outside these network relationships [40,41]. Therefore, the network will be able to create more value than would have been independently possible by each of its subgroups [42,43].

Further, Pless and Maak [43] posited that having a stable interaction network is necessary for local area agents to have the needed resources and capabilities to get the most out of relationships with other broad local stakeholders, such as non-government organisations or local communities. Even the Organization for Economic Cooperation and Development, in its 2003 Annual Report, argued that the major impediments to sustainable regional development were limited social and business networks, low levels of demand, difficulties in raising capital due to tenure, and lack of innovation. Moreover, Zahra et al. [44] and Smith and Stevens [45] highlighted the relevance of the specific location, arguing that different geographic places might produce different types of social entrepreneurship and, consequently, may create different kinds of convenors. These observations suggest that the local context

influences whether and what social enterprises may emerge in response to local needs.

Within land governance, we consider that CLLD enables multilevel governance mediated by a convenor to spur social and innovative activities for social and economic agents operating in disadvantaged and rural areas. The LAG, due to its authoritativeness as representative for different social and economic key groups, may become an effective convenor, acting as a facilitator for local agents' engagement as early as the first stages of developing an innovation to address social and environmental issues. Consequently, it will have to further develop its capacity to act in this role of facilitator to engage local area stakeholders in addressing shared environmental and social goals, to learn to leverage the potential benefits of the network collaboration, to lead from behind instead of from the top, and perhaps most importantly, to foster a culture of sustainable development [46,47].

Accordingly, the LAG nurtures social entrepreneurship by adopting a social constructionist approach (see Ref. [45]). This approach has been characterised by leveraging domain-specific knowledge to filter environmental and social issues to solve local area problems. Businesses, for example, LAGs often focus on issues relevant to local concerns, even though the solutions they develop for the local area may also apply to different contexts [48].

Our work aims to analyse LAGs' role in the trend of for-profit socialisation, highlighting a business ambidexterity model that characterises the for-profit involved in a recursive cooperation process to address social and environmental land needs and pursue competitive and economic objectives. Here, the convenor supports the acquisition of new knowledge, facilitating exchanges within the network or helping external actors to start operating in the local area to reach strategic objectives planned with territorial agents according to CLLD values [49–51]. Specifically, we investigate how the local area convenor stimulates and influences the types of behaviours of social and environmental economic agents.

3. Hypotheses development

The present study aims to investigate how CLLD enables spatial-temporal fixes in which multilevel governance mediated by a convenor may spur the business for-profit socialisation trend in a given territory. Adopting a multilevel governance view [52,53], this study represents the LAG convenor role within economic and societal relational processes to reach a bottom-up sustainable territorial model in which businesses co-create answers to social and environmental needs [54]. This study considers the focal company to be an ambidextrous agent that, on one side, has to operate in one or more competitive contexts, while on the other side, it has to adopt its resources and competencies to co-create answers to address social needs within a socially open innovation context where public and private agents cooperate. These actors' behaviours could belong to one or the other of the two sides, but they must be functionally coordinated (Fig. 1).

The institutional objectives of LAGs also justify this approach. The LAG is a legal form of public–private partnership that emerged from the EU's LEADER + programme and was designed to drive the drafting of a local action plan to promote and strengthen the development of the rural areas of a given territory as a form of regeneration to stimulate and create new employment. In the present study, we investigate the LAG's role and, in particular, "if and how" the local area economic agents perceive its activities as a convenor to stimulate and support the local area network towards innovation and sustainability-related processes to improve the local area's quality of life.

The LAG may act as a convenor only by becoming an effective actor of the local area governance by addressing the perceived economic agents' needs [55], and coordinating them [25] into a stable interaction network that may get the most out of the agents' shared resources [43]. These practices help create a community where the various actors participate as solution seekers and problem solvers in co-creation
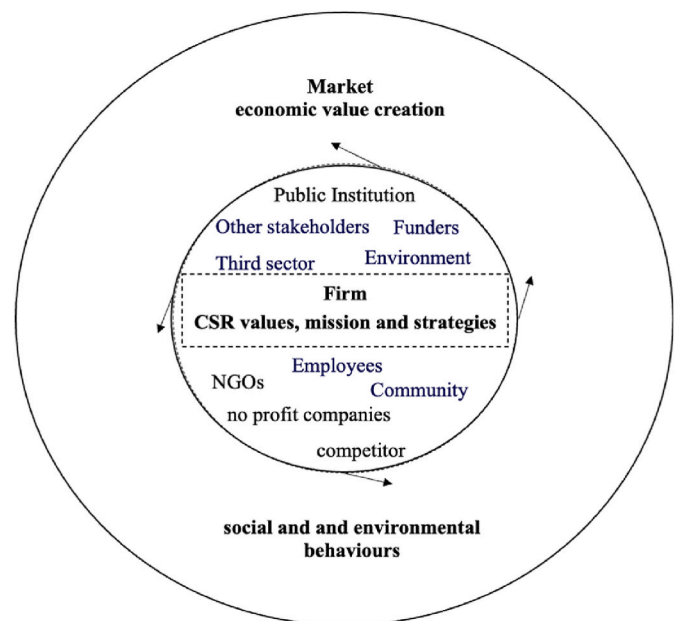

Fig. 1. Relationship between LAG and ambidexterity model (source: authors' elaboration).

processes to satisfy individual and mutual issues [40,41].

The LAG can stimulate new opportunities, helping rural area entrepreneurs to overcome their "lack of human, cultural, or financial capital" and support them in combating other challenges that MSMEs may face in leveraging historical, cultural, or physical resources. Thus, the LAG can help open up opportunities for small and medium-sized enterprises (SMEs) to become more effective in the market, safeguarding natural resources and addressing societal needs [56,57, 58]. This profile describes a role that is partially considered in the bullet points offered in the EU's LEADER programme that establishes LAG tasks [79]:

- Designing and implementing community-led local development strategies.
- Building the capacity of local actors to develop and implement the operations.
- Ensuring that selected operations fit the local development strategy and are prioritised according to their contribution to its objectives and targets. They may also be responsible for the selection of cooperation projects.
- Preparing and publishing calls (or an ongoing process) for project submissions and receiving and assessing such applications.
- Monitoring the implementation of the strategy and its supported operations, including carrying out specific evaluation activities.
- LAGs may be beneficiaries and implement operations under the strategy.

Accordingly, when the LAG acts as a convenor, it should engage the local area in a co-creation process [25, 29] and then use these processes to help create a shared view on the local area development [30,31] in a more effective way than each of the single actors could otherwise do [42, 43]. Accordingly, we have defined the following research hypotheses (Hs):

H1. The LAG is perceived as a convenor by businesses in the local area.

H2. The LAG's activities can support local area entrepreneurs in leveraging territorial resources.

4. Data and methodology

In the present research, we studied the LAG "Terra è Vita" (Earth is Life), one of the 3134 European LAGs. It operates in southern Italy, in a rural area of nine villages northwest of the Salerno province, between Irno Valley and the Amalfi coast (Fig. 2).

The area in which the LAG operates is heterogeneous, as it includes rural/agricultural, handicraft, and tourist areas, representing the prevailing productive structure in the region of Salerno, extending from the inland areas to the sea. This area has several critical issues, such as depopulation, ageing, safeguarding scarce natural resources, and reduced healthcare assistance.

Local companies turn to Terra è Vita as an association/actor for the development and promotion of the territory. The Irno Valley is predominantly an agro-industrial area, where the typical products are cherries, hazelnuts, and chestnuts that are exported worldwide. The municipalities of the Amalfi coast are characterised by a strong tourist vocation, mainly targeted at foreign tourists, and it is internationally known for the production of Limoncello, a lemon-based liqueur. Therefore, agricultural resources have substituted fish as an economic raw material in the economic sector. Further, the area is globally known for the ceramics of Vietri and Positan, which have been experiencing strong competition from China, and, in the past, for precious paper from Amalfi. These broad sets of competencies, skills, and products, when coupled with the main differences between the municipalities, create a complex set of needs and weaknesses that need to be overcome for the CLLD processes to be successful. Thus, the area may prove to be an effective field for testing a LAG's effectiveness.

To pursue the objectives of our research, we decided to distribute a targeted questionnaire, which can produce better results than exploiting existing databases. The latter often lack specific information regarding the firm's relationships and the partners involved [59]. The survey was spread with the help of the LAG Terra è Vita to reach a significant sample of its services operating in the following sectors: agro-industry, crafts, and tourism. The data were collected with a CATI survey from September 1, 2019 to October 31, 2019 in a single wave of data collection.

In the first section of the questionnaire, to match each actor to stakeholders who share his/her perspective of the area, we investigated the stakeholder perception of the leading local area weaknesses: public administration services, education services, traditional business services (e.g. logistics and accounting), technology-based services research and development (R&D), support, design, information and communication technologies (ICT), location and real estate services, bank services, local development policies, business networks and industrial areas, entrepreneurial culture, and territorial governance.

In the second section, we asked the respondents to evaluate the LAG's activities in six primary areas: support for the development of new

competencies, support for creating new business networks and partnerships, support for improving the company infrastructures, support for getting access to banks and financial institutions, defining new place development policies, and support for developing the local area entrepreneurial culture.

The third section asked the respondents to rate the LAG's effectiveness in the place development process and the revenue growth rate related to the LAG, to provide an evaluation of other actors in the local area—that is, the public administration or the trade associations—that may have the role of convenor, and to identify the area to which the entrepreneur felt they belonged or the market they served.

The final sample consisted of 150 entrepreneurs and business owners who had used the LAG's services. All had less than 250 employees, with 90 of the companies being agro-industrial, 37 operating in the craft industry, and the remaining 23 operating in the tourism industry. They were local companies, but more than a third felt they "belonged" to broader perspective (Europe or the world). However, their market was still in the local area (we used a t-test on the 25 % proportion to check that the concentration in the local area was not likely to be caused only by chance ($p < 0.001$).

Initially, the responses were studied using social network analysis [21,60] to investigate, measure, and represent social relationships between the sampled entrepreneurs. In particular, this study used a process bipartite projection network to link local entrepreneurs [61,62]. A bipartite network includes two types of nodes, called agents (e.g. firms) and artefacts (e.g. events), and edges that exist only between nodes of different types (i.e. an edge may link an agent to an artefact but never an agent to another agent). A bipartite network can be represented by a matrix B, where $B_{ik} = 1$ if agent i is connected to artefact z, and otherwise is 0 (e.g. firm i made good z). The row sums of B display agent degrees (e.g. number of goods made by firm i), while the column sums of B show artefact degrees (e.g. the number of firms made good z).

Networks that unite pairs of event actors may be projected to a one-dimensional network [22] that connects the agents when they share the same artefacts. A bipartite projection can be represented by a square symmetric matrix P, which is formed as $P = B * B'$, where B' is the transpose of B. In P, P_{ij} indicates the number of artefacts z that is shared by agents i and j and can be considered as the weight of the edge connecting them in the network (e.g. the number of artefacts made by both firms i and j).

In our case, using this approach, the actors that identified, for example, traditional business services as one of the main weaknesses of the local area would be considered sharing a tie, as they had a similar perspective regarding the needs of the local area [63]. In this phase of our work, the focus was placed on identifying the relevant relationships emerging from spatial interactions: the entrepreneurs (economic agents) share the same vision of the area to the extent that they frequent the same workspaces or places (location artefacts), using, for example, the same physical and intangible infrastructures, or referring to the same institutions [64,65]. Moreover, this approach follows Hidalgo et al. [66], who posited that even if two or more entrepreneurs share the same location, they may not have the same perception of the territory regarding its benefits and drawbacks as a support in the production process of goods and services.

The resulting network was too dense (density: 0.992), as most actors shared at least some of the vision of the local area weaknesses. When the network is too dense, it hides the underlying structural patterns [64]. Therefore, we concentrated on the bipartite projection network backbone, which is an unweighted subgraph of a network that preserves only the relevant information, whether the two vertices co-participate in a relevant event [63].

Backbone extraction methods aim to reduce the original, complex network into a more straightforward, binary network that preserves only those edges whose characteristics are sufficiently diffused to suggest that they are significant [22]. Given that bipartite projections are weighted, and because what counts as a 'large' or 'small' weight can differ for each

Fig. 2. Map of Salerno province municipalities.

edge, it can be helpful to reduce this information by focusing on an unweighted subgraph that contains only the most essential edges [64]. Hence, we call this subgraph a backbone of *P*, which we denote as *P*'.

To extract the network backbone, we used the R-package backbone, adopting a fixed degree sequence model algorithm on the bipartite network to create a set of random bipartite networks that can preserve the marginal degree sequences of our original one. We then used this family of generated networks to estimate the probability that each tie did really exist. Accordingly, we took as a backbone only those network ties that had a significance level higher than 5%—that is, they exist in more than 95 % of the generated family of networks.

5. Results and discussion

We obtained a more evident network structure (Density 0.033) composed of a single component connecting 147 of the original 150 actors (Fig. 3). The links in the network backbone were used to identify the respondents who shared the same perspective on the local area's main weaknesses to use the subgraph of distance 1—that is, all the alter that is connected to a given ego in the network backbone—as a reference base for each actor's evaluation of the lag activities.

The data used in the hypothesis testing, as extracted from the survey and from the above-described processes, are reported in Table 1. Accordingly, the items used in the hypothesis testing process are described in the table.

We used two different sets of linear models to test the two hypotheses. For each model, we compared three sub-models (Diez et al., 2019): the full model (with all the variables), the model with only the variables that were significant in the first model (significant model), and a third model calculated using a process of backward elimination. We tested each model for robustness [67,68] using the MM-type regression estimator, as described in Yohai [69] and Koller and Stahel [70] in R-Cran, package *robust base*.

In the first set of models (to test H1), we used the actor's evaluation of the LAG Terra è Vita's effectiveness in the place development process as the dependent variable; the results are presented in Table 2.

The results of the first set of linear models showed a negative
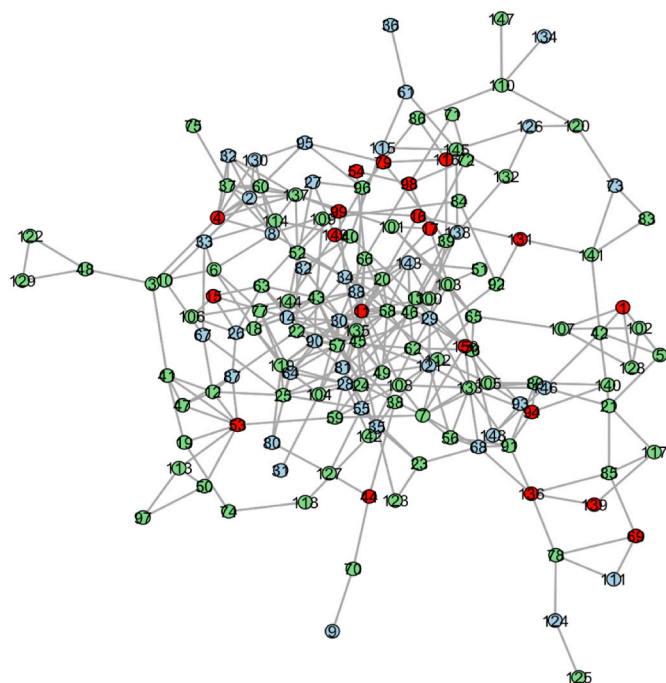

Fig. 3. The backbone of the network showing the perceptions of the local area weaknesses (source: authors' elaboration).

Table 1
Variables used in the study (source: authors' elaboration).

Var.	Description	Values	Notes
Eval_LAG	Actor's evaluation of LAG's effectiveness in supporting place development processes	1–5	
Eval_Terr	Actor's evaluation of local area average underdevelopment	1–10	
Avg_RvG	Actor's average revenues' growth linked to the LAG's activities.	1–4	None, up to 5 %, up to 10 %, more than 10 %
Actor's evaluation of the effectiveness in place development processes by			
Eval_PA	Italian public administration	1–5	
Eval_TA	Trade associations	1–5	
Actor's…			
Bel_LA	Area respondent feels he/she belongs	1–5	Local area, region, Italy, Europe, world
MKT_LA	Market served	1–4	Local area, region, Italy, international markets
Actor's evaluation of the quality of LAG's activities as a convenor			
AE_Cmpt	Support for developing of new competences	1–10	Convenor
AE_Network	Support for creating new business network and partnership	1–10	Convenor
AE_PDP	Defining new place development policies	1–10	Convenor
AE_EntrCult	Support for developing the local area entrepreneurial culture	1–10	Convenor
Actor's evaluation of the quality of other LAG's activities as			
AE_Infr	Support for improving company infrastructures	1–10	No convenor
AE_Fin	Support in obtaining access to banks and financial institutions	1–10	No convenor
Difference from the actor's evaluation and his/her subgroup[a] average evaluation[b] of the quality of LAG's activities for			
ASDiff_Cmpt	Support for developing new competences	1–10	
ASDiff_Network	Support for creating new business network and partnership	1–10	
ASDiff_PDP	Defining new place development policies	1–10	
ASDiff_EntrCult	Support for developing the local area entrepreneurial culture	1–10	
Actor's subgroup[a] average evaluation[b] of the quality of other LAG's activities as			
ASDiff_Place	Support for improve company infrastructures	1–10	
ASDiff_Banks	Help in obtaining access to banks and financial institutions	1–10	

[a] The subgroup for each respondent is made of the other actors at distance 1 in P'.

[b] It was calculated without considering the central respondent's evaluation.

relationship (−0.43***) between the local entrepreneurs' perceptions regarding the average underdevelopment of the local area and the operative LAG's effectiveness. However, LAG was seen as an actor who could cooperate with the local trade association (0.238*), as we found no effect on the interaction with the other public institutions. These results set the LAG apart from the traditional public actors' role and support the notion that the local area entrepreneurs considered the LAG more as part of a CLLD (bottom-up) process and less as a traditional local governance actor. Further, the role of the LAG as a convenor depended on the relationship between the community in which the actor operated (the further from the local area, the less effective the LAG activities supported the place development: −0.248**), further confirming the role of the LAG within the local area as a community agent involved in the ten items shown in Table 1.

Table 2
Models to test H1 (source: authors' elaboration).

	Full model	Significant	Robust backward elimination
Eval_Terr	−0.61352 (***)	−0.58081 (**)	−0.43(***)
Eval_PA	0.05978	–	–
Eval_TA	0.19922(*)	0.20125(*)	0.2381(*)
Bel_LA	−0.14167	–	−0.24834(**)
MKT_LA	−0.02975	–	–
AE_Cmpt	−0.18351(**)	−0.17794 (**)	−0.25882(**)
AE_Network	−0.03873	–	–
AE_PDP	0.15502(**)	0.11467(**)	0.13946(***)
AE_EntrCult	−0.07637	–	−0.04111
AE_Infr	0.10401(.)	0.05186	0.10527(*)
AE_Fin	−0.16504(**)	−0.16342 (**)	−0.22281(*)
ASDiff_Cmpt	0.14009(**)	0.13453(**)	0.19177(**)
ASDiff_Network	−0.01181	–	–
ASDiff_PDP	−0.02849	–	–
ASDiff_EntrCult	0.08455(.)	0.04848	0.06062
ASDiff_Infr	−0.02112	–	–
ASDiff_Fin	0.13287(**)	0.13523(**)	0.17553(**)
R-squared	0.369	0.327	0.431
Adj R-squared	0.286	0.283	0.385

Legenda: (.): p-value ≤0.1; (*): p-value ≤0.05; (**): p-value ≤0.01; (***): p-value ≤0.001.

Dependent variable: actor's evaluation of the LAG's effectiveness in place development processes.

The evaluation of the LAG was also influenced by how much better the entrepreneur evaluated the lag activities when compared to the other actors linked to him/her in the backbone—that is, the other local area entrepreneurs sharing a similar perspective on the local area's main weaknesses. In particular, when the entrepreneur gave a better evaluation of the LAG ability to support his/her business in developing new competencies or in obtaining access to new financial resources than its subgroup, the LAG evaluation improved (0.192** and 0.176**, respectively), partially balancing the negative effects measured before and giving the idea that these factors were relevant only when they were diffused in the local area.

When the LAG does act as a convenor, it may help influence the local area stakeholders as effective actors in local area development. In particular, when the actors perceived the LAG as supporting the development of new competencies, it was not considered an effective convenor (−0.259**), probably because the local area actors needed to acknowledge the value of acquiring new competencies. Conversely, entrepreneurs who had a better perception of LAG participation in designing the local area development processes perceived it as a more effective local actor (0.14***), confirming the idea that the LAG effectiveness was related to its role as a convenor.

The LAG was considered more effective even when it engaged in some activities that usually would not have been considered linked to the role of a convenor, such as supporting in improving the company infrastructures (0.11*), whereas when it was considered a way of obtaining access to new financial resources, it was evaluated worse (−0.223*). These results further confirm the idea that the LAG was seen as an actor who participated in the local area development. This also confirms the CLLD bottom-up nature, considering the LAG as a relevant local agent independent of its capabilities to finance entrepreneurial activities using the European Regional Development Fund (ERDF). Accordingly, we may hold that we have found partial support for H1.

We used the same approach to test for H2, with two main differences. In this new model, we investigated the effect on the actor's average growth rate of the revenues that the business gained from participating in the LAG's activities. To this end, we inserted the actor's evaluation of the LAG's effectiveness in supporting place development processes as an independent variable.

The results of the set of linear models are reported in Table 3.

The data do not fully support H2, as although the effectiveness of the local area entrepreneurs was linked to the LAG activities, it did not depend on those related to the role of convenor. In particular, as expected, the effectiveness of the LAG activities was negatively associated with evaluating the effectiveness of the public administration (−0.44***), while we found no relevant effect of opinion on the effectiveness of local trade associations. These results indicate that when considering the effects of the LAG on business growth, the respondents perceived it as an alternative to public administration, as the local area's entrepreneurs did not link the role of the convenor to business success. The marker served had a positive effect on the growth of revenues (0.06[(.)]), highlighting the ability of the entrepreneurs who do not sell directly in the local area to better perceive the effects of the LAG activities on their business.

We found no significant effect of the LAG activities related to the convenor's role, confirming the above findings. There were only effects related to traditional, non-convenor abilities, such as providing support for the business infrastructures (0.046[(.)]), whereas when the actor perceived the LAG as a source of financial resources, the relationship was negative (−0.072**).

Similar results, albeit with opposite effects, were found for the relationship between the opinion of the actor and that of its subgroup at a distance. In particular, when the perception of the actor regarding the ability of the LAG activities to improve the company's infrastructures was more favourable than that of its subgroup, its evaluation of the LAG activities' effect on its revenues became worse (−0.041[(.)]), The result was more substantial when the actor had a more favourable opinion of the LAG's ability to help the company obtain better access to new competencies and financial resources from traditional players such as banks (0.036[(.)]).

6. Conclusion

We have studied the effectiveness of a local action group in its convenor role for local actors' behaviours on economic, social, and environmental themes. Using a social network analysis to extract the network backbone that links 150 local area entrepreneurs according to their perceptions of the local area's main weaknesses, it has been found

Table 3
Models to test H2 (source: authors' elaboration).

	Full model	Significant	Robust backward elimination
Eval_LAG	0.01757	–	–
Eval_Terr	0.02367	–	–
Eval_PA	−0.390729 (***)	−0.40105 (***)	−0.44082(***)
Eval_TA	−0.023369	–	–
Bel_LA	0.038878	–	–
MKT_LA	0.053435	–	0.06173(.)
AE_Cmpt	−0.025736	–	−0.04667
AE_Network	−0.027706	–	–
AE_PDP	0.009744	–	–
AE_EntrCult	−0.017463	–	–
AE_Infr	−0.058125.	–	0.04622(.)
AE_Fin	0.048191	−0.03677(*)	−0.07204(**)
ASDiff_Cmpt	0.022759	–	0.03236
ASDiff_Network	0.014022	–	–
ASDiff_PDP	−0.001238	–	–
ASDiff_EntrCult	0.010674	–	–
ASDiff_Infr	−0.039099(.)	−0.01348	−0.04054(.)
ASDiff_Fin	0.028392	–	0.03616(.)
R-squared	0.287	0.19	0.308
Adj R-squared	0.187	0.173	0.268

Legenda: (.): p-value ≤0.1; (*): p-value ≤0.05; (**): p-value ≤0.01; (***): p-value ≤0.001.

Dependent variable: actor's evaluation of the LAG's effectiveness in place development processes.

that the local action group is perceived as an effective convenor and that its activities are instrumental in improving local area stakeholders' performance.

Our paper contributes to land development theory by arguing that territorial theories and innovation and development policy based on the multi-governance approach include areas and objectives where sustainability principles could be better incorporated and where both small enterprises (SEs) and for-profit entrepreneurs, in a triple-line engagement, could contribute to both the objectives.

6.1. Theoretical implications

The findings show the natural but scientifically neglected relations between regional studies and the for-profit business socialisation trend. The present work highlights the necessary role of a convenor to spur MSMEs operating in socially and economically depressed areas with low cultural and economic capabilities into action. Such convenors, for example, a LAG, can prevent further risks to implementing cultural values, operative processes, and knowledge exchanges, thereby improving the social, environmental, and competitive behaviours of the MSMEs. This scenario shows the need to develop ecosystem studies on the numerous and heterogeneous social and economic actors stimulated by a convenor to create relationships with public institutions and social agents, resulting in the co-creation and co-production of social and environmental solutions to land challenges.

Before the COVID-19 pandemic and the war between Ukraine and Russia, the literature highlighted the limited capabilities in welfare matters addressing healthcare needs spontaneously without geographic boundaries and heterogeneous ecosystems composed of economic agents operating in different industries. This element is the basis for developing new business socialised models, new stakeholder trends against shareholding approaches, and new land governance models that, in the ecosystems approach, are moving from hierarchical to heterarchical models [71].

Furthermore, our results support the no-declining relevance of co-location [23,24] and how CLLD can be an effective way to address local area governance, as it benefits from the engagement of various social actors to have a richer perspective of the local area needs [29]. We also show that in an interconnected context, such as the modern one, actors who can complement local area resources with capabilities from their own business networks are more successful, partially supporting previous research (see Ref. [41,42]).

6.2. Practical implications

Our results should help identify how local area development can be more effective when adopting a value co-creation bottom-up process. In this approach, the LAG is seen as an actor and has the ideal role of convenor [55]. This role is linked to the creation of a stable and mutually reinforcing network of relationships among a broad set of local area stakeholders and community members (connecting even those actors outside of the local area that may influence its development) and avoiding the creation of structural holes [72] that may drive some actors in a controlling position that should hinder place development as a whole.

Our findings further highlight more effective practices through the structure of the LAG and support the quest for a more effective way of approaching the various stakeholders according to their roles and interests/needs. Thus, these findings have interesting practical implications for the social agents, highlighting how various actors actively and effectively participate in LAG's activities and how their participation influences the local network evolution, addressing the Sustainable Development Goals (SDGs) fostering social innovation processes.

In the literature on regional and land studies and sustainability, there are only a few studies on LAGs, their roles, and their effects on social innovation and fitting into social business models. Furthermore, the role

of LAGs' role in Italy is less studied than in other member states within the EU's LEADER/CLLD programme and considered within the local governance scenario. By investigating public–private collaboration for innovation as a local phenomenon, this study addresses central factors in land economic development concerning increasing sustainable competitiveness and economic growth in entrepreneurship and local development by facilitating firm knowledge growth. This trend could be interpreted as a first step through a land-open innovation characterised by an inter-firm network convenor facilitated. This policy could initiate interactive and integrative community development to democratise societal innovation through co-creation among individuals, firms, and public entities. Thus, it can increase collective benefits for the community without controlling or interfering with private sector Operational Intelligence (OI) activities and stimulate policymakers to "draw better" LAG figures, reducing the "neither flesh nor fowl" condition observed in this study [73].

6.3. Limitations of the study and future research directions

Our work has three main limitations that can be used to further develop this stream of research on local area development and CLLD. First, the study focused on a single specific case, thus necessitating the need for more research on other LAGs to verify whether these results may be generalised to other local areas. Second, the findings may be further improved by moving beyond probing the effects of LAGs' activities to adopting a more micro-level perspective for understanding the motivations and drivers behind local area actor's engagement, which could help LAGs become more effective in their role as convenors. Third, we mostly focused our analysis on the business actors in the local area, whereas a better understanding of the local area's knowledge assets and other resources could be gained through a study that adopts a broader perspective that includes different classes of local area stakeholders.

Furthermore, we found that the LAG's role as a convenor was not significantly linked to the economic results of the company. This result highlights the need to further study the differences linking the local area (a meso level) with the specific activities of the local area businesses (operating at a micro level). Thus, further research should target links (meso-to-micro) that make these activities more effective using a multi-level perspective.

CRediT authorship contribution statement

Donato Morea: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Mario Tani:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Andrea Mazzitelli:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Gianpaolo Basile:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential.

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