

Aberystwyth University

Understanding the rural entrepreneurship process

Islas-Moreno, Asael; Muñoz-Rodríguez, Manrrubio; Morris, Wyn

Published in:

World Review of Entrepreneurship, Management and Sustainable Development

10.1504/WREMSD.2021.116651

Publication date:

2021

Citation for published version (APA):

Islas-Moreno, A., Muñoz-Rodríguez, M., & Morris, W. (2021). Understanding the rural entrepreneurship process: A systematic review of literature. *World Review of Entrepreneurship, Management and Sustainable* Development, 17(4), 453-470. https://doi.org/10.1504/WREMSD.2021.116651

Document License CC BY-ND

General rights

Copyright and moral rights for the publications made accessible in the Aberystwyth Research Portal (the Institutional Repository) are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the Aberystwyth Research Portal for the purpose of private study or research.
 - You may not further distribute the material or use it for any profit-making activity or commercial gain
 You may freely distribute the URL identifying the publication in the Aberystwyth Research Portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

tel: +44 1970 62 2400 email: is@aber.ac.uk

Download date: 13 Oct 2022

Understanding the rural entrepreneurship process: a systematic review of literature

Asael Islas-Moreno and Manrrubio Muñoz-Rodríguez*

Centre for Economic, Social and Technological Research of World Agroindustry and Agriculture, Chapingo Autonomous University, Texcoco de Mora, State of Mexico, Mexico Email: aislas@ciestaam.edu.mx

Email: manrrubio@ciestaam.edu.mx

*Corresponding author

Wyn Morris

Aberystwyth University, Aberystwyth, Wales, UK Email: dmm@aber.ac.uk

Abstract: The study of how companies arise in rural areas has gained a place in the agenda of researchers, academics and public officials. This is a documentary review in which the rural entrepreneurship process is conceived as an interaction of four elements: the process, the entrepreneur, the context and the community benefits. An important amount of evidence has been generated on the relationship between these components, however, a series of pending tasks are identified, including the need to specify the factors that favour the process in each of its stages, in terms of the characteristics of the entrepreneur and the context.

Keywords: rural enterprise; rural development; rural entrepreneur; community benefits and entrepreneurship promotion policy.

Reference to this paper should be made as follows: Islas-Moreno, A., Muñoz-Rodríguez, M. and Morris, W. (XXXX) 'Understanding the rural entrepreneurship process: a systematic review of literature', *World Review of Entrepreneurship, Management and Sustainable Development*, Vol. x, No. y, pp.xx–xx.

Biographical notes: Asael Islas-Moreno is a PhD student in Agribusiness at Chapingo Autonomous University. He specialises on Innovation and Entrepreneurship in the Agri-Food Sector.

Manrrubio Muñoz-Rodríguez is a Research Professor at Chapingo Autonomous University. He specialises on Public Policy and Entrepreneurship in the Agri-Food and Rural Sector.

Wyn Morris is a Research Professor at Aberystwyth Business School. He specialises on Entrepreneurship and Rural Resource Management.

This paper is a revised and expanded version of a paper entitled [title] presented at [name, location and date of conference]. [AQ1]

version of your paper has originally been presented at a conference, please complete the statement to this effect or delete if not applicable.

AQ1: If a previous

1 Introduction

There is no universally accepted concept to set the limits of what a rural space is. However, it is known as rural space to those territories with low number of inhabitants, low population density, in which the natural landscape and open space predominates, and in which agriculture is usually of greater importance for the local economy (Pato and Teixeira, 2016). The rural environment is historically related to restrictions in terms of access to services, markets and technologies, a situation that represents a challenge for economic and social policies in terms of promoting development in these areas. However, improving communications, reducing transportation costs, changes in consumption patterns and the appearance of important non-agricultural activities in rural areas, offer opportunities that could favour the progress of rural regions (OECD, 2006). The question is how to overcome the restrictions and capture the opportunities provided from specific conditions within rural territories.

The ability of entrepreneurs to take advantage of opportunities present in the territories is broadly recognised as a key element for development, especially in physically and economically disadvantaged rural areas (Lafuente et al., 2007). The reason why entrepreneurship has gained attention within the rural public agenda is because it is an effective local development medium with potential for job creation (Fortunato, 2014). In addition, there is recognition that local agents pose better knowledge and greater incentives to take advantage of and value local resources (OECD, 2014). The requirement to study the company and rural entrepreneurs is born from the influence that rurality exerts as a business environment with physical, economic and social characteristics completely different from those present in urban spaces. For this reason, the literature on entrepreneurship in rural areas has been increasing; proof of this is that in less than thirty years a set of nine systematic review works have been carried out on the scientific research developed in this regard, of which new lines of research have been proposed.

The research agenda drawn from these reviews has evolved, beginning with the need to establish a robust conceptual framework (Wortman, 1990; Man et al., 2002), understanding issues with regards to development of the entrepreneurship process in rural areas (Dana and Dana, 2005; Stathopoulou et al., 2004) and the application of the knowledge generated for the formulation of integral policy frameworks with flexibility to specific conditions (Goetz et al., 2010; Fortunato, 2014; Korsgaard et al., 2015b). Recently there has been a recognition of the need to extend research towards the identification of new and innovative ways of doing business in rural areas and towards the analysis of different contexts, specifically in developing countries (Fortunato, 2014; Pato and Teixeira, 2016).

This literature review recognises the existence of a robust conceptual body referring to the process of rural entrepreneurship and identifies the components that interact during its development. Given the importance of an adequate understanding of the entrepreneurship process for the generation of effective rural policy proposals, the purpose of this review is to analyse the concept of the rural entrepreneurship process from the point of view of its components and the interactions that are made between

them. The review focuses on the last 20 years of research. Nine review articles and 33 empirical articles were analysed, the latter were located in the Scopus, Web of Science, Redalyc and Scielo repositories based on the key phrase "rural entrepreneurship process".

The review is structured in six sections, in Section 1, the concept of rural entrepreneurship process is built, based on the identification of the components that integrate it and their interactions. In Section 2, the theoretical and empirical evidence generated on the aspects that allow an adequate interaction of the identified components is presented. Section 3 is a synthesis of the accumulated evidence that compares the evolution of the topic in developed and developing countries. Section 4 is a research agenda that summarises the current state of the body of knowledge and identifies research gaps. Section 5 indicates the main limitations identified by the authors on the review. Finally, Section 6 lists the bibliographic references that support the review.

2 Construction of the conceptual model

According to Fortunato (2014), the bases to achieve success in rural enterprises, in terms of the entrepreneur and the context, are different from those required in urban enterprises. For Henry and McElwee (2014), only the factors associated with the context are those that differentiate rural entrepreneurship from non-rural entrepreneurship. In any case, there are differences that make the study of rural entrepreneurship necessary as a different category of analysis.

The term entrepreneurship has its origin in the French word "entreprendre" what it means to undertake. According to the Royal Academy of the Spanish Language, undertaking means starting an action that implies difficulty or danger. For Schumpeter (1943) entrepreneurship is a central element of economic development and arises from a process in which ideas are systematised, businesses are implemented and the difficulties of change are overcome. Describing entrepreneurship as a process, indicates that this does not occur in a single jump, but through a series of sequenced steps. In this regard, Stathopoulou et al. (2004) proposed that entrepreneurship in rural regions involves at least three stages: conception, realisation and operation. In the conception the individuals identify an existing economic opportunity or create a completely new one, in the realisation the company is established, and in the operation, the mechanisms to measure the business performance are generated, it is compared with the objectives and in some cases tactics and strategy are redefined. The first consideration in the construction of the concept is that it is a set of successive stages, that is, a process.

The entrepreneurship process, according to Schumpeter (1943), is carried out by an energetic individual, the entrepreneur, who generates wealth from "creative destruction" processes that involve destroying old business models by generating new combinations in terms of products, production methods, sources of supply, market segmentation and organisational forms. The successful completion of the entrepreneurial process demands from the entrepreneur a wide range of skills, attitudes and motivations necessary to transform ideas into sustainable companies (Man et al., 2002). Therefore, the second component to consider in the concept is the individual executing the process, the entrepreneur.

Supported in the structuring theory of Giddens (1984), entrepreneurship is an embedded socio-economic process, that is, a process conditioned by the context that

shapes the content and business results. In this sense, the rural space is traditionally associated with obstacles related to proximity and access to markets, as well as with difficulty in accessing information sources and institutions. However, the distinction of strengths of the rural environment in entrepreneurship is not new. Chaudhuri (1976) identified that rural society has a mixture of traditional values and modern attitudes, which can be used to offer quality products and services linked to an origin and a culture. In addition, although people in rural areas have difficulties in accessing financing and other services, they have the advantage of accessing the basic elements of the economy such as water, land, food and energy sources (Fortunato, 2014). The third component of the rural entrepreneurship process concept is the context influenced by rurality and its characteristic heterogeneity.

The entrepreneurship process uses resources from the context where it is developed, but also generates benefits that contribute to the development of these territories (Müller and Korsgaard, 2018). The type of entrepreneurship that substantially contributes to regional development is named by Korsgaard et al. (2015) as "rural entrepreneurship", which differs from another type of entrepreneurship called "entrepreneurship in the rural". In the first, the rural spatial location does not only respond to economic interests, but also to the perception of an emotional meaning and the link with a certain social nucleus. Entrepreneurs motivated by this spirit are more concerned with the economic, social and cultural development of their territories, on occasions this compromises the financial development of their companies in exchange for addressing such concerns. Although this type of entrepreneurship cannot guarantee rapid and high economic growth, it has three clear advantages: 1) it bases its inventiveness on the combination of resources that are available locally, activating and valuing them, even if they are more expensive to acquire and use that the resources acquired in the extra local market; 2) the probability that companies will be relocated is lower, because competitive advantages are based on their anchorage to the place and 3) since the provision is local, there is less vulnerability to external fluctuations in prices and volumes (Bristow, 2010; Christopherson et al., 2010).

Conversely, "entrepreneurship in the rural" refers to business activities whose rural spatial location is predominantly driven by economic incentives, which represent advantages for the business or the entrepreneur; in addition, this type of entrepreneurship does not emphasise the valuation of local resources unless it represents a practical or economic advantage. With respect to the benefits sought by these types of companies, they are not related to the collective well-being and development of the rural area; however, this type of entrepreneurship can lead to high and rapid economic growth rates, benefiting the community in the form of job creation. The intensive extraction of local resources without achieving their valuation, the emergence of two-level communities characterised by the social exclusion of the most vulnerable population, a greater probability of relocation of companies and a greater vulnerability to changing conditions of global markets are the disadvantages of "entrepreneurship in the rural" with respect to "rural entrepreneurship" (Simmie and Martin, 2014).

The benefits that rural businesses generate for their communities have gained importance not only in defining the type of entrepreneurship, but also in the definition of what a rural company is. Bosworth (2012) defined a rural company is one that meets at least two of the following three criteria: location in a rural area, serving a rural customer base and offering a highly trained product with resources offered by the space rural. Under this conception, there are rural companies that are not located in rural spaces, but

fit the definition when using resources and meeting the demands of rural localities. In another definition, De Rosa and McElwee (2015) mentioned that the rural company is the economic unit that employs the local population, uses and provides local services and generates income for the rural environment; Again, the benefits to the community overlap the location criteria in the definition. This leads to consider the benefits generated by rural businesses as the fourth component in the concept of the rural entrepreneurship process.

Integrating the four components: the process, the entrepreneur, the context and the benefits, the rural entrepreneurship process can be conceptualised as a set of stages developed by individuals with sufficient capacities, attitudes and motivations to transform their ideas into companies that take advantage of opportunities that provides for the rural environment, and generate benefits for the entrepreneur and for the population of the spaces where they operate (see Figure 1).

Opportunities

Conception

Realization

Operation

Benefits

Capacities

Entrepreneur

Figure 1 Rural entrepreneurship process: construction of the conceptual model

Source: own elaboration based on revision.

3 Interaction of rural entrepreneurship components

In the conceptual model of the rural entrepreneurship process, the entrepreneur interacts with the context throughout a process that shapes the content and business results. In this interaction four flows can be identified: 1) the entrepreneur brings capabilities to the process, 2) the process returns benefits to the entrepreneur, 3) the context offers opportunities to the process and 4) the process returns benefits to the context. The theoretical and empirical evidence generated regarding the flows that are a matter of public interest is presented; that is, of flows 1, 3 and 4.

3.1 From the entrepreneur to the process, the capabilities

Traditionally in rural areas, companies and entrepreneurs are not recognised with such titles, especially when they carry out agricultural activities, farmers and ranchers do not consider themselves as entrepreneurs and neither do others consider them entrepreneurs.

However, this fact has been changing, as farmers and rural entrepreneurs are becoming more business minded, while identifying themselves more as entrepreneurs in recognition of organisation, management and administration of the productive resources that they combine in their activities (Couzy and Dockes, 2008). Therefore, it is recognised that the satisfactory development of the rural entrepreneurship process requires a series of skills, attitudes, motivations and other attributes by the subject who performs it, the entrepreneur.

Starting with the capabilities, different countries demonstrate that a greater accumulation of human capital favours the process of rural entrepreneurship. Human capital determined through schooling, for example, was found as a factor that influences the intention to undertake in India (Chaudhuri, 1976), in the same way, schooling was found beneficial for entrepreneurship intentions in rural areas of Spain (Lafuente et al., 2007) and the growth of small rural South African companies (Babalola and Agbenyegah, 2016).

As part of human capital, the presence of business skills has been identified as a driving factor in entrepreneurial activity in rural areas. Stathopoulou et al. (2004) proposed a series of individual competences that favour the entrepreneurship process in the stages of conception, realisation and operation. According to Stathopoulou et al. (2004), the conception stage requires that the entrepreneur be innovative and have the ability to identify or create business opportunities; the stage of realisation requires people with negotiation, decision-making, coordination, supervision and optimisation skills; the operation stage requires people capable of monitoring and evaluating their business, as well as having the skills to adapt and reassess their actions and objectives. Empirically, it has been proven in countries such as Iran, South Africa and Mexico that the poor understanding of the rural population about the principles of design and initiation of new businesses is the biggest obstacle to entrepreneurship, and for this reason, it is suggested to develop skills to inform decision making (Bosworth et al., 2015; Babalola and Agbenyegah, 2016; Azari et al., 2017). An investigation in Malaysia proved the direct relationship between human capital formed in the field of entrepreneurship and the discovery and exploitation of business opportunities among rural entrepreneurs (Ahmad et al., 2017).

Personal development in terms of business skills has been found can be done from practice, because business experience gives entrepreneurs some of the skills they need (Pato and Teixeira, 2016). Previous experience with business was identified as the key factor in the United States, since the learning produced when operating own projects was of greater value, in terms of the success of small rural businesses, than having a business plan, which did not differentiate the performance of the companies (Eschker et al., 2017). In another context, in South Africa, it was found that a mix between previous experience and the use of local knowledge was what allowed entrepreneurs to identify people's needs and thereby generate a competitive advantage in the search for entrepreneurship opportunities (Ngorora and Mago, 2018).

Regarding attitudes, Stathopoulou et al. (2004) emphasises that especially in the stage of realisation, a risk-loving entrepreneur is required. In Spain, it was found that a higher level of self-confidence is decisive to reduce risk aversion and arouse entrepreneurial momentum (Lafuente et al., 2007). Another attitude, proactive behaviour, is observed in Hungary as the most important habit of people who develop highly effective ventures

(Katonáné and Zoltán, 2017). Recently, other attitudes such as personal control, self-efficacy and optimism were found as typical traits of successful family business leaders in rural Italy (DeRosa et al., 2019).

With respect to the motivations that arouse the entrepreneurial spirit of individuals, Dawson and Henley (2012) distinguished motivation by necessity (push) and opportunity (pull); the first pushes people to self-employment for reasons of dismissal, lack of employment or unsatisfactory conditions in the available employment alternatives; on the other hand, the second attracts people to self-employment because of the desire for autonomy, satisfying a market opportunity or developing a livelihood that balances work and family life. It has been found that push motivation awakens highly imitative reactionary ventures that are less profitable and durable (Besser and Miller, 2013), whereas, pull motivation is located as close to the Schumpeterian principles of creative destruction and sustainability of companies (Goetz et al., 2010).

Other attributes that have been examined to explain the satisfactory development of entrepreneurial activity in rural areas are age, gender, origin, income availability and family structure of entrepreneurs. In India it was discovered that age influences the choice of entrepreneurship, with older individuals being the most enterprising, because they have a greater sense of responsibility with family spending (Chaudhuri, 1976). This is inconsistent with the prevailing hypotheses in the broad field of entrepreneurship and innovation; therefore, age is a feature that should continue to be evaluated.

With regard to gender, some research deals with describing the entrepreneurship carried out by women (Fazeli et al., 2015; Chong-González, 2016), since the increase in the participation of this gender in rural areas is notorious, through its insertion into self-employment. It has been found in studies from Bangladesh, Ethiopia and Indonesia that women have lower participation rates in business activities than men, specifically for non-farm rural business entrepreneurship (Rijkers and Costa, 2012). This finding is not consistent with that found in Ethiopia, where female participation and low land availability induce the development of non-agricultural enterprises (Alemu and Adesina, 2017). Rijkers and Costa (2012) found that female rural businesses are less productive than those run by men, although the authors argue that such a difference may be due to the level of schooling.

Alluding to the origin, there are lifestyle entrepreneurs, who come from the urban environment from which they seek to escape and choose to undertake business in rural areas (Fortunato, 2014). In Wales it was observed that the initiatives of lifestyle entrepreneurs are particularly successful, due to the incorporation of new ideas and the support obtained from complementary income from non-agricultural and non-rural productive activities (Morris et al., 2017). With regard to the availability of complementary income, remittances do not seem to affect the likelihood of rural households starting a family business, at least this was found in Ecuador (Vasco, 2013).

Finally, family structure also influences entrepreneurship plans. De Rosa and McElwee (2015) mention that entrepreneurs with children invest more and sooner in actions such as productive diversification, because they are worried about creating stable businesses that will be delivered to their descendants. These same authors proved that the family's participation in the company arouses a collective entrepreneurial spirit with feelings of attachment due to kinship, in which old and young, men and women, farmers and non-farmers, develop various categories of skills from a marked division of labour; in addition, the generational renewal acts by itself as a stimulus to the diversification of farms, due to the incorporation of better educated young people who demonstrate greater

capacity to develop entrepreneurial skills (DeRosa et al., 2019). Therefore, entrepreneurs who incorporate the family into the company can develop a team that, in addition to attachment, has adequate skills for the orchestration of resources and the exploitation of different groups of opportunities.

3.2 From context to process, the opportunities

The entrepreneur is the subject that undertakes the venture, however, the impulse to seek change is born outside the individual and is expressed in the form of opportunities (Gaddefors and Anderson, 2017). The rural environment offers specificities that enable and sometimes restrict entrepreneurial activity, for this reason, it is important to identify the contextual determinants of effective entrepreneurship that relate specifically to rural areas. Stathopoulou et al. (2004) pointed out that the business process is influenced by physical, social, economic and institutional environments, and as with the characteristics and capabilities of individuals, the contextual characteristics necessary for the successful completion of the business process are different in their three stages: conception, realisation and operation.

Within the physical environment, Stathopoulou et al. (2004) emphasised that the location and base of natural resources, including the landscape and climate, are factors that influence to create rural enterprises. Regarding the location, the rural territories closest to urban centres have lower restrictions at the time of create enterprises (Fortunato, 2014). With regard to the natural resource base, in Hungary it was proven that a rich endowment natural resources of provides a favourable condition but not sufficient to guarantee effective entrepreneurship (Katonáné and Zoltán, 2017).

In the social environment the factors that influence entrepreneurship are social ties and culture (Stathopoulou et al., 2004). In Scotland, the social integration achieved through certain relationships with local residents allowed seven rural entrepreneurs to understand the local context, facilitating the business process in the stages of recognition of business opportunities and implementation of the project (Jack and Anderson, 2002). However, not all relationships are beneficial to the company; those that favour the business process are those that allow the entrepreneur to become part of the social structure and exchange resources, contacts and credibility with it. The presence of these effective social links with the community has also been effective in explaining the variations of success among entrepreneurs from remote areas in the USA (Besser and Miller, 2013). Integration to non-local networks is equally valuable, evidence about this was generated in Denmark, where local social integration complemented with links to non-local networks, allows rural entrepreneurs to establish strategic bridges that allow access to the best of two worlds: the local and the foreign (Korsgaard et al., 2015b). Participation in cooperatives, as observed in Ethiopia, allows farmers to consolidate relations with the closest social nucleus and also broadens their perspective for the development of administrative, commercial and managerial skills (Alemu and Adesina, 2017).

The culture of the territories influences entrepreneurship rates, specifically the presence of outstanding entrepreneurs generates an atmosphere of business culture that inspires other entrepreneurs (Lafuente et al., 2007). It has been suggested in research conducted in the USA (Eschker et al., 2017) and Hungary (Katonáné and Zoltán, 2017) that rural development agencies should promote interaction between experienced mentors and inexperienced entrepreneurs, to harvest innovative business ideas. In addition to the

business culture of a territory, ethnic diversity favours entrepreneurship according to the research carried out by Álvarez and Urbano (2013), who analysed the entrepreneurial activity rates of 39 countries of the Global Entrepreneurship Monitor (GEM).

Focusing on the economic environment, the factors that influence entrepreneurial activity are infrastructure, access to capital and business networks (Stathopoulou et al., 2004). In Ecuador, it was found that an adequate infrastructure that allows access to basic services such as water, electricity and telephone favours the participation of the rural population in entrepreneurship activities (Vasco, 2013). Similarly, better transport infrastructure is a characteristic identified in certain territories of the United Kingdom that is related to higher levels of business behaviour (Martin et al., 2013). Likewise, the infrastructure represented by heritage resources such as buildings, monuments and streets, has allowed Danish rural entrepreneurs to offer unique products and amenities (Müller and Korsgaard, 2018).

Research about access to financing in developing economies such as Iran (Sadeghloo et al., 2017) and South Africa (Lekhanya and Visser, 2016) has detected considerable difficulties to receive and repay loans among rural entrepreneurs, due to the long and hard bureaucratic administration and the high interest rates. Consequently, many local projects fail in the initial stages of the entrepreneurship process and the companies that survive do so using their own resources and family loans. Finally, business networks (Stathopoulou et al., 2004) and the availability of information and communication technologies (Pato and Teixeira, 2016) are factors that empirical research has not paid enough attention to, but they are strongly influenced especially in the operation stage of the entrepreneurship process, since they allow rural companies to take advantage of resources beyond the limits of their territories.

Finally, the institutional environment can also favour the process of rural entrepreneurship through the channelling of subsidies (Morris et al., 2017) and the implementation of business training programs (De Rosa and McElwee, 2015). However, first, all institutional support for entrepreneurship promotion must ensure that the individuals to whom they are addressed are aware of their existence, since in countries such as South Africa it has been found that institutional support for entrepreneurship in rural areas is little known, however, Those who know them have a greater entrepreneurial intention (Malebana, 2017). Business training seems especially important, in Pakistan, for example, it was concluded that the entrepreneurial attitude among rural women can be motivated by the establishment of training centres based on territorial specificities (Afza et al., 2010); in addition, it is suggested that these centres follow the logic of the entrepreneurship process, informing in a first phase about market opportunities, and then become professional training centres on business management. In heavily regulated activities such as bioenergy generation, institutional support is central, specifically in the realisation phase, according to results obtained in Finland (Kokkonen and Ojanen, 2018). In contrast, cases have been documented in which the institutional environment affects the survival and growth of small and medium- sized rural businesses, due to strict requirements of environmental regulation and licensing in South Africa (Lekhanya and Visser, 2016), as well as for the existence of distrust environments between population and government in Iran (Azari et al., 2017).

3.3 From process to context, the community benefits

The need to study the relationship between business creation and the development of rural communities was recognised more than two decades ago by Wortman (1990). More than 20 years later, Fortunato (2014) stated that although the issue of community benefits emanating from rural entrepreneurial activity is strongly neglected by literature, the contributions of rural entrepreneurs to the local economy go beyond monetary benefits and include contributions in areas such as landscape, history, culture and environment.

Policies and programs to promote the rural entrepreneurship process are generally evaluated in terms of business creation, however, concerns have arisen to assess their impact on the development of communities. Impact studies mainly adopt descriptive approaches and are mostly focused on the benefits that are perceived by local residents, which vary from one territory to another (Dana et al., 2014). Taking into account the variation in perceptions of what communities consider benefits derived from rural businesses and the multiple dimensions in which they are categorised; Dana et al. (2014) developed an analytical framework based on territorial functions, to assess the impact of business initiatives in tourism on the local development of two French communities. In addition to the economic-productive dimension, the analytical framework developed by the authors integrates the social, cultural and environmental influence of rural tourism and reveals which of these dimensions should be considered by local authorities to lead the development of their community.

Other studies have reported the generation of some of the benefits most immediately detected in the processes of rural entrepreneurship, specifically in South Africa, job creation and income increase were reported as the benefits generated by rural businesses for the community (Ngorora and Mago, 2018). However, benefits in other dimensions have been identified, according to a study by Müller (2014) in Denmark, rural businesses create 14 forms of community value categorised into three types: economic, socioeconomic and social. From the most economical to the most social, the 14 types of value are: 1) new economic activities, 2) job creation, 3) labour activation difficult to use, 4) inspiration for new entrepreneurs, 5) new or improved infrastructure, 6) new points of sale, 7) creation of brands linked to the place, 8) redistribution of income, 9) generation of localised knowledge, 10) new or restored physical and cultural amenities, 11) new or increased local activities, 12) preservation of heritage and history, 13) pride and self-respect of the community and, 14) creation of a sense of belonging and strengthening of local identity.

Reasons why rural entrepreneurs generate community value, in addition to the value they capture, are their desire to contribute positively to the place where they have chosen to work and live, and their concern for the survival of the community. These reasons are influenced by the degree of rurality, that is, the more isolated and remote the place is, the more attitudes and concerns for the well-being of the community have been found (Müller, 2014). The inspiration to generating value to the community, according to McElwee et al. (2018), can also be generated through the animatorship that, when associated with entrepreneurship, consists of orchestrating situations and people so that they themselves achieve their common goals through business projects.

The generation of benefits for the community is mostly associated with the type of entrepreneurship called "rural entrepreneurship" carried out by entrepreneurs with strong attachment to the communities (Korsgaard et al., 2015b); however, non-local entrepreneurs incorporate new ideas and generate businesses that contribute to the local

economy by leveraging resources not optimised by individuals from the community (Fortunato, 2014). On this, in 13 countries it was found that entrepreneurs newly arrived in rural areas have important contributions in the creation and improvement of infrastructure, based on entrepreneurship initiatives aimed at manufacturing and services (Akgün et al., 2011).

4 Summary of the review

Table 1 shows the spectrum covered by empirical research in developed countries, based on the four components identified in the concept of rural entrepreneurship process: entrepreneur, context, process and community benefits. The same is presented in Table 2 for developing countries. It is observed that the entrepreneur and the context are the components that have received the most attention in both groups of countries, being of constant interest to researchers over time. Likewise, it is observed that, in both developed and developing countries, the studies prioritise the breadth and statistical representation rather than the depth in the analysis of small sample sizes. Evidence in this review highlights that on average, in each study, only one to two of the four components reviewed in this paper are included. There are no studies that address the four components of the rural entrepreneurship process, the maximum number of components in any of the studies is three, have been conducted in developed countries and have worked with small samples of 16 and 28 cases.

Table 1 Spectrum of study of empirical research in developed countries around rural entrepreneurship process

Research	Entrepreneur	Context	Process	Community benefits	Country	N	N (A)
Jack and Anderson (2002)		✓			Scotland	7	1
Lafuente et al. (2007)		✓	✓		Spain	843	n/s
Akgün et al. (2011)				✓	13 countries	2,802	925
Vik and McElwee (2011)	✓				Norway	943	943
Bosworth (2012)				✓	UK	1	0
Besser and Miller (2013)	✓	✓			USA.	450	32
Martin et al. (2013)		✓			UK	494	17
Dana et al. (2014)				✓	France	3	0
Müller (2014)		✓		✓	Denmark	28	7

A. Islas-Moreno, M. Muñoz-Rodríguez and W. Morris

Table 1 Spectrum of study of empirical research in developed countries around rural entrepreneurship process (continued)

Research	Entrepreneur	Context	Process	Community benefits	Country	N	N (A)
De Rosa and McElwee (2015)	✓	✓			Italy	303	303
Korsgaard et al. (2015a)		✓			Denmark	7	2
Gaddefors and Anderson (2017)		✓			Sweden	n/a	n/a
Eschker et al. (2017)	✓	✓			USA	83	n/s
Morris et al. (2017)	✓				UK	738	738
Kokkonen and Ojanen (2018)	√	✓	✓		Finlandia	16	0
Müller and Korsgaard (2018)		✓	✓	√	Denmark	28	7
De Rosa et al. (2019)	✓				Italy	1	1

Notes: own elaboration based on documentary review.

N is number of cases considered in the analysis.

N(A) is the number of cases analysed related to agricultural activities.

n / a: not applicable, it is an ethnographic study.

n / s: the number of cases related to agricultural enterprises is not specified.

 Table 2
 Spectrum of study of empirical research in developing countries around rural entrepreneurship process

Research	Entrepreneur	Context	Process	Community benefits	Country	N	N (A)
Chaudhuri (1976)	✓				Bangladesh	103	78
Afza et al. (2010)		✓			Pakistan	220	51
Rijkers and Costa (2012)	√				Bangladesh, Ethiopia and Indonesia	n/s*	n/s
Álvarez and Urbano (2013)		✓			39 countries	n/s*	n/s
Vasco (2013)	✓	✓			Ecuador	4,753	n/s
Bosworth et al. (2015)	✓	✓			Mexico	6	6

Table 2 Spectrum of study of empirical research in developing countries around rural entrepreneurship process (continued)

Research	Entrepreneur	Context	Process	Community benefits	Country	N	N (A)
Fazeli et al. (2015)	√	✓			Iran	120	n/s
Babalola and Agbenyega (2016)	✓	✓			South Africa	282	n/s
Lekhanya and Visser (2016)		✓			South Africa	127	n/s
Ahmad et al. (2017)	✓				Malaysia	345	n/s
Alemu and Adesina (2017)	✓	✓			Ethiopia	415	275
Azari et al. (2017)	✓	✓			Iran	36	n/s
Katonáné and Zoltán (2017)	✓	✓			Hungary	2	0
Malebana (2017)		✓			South Africa	355	n/a
Sadeghloo et al. (2017)		✓	✓		Iran	360	29
Ngorora and Mago (2018)	✓			✓	South Africa	53	n/s

Notes: own elaboration based on documentary review.

N is number of cases considered in the analysis.

N(A) is the number of cases analysed related to agricultural activities.

n / s: the number of cases related to agricultural enterprises is not specified.

n / s*: the number of cases analysed in the study is not specified.

n / a: not applicable, the sample was not formed by companies but by newly graduated students of careers related to companies.

Although the average number of components attended per study does not vary between developed and developing countries, an important difference is the components analysed. Developing countries abound in the analysis of the entrepreneur and the context, and only the most recent works study the process and community benefits, components that have been most present in studies carried out in developed countries.

The study of entrepreneurship in rural areas has been extended, extending to non-agricultural activities that include manufacturing, tourism, commerce, bioenergy production and environmental services generation. As proof of this, among the studies that specify the activity associated with each company they examine, the total number of cases related to agricultural activities represents less than half of the total cases analysed, both in developed countries (44%) and in developing countries (40%). In this regard, the developing countries included in this review seem slightly less concerned with the study of rural agricultural enterprises, however, according to data from the World Bank (2017), the agricultural sector contributes, on average, with 12.9% of the domestic product gross

of these countries. In contrast, on average, the contribution of the agricultural sector to the gross domestic product of developed countries included in this review is 1.5%. Therefore, it seems especially relevant for developing countries to continue paying attention to the study of rural agricultural enterprises. On the agricultural sector there are few conceptual and methodological proposals to study the phenomenon of entrepreneurship, most studies in this sector of the economy adopt the concepts and techniques of other business sectors (McElwee, 2008).

Finally, studies that have been conducted in developing countries include countries such as: Bangladesh, Ecuador, Mexico, Ethiopia, Hungary, Indonesia, Iran, Malaysia, Pakistan and South Africa. In that sense, the rural Latin American context has been little explored in entrepreneurship research.

5 Future research lines

The framework presented in this paper demonstrates the consensus in the scientific community on the need to differentiate the study of entrepreneurship in rural areas within the broad field of entrepreneurship. In turn, the theoretical and empirical evidence allows us to identify a group of components and interactions, whose conjugation allowed to construct a concept of the rural entrepreneurship process. Moving from the definitions to the understanding of the genesis and development of business activity in rural spaces, the review reveals that to understand the creation and development of effective rural businesses, entrepreneurship must be understood as a process that does not take place in a single step, but implies a series of stages whose satisfactory completion depends on the presence of certain characteristics in rural entrepreneurs, as well as the social, institutional, economic and physical context of the territories. Likewise, there is a recent increase in interest in the benefits that rural businesses generate beyond the individual benefit captured by entrepreneurs, and that improve the conditions of communities not only in economic terms.

Starting with the pending tasks, the existing literature on the concept of rural entrepreneurship process proposed in this review gives light on the factors that explain its adequate development, however, such identification has not reached a level of precision that distinguishes the favouring factors at each stage, in terms of the entrepreneur and the context. The lack of this level of understanding makes it impossible to answer questions such as: how feasible is it that a single individual in the rural environment meets the characteristics to carry out the entire entrepreneurial process? What skills should a specific business training program focus on for each level of progress? and what physical, social, economic and institutional conditions do each stage of the entrepreneurship process require to develop satisfactorily?

On the other hand, the investigation of entrepreneurship seen as a process is scarce, and the contributions made around the way of representing the entrepreneurship process are also scarce. From this lack arise questions such as: how many and what stages best describe the rural entrepreneurship process? What measures determine the passage from one stage to another? and how the stages can be applied to distinguish concepts as entrepreneur and businessman?

With regard to the community-type benefits generated by the rural entrepreneurship process, they are still quite misunderstood, especially in developing countries, which is why the impact of entrepreneurship and policies to promote business activity could be being underestimated in the development of rural areas. At the moment there is not enough evidence to answer questions such as: what kind of companies and entrepreneurs should be encouraged to promote the integral development of rural communities?

In another order of ideas, the study of the Latin American rural context is a pending issue in terms of entrepreneurship. In the same way, in this type of environment it is recommended to carry out studies that deepen the understanding of the interactions of the four components-entrepreneur, rural space, process and community benefits — to understand entrepreneurship in an integral way, although to comply it must be sacrificed statistical representativeness. For this purpose, the development of rigorous methodologies is required that, from the wide examination of certain cases, show the process of rural entrepreneurship in its multiple expressions.

Finally, with regard to the types of entrepreneurship to be analysed, it is recommended that the perspectives of the new OECD rural paradigm (2006) regarding the loss of relevance of agricultural activity in production, income and employment in rural areas, they are adopted with restraint by researchers from developing countries, nations where agricultural activity remains the backbone of the rural economy, and therefore, the study of agricultural enterprises continues to be valuable.

6 Limitations of the review

The review was limited to the examination of scientific articles and review articles, leaving out other types of materials such as books, book chapters, official reports and seminars and congress reports. Regarding the time frame, the review focused mainly on articles published in the most recent 20 years. With respect to the inclusion criteria of the empirical articles, only those that arose from the search in Scopus, web of Science, Redalyc and Scielo were considered from the key phrase "rural entrepreneurship process".

References

- Afza, T., Osman, M.H.B.M. and Rashid, M.A. (2010) 'Enterprising behavior of enterprise less rural women entrepreneurs of Khyber Pukhtan Khawa of Pakistan', *European Journal of Social Sciences*, Vol. 18, No. 1, pp.109–119. Available at: http://eprints.utm.my/37543/.
- Ahmad, A.R. et al. (2017) 'Human capital and exploit opportunity among Malaysia rural entrepreneurs: the mediating effect of opportunity discovery', *Journal of Engineering and Applied Sciences*, Vol. 12, No. 7, pp.1746–1753. Doi: 10.3923/jeasci.2017.1746.1753.
- Akgün, A.A. et al. (2011) 'Roles of local and newcomer entrepreneurs in rural development: a comparative meta-analytic study', *Regional Studies*, Vol. 45, No. 9, pp.1207–1223. Doi: 10.1080/00343401003792500.
- Alemu, A.E. and Adesina, J.O. (2017) 'In search of rural entrepreneurship: non-farm household enterprises (NFEs) as instruments of rural transformation in Ethiopia', *African Development Review*, Vol. 29, No. 2, pp.259–271. Doi: 10.1111/1467-8268.12255.
- Álvarez, C. and Urbano, D. (2013) 'Diversidad cultural y emprendimiento', *Revista de Ciencias Sociales*, Vol. 19, No. 1, pp.154–169.
- Azari, M.G., Allahyari, M.S. and Abedi, M. (2017) 'Analysis of barriers against development of rural entrepreneurship in Guilan province, Iran', *World Review of Entrepreneurship Management and Sustainable Development*, Vol. 13, Nos. 2/3, pp.338–356. Doi: 10.1504/WREMSD.2017.10003414.

- Babalola, S.S. and Agbenyegah, A.T. (2016) 'Rural entrepreneurship: an insight into impeding factors influencing micro-entrepreneurial growth', *The Journal of Applied Business Research*, Vol. 32, No. 6, pp.1751–1760.
- Besser, T.L. and Miller, N.J. (2013) 'Community matters: successful entrepreneurship in remote rural US locations', *International Journal of Entrepreneurship and Innovation*, Vol. 14, No. 1, pp.15–27. Doi: 10.5367/ijei.2013.0104.
- Bosworth, G. (2012) 'Characterizing rural businesses Tales from the paperman', *Journal of Rural Studies*, Elsevier Ltd., Vol. 28, No. 4, pp.499–506. Doi: 10.1016/j.jrurstud.2012.07.002.
- Bosworth, G., McElwee, G. and Smith, R. (2015) 'Rural enterprise in Mexico: a case of necessity diversification', *Journal of Enterprising Communities: People and Places in the Global Economy*, Vol. 9, No. 4, pp.327–343. Doi: 10.1108/JEC-05-2014-0006.
- Bristow, G. (2010) 'Resilient regions: re- "place" ing regional competitiveness', *Cambridge Journal of Regions, Economy and Society*, pp.153–167. Doi: 10.1093/cjres/rsp030.
- Chaudhuri, K.K. (1976) 'The social background of rural trader entrepreneurs: a pilot study', *South African Journal of Sociology*, Vol. 14, pp.78–93. Doi: 10.1080/02580144.1976.10426525.
- Chong-González, E.G. (2016) 'El emprendedurismo femenino rural', *Entramado*, Vol. 12, No. 1, pp.30–36. Doi: 10.18041/entramado.2016v12n1.23107.
- Christopherson, S., Michie, J. and Tyler, P. (2010) 'Regional resilience: theoretical and empirical perspectives', *Cambridge Journal of Regions, Economy and Society*, Vol. 3, pp.3–10. Doi: 10.1093/cjres/rsq004.
- Couzy, C. and Dockes, A-C. (2008) 'Are farmers businesspeople?: Highlighting transformations in the profession of farmers in France', *International Journal of Entrepreneurship and Small Business*, Vol. 6, No. 3, pp.407–420.
- Dana, L.P. and Dana, T.E. (2005) 'Expanding the scope of methodologies used in entrepreneurship research', *International Journal of Entrepreneurship and Small Business*, Vol. 2, No. 1, pp.79–88. Doi: 10.1504/IJESB.2005.006071.
- Dana, L.P., Gurau, C. and Lasch, F. (2014) 'Entrepreneurship, tourism and regional development: a tale of two villages', *Entrepreneurship and Regional Development*, Vol. 26, Nos. 3/4, pp.357–374. Doi: 10.1080/08985626.2014.918182.
- Dawson, C. and Henley, A. (2012) "Push" versus "pull" entrepreneurship: an ambiguous distinction?', *International Journal of Entrepreneurial Behaviour and Research*, Vol. 18, No. 6, pp.697–719. Doi: 10.1108/13552551211268139.
- De Rosa, M. and McElwee, G. (2015) 'An empirical investigation of the role of rural development policies in stimulating rural entrepreneurship in the Lazio Region of Italy', *Society and Business Review*, Vol. 10, No. 1, pp.4–22. Doi: 10.1108/SBR-08-2014-0041.
- DeRosa, M., McElwee, G. and Smith, R. (2019) 'Farm diversification strategies in response to rural policy: a case from rural Italy', *Land Use Policy*, Vol. 81, pp.291–301. Doi: 10.1016/j.landusepol.2018.11.006.
- Eschker, E., Gold, G. and Lane, M.D. (2017) 'Rural entrepreneurs: what are the best indicators of their success?', *Journal of Small Business and Enterprise Development*, Vol. 24, No. 2. Doi: 10.1108/JSBED-07-2016-0112.
- Fazeli, M.J., Ommani, A.R. and Maghsoudi, T. (2015) 'Factor analysis of entrepreneurship development among rural women', *Biological Forum An International Journal*, Vol. 7, No. 1, pp.59–63.
- Fortunato, M.W-P. (2014) 'Supporting rural entrepreneurship: a review of conceptual developments from research to practice', *Community Development*, Vol. 45, No. 4, pp.387–408. Doi: 10.1080/15575330.2014.935795.
- Gaddefors, J. and Anderson, A.R. (2017) 'Entrepreneurship and context: when entrepreneurship is greater than entrepreneurs', *International Journal of Entrepreneurial Behaviour and Research*, Vol. 23, No. 2, pp.267–278. Doi: 10.1108/IJEBR-01-2016-0040.
- Giddens, A. (1984) The Constitution of Society: Outline of the Theory of Structuration, Man. Polity Press. Doi: 10.2307/2802469.

- Goetz, S.J. et al. (2010) 'Evaluating U.S. rural entrepreneurship policy', *The Journal of Regional Analysis and Policy*, Vol. 40, No. 1, pp.20–33.
- Henry, C. and McElwee, G. (2014) 'Defining and conceptualizing rural enterprise', *Exploring Rural Enterprise: New Perspectives on Research, Policy and Practice*, Emerald Insight, pp.1–8. Doi: 10.1108/s2040-7246_2014_0000004012.
- Jack, S.L. and Anderson, A.R. (2002) 'The effects of embeddedness on the entrepreneurial process', Journal of Business Venturing, Vol. 17, pp.467–487. Doi: 10.1108/SEJ-07-2014-0030
- Katonáné, K.J. and Zoltán, E.S. (2017) 'Rural enterprise hub supporting rural entrepreneurship and innovation-case studies from hungary', *European Countryside*, Vol. 9, No. 3, pp.473–485. Doi: 10.1515/euco-2017-0028.
- Kokkonen, K. and Ojanen, V. (2018) 'From opportunities to action an integrated model of small actors' engagement in bioenergy business', *Journal of Cleaner Production*, Elsevier Ltd., Vol. 182, pp.496–508. Doi: 10.1016/j.jclepro.2018.02.013.
- Korsgaard, S., Ferguson, R. and Gaddefors, J. (2015) 'The best of both worlds: how rural entrepreneurs use placial embeddedness and strategic networks to create opportunities', Entrepreneurship and Regional Development, Vol. 27, Nos. 9/10, pp.574–598. Doi: 10.1080/08985626.2015.1085100.
- Korsgaard, S., Muller, S. and Tanvig, H.W. (2015) 'Rural entrepreneurship or entrepreneurship in the rural between place and space', *International Journal of Entrepreneurial Behavior and Research*, Vol. 21, No. 1, pp.5–26. Doi: 10.1108/IJEBR-11-2013-0205.
- Lafuente, E., Vaillant, Y. and Rialp, J. (2007) 'Regional differences in the influence of role-models: comparing the entrepreneurial process of rural Catalonia', *Regional Studies*, Vol. 41, No. 6, pp.779–795. Doi: 10.1080/1478643YYxxxxxxxx.
- Lekhanya, L.M. and Visser, K. (2016) 'Risks and factors contributing towards rural entrepreneurial orientation growth of business in an emerging economy', *Risk Governance and Control: Financial Markets and Institutions*, Vol. 6, No. 4, pp.72–83. Doi: 10.22495/rcgv6i4art10.
- Malebana, M.J. (2017) 'Knowledge of entrepreneurial support and entrepreneurial intention in the rural provinces of South Africa', *Development Southern Africa*, Taylor & Francis, pp.1–16. Doi: 10.1080/0376835X.2016.1259990.
- Man, T.W., Lau, T. and Chan, K. (2002) 'The competitiveness of small and medium enterprises: a conceptualization with focus on entrepreneurial competencies', *Journal of Business Venturing*, Vol. 17, No. 2, pp.123–142. Doi: 10.1016/S0883-9026(00)00058-6.
- Martin, L.M. et al. (2013) 'Exploring SME advice and training needs for entrepreneurial rural firms', *International Journal of Entrepreneurship and Innovation*, Vol. 14, No. 2, pp.95–102. Doi: 10.5367/ijei.2013.0110.
- McElwee, G. (2008) 'A taxonomy of entrepreneurial farmers', *International Journal of Entrepreneurship and Small Business*, Vol. 6, No. 3, pp.465–478. Doi: 10.1504/ijesb.2008.019139.
- McElwee, G., Smith, R. and Somerville, P. (2018) 'Conceptualizing animation in rural communities: the village SOS case', *Entrepreneurship and Regional Development*', Routledge, Vol. 30, Nos. 1/2, pp.173–198. Doi: 10.1080/08985626.2017.1401122.
- Morris, W., Henley, A. and Dowell, D. (2017) 'Farm diversification, entrepreneurship and technology adoption: analysis of upland farmers in Wales', *Journal of Rural Studies*, Elsevier Ltd., Vol. 53, pp.132–143. Doi: 10.1016/j.jrurstud.2017.05.014.
- Müller, S. (2014) 'How spatial context influences entrepreneurial value creation: a multiple case study', *Australian Centre for Entrepreneurship Research Exchange Conference*, Queensland University of Technology Sydney, Australia.
- Müller, S. and Korsgaard, S. (2018) 'Resources and bridging: the role of spatial context in rural entrepreneurship', *Entrepreneurship and Regional Development*, Routledge, Vol. 30, Nos. 1/2, pp.224–255. Doi: 10.1080/08985626.2017.1402092.

- Ngorora, P.K.G. and Mago, S. (2018) 'Prospects of entrepreneurship in South Africa's rural areas: a case study of Eastern Cape Province's Nkonkobe Municipal Area', *African Journal of Hospitality, Tourism and Leisure*, Vol. 7, No. 2, pp.1–16.
- OECD (2006) The New Rural Paradigm: Policies and Governance. Paris: OECD. Doi: 10.1787/9789264023918-en.
- OECD (2014) OECD Rural Policy Reviews: Innovation and Modernizing the Rural Economy, OECD Rural Policy Reviews. OECD Publishing, Doi: 10.1787/9789264205390-en.
- Pato, M.L. and Teixeira, A.A.C. (2016) 'Twenty years of rural entrepreneurship: a bibliometric survey', *Sociologia Ruralis*, Vol. 56, No. 1, pp.3–28. Doi: 10.1111/soru.12058.
- Rijkers, B. and Costa, R. (2012) 'Gender and rural non-farm entrepreneurship', *World Development*, Elsevier Ltd., Vol. 40, No. 12, pp.2411–2426. Doi: 10.1016/j.worlddev.2012.05.017.
- Sadeghloo, T. et al. (2017) 'Obstacles and methods of financing for the development of local entrepreneurship in Iran', *International Journal of Development Issues*. Doi: 10.1108/IJDI-05-2017-0046.
- Schumpeter, J.A. (1943) 'The process of creative destruction', *Capitalism, Socialism and Democracy*, Routledge, London, UK, pp.59–164.
- Simmie, J. and Martin, R. (2014) 'The economic resilience of regions: towards an evolutionary approach', *Cambridge Journal of Regions, Economy and Society Advance*, Vol. 3, pp.27–43. Doi: 10.1093/cjres/rsp029.
- Stathopoulou, S., Psaltopoulos, D. and Skuras, D. (2004) 'Rural entrepreneurship in Europe', International Journal of Entrepreneurial Behavior and Research, Vol. 10, No. 6, pp.404–425. Doi: 10.1108/13552550410564725.
- Vasco, C. (2013) 'Migration, remittances and entrepreneurship: the case of rural Ecuador', Migraciones Internacionales, Vol. 7, No. 1, pp.37–64.
- Vik, J. and McElwee, G. (2011) 'Diversification and the entrepreneurial motivations of farmers in Norway', *Journal of Small Business Management*, Vol. 49, No. 3, pp.390–410. Doi: 10.1111/j.1540-627X.2011.00327.x
- World Bank (2017) Datos sobre las cuentas nacionales del Banco Mundial y archivos de datos sobre cuentas nacionales de la OCDE. Available online at: https://datos.bancomundial.org/indicador/NV.AGR.TOTL.ZS?locations=AF-US-ET (accessed on 15 March 2019).
- Wortman, M.S. (1990) 'Rural entrepreneurship research: an integration into the entrepreneurship field', *Agribusiness*, Vol. 6, No. 4, pp.329–344.