

# **Ecosystem approach and new business models for sustainability: A systematic literature review**

Trends in organizational and accounting practices for sustainability adopting the ecosystem approach

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## **Abstract**

The ecosystem approach within organizations is based on the idea that organizations themselves are inserted into a complex and interconnected system of relationships with the surrounding environment, which include stakeholders, suppliers, customers, and the community in general. This approach focuses on the importance of considering the impact of the organization's actions on the environment and society, considering a long-term and sustainability perspective. In recent years, more and more organizations are adopting strategies and practices based on the ecosystem approach to promote sustainability and reduce negative impact on the environment. These practices include reducing carbon emissions, optimizing resource use, implementing corporate social responsibility policies, and promoting transparency and accountability.

This study aims to analyze and summarize, through a systematic review of the literature, the most relevant contributions in literature and in practice on the phenomenon investigated, i.e. the ecosystem approach and sustainability within organizations. The literature shows that organizations that adopt an ecosystem approach to sustainability tend to achieve competitive advantages, such as a better relationship with customers, greater market trust, greater attractiveness for employees and a better relationship with investors. However, implementing an ecosystem approach within an organization is not always easy and requires significant cultural and structural change.

## Keywords

Organizational practices, accounting practices, environmental sustainability, social and ethical behaviours, ecosystem perspective.

## Introduction

Due to the financial and economic crisis that the world has been going through in recent years, numerous observers, scholars, and analysts are becoming increasingly aware of the fact that our current economic system, being based on continuous quantitative and material growth, now manifests evident and serious difficulties in being supported by natural systems that allow its survival. Human being does not have absolute power over the earth, yet he/she presumes that he/she does. He/she does not, to the end, have the awareness of living immersed in an environment, in a system, or rather, in an ecosystem that conditions him/her. Because of his/her activity, he/she makes many negative effects on the natural ecosystem, he/she causes an imbalance within the environment, whose consequences today appear increasingly dangerous and dramatic (Evers et al., 2018).

The notion of the environment, as defined by the International Court of Justice in the 1996 Advisory Opinion on the Lawfulness of the Threat or Use of Nuclear Weapons, argues: *“The environment is not an abstraction, but represents the living space, the quality of life, and the very health of human beings, including generations unborn.”* Therefore, as consequence, we can derive the fundamental concept that the environment represents the living space for every human being (Ali & Yan, 2017). It must be able to guarantee not only his/her survival but also his/her quality of life and health.

The ecosystem approach, so named according to correct English terminology, is a management method in which land, water, and living resources are integrated to favour the conservation and sustainable use of natural resources, thus respecting the interactions within the ecosystems on which human beings depend. In practice, all parts of an ecosystem are connected, so each part needs to be considered (Ali & Yan, 2017). This approach is mainly used in forest management, fisheries, agricultural management, and environmental research. It recognizes humans with their cultural diversity as integral components of ecosystems. The ecosystem approach strategy can be considered a valid and effective measure towards the conservation of biodiversity and consequently the overall environment (Heymans et al., 2019).

In this paper, starting from the analysis of the concept of the ecosystem coined in 1935, we then focus on the environmental aspect of biodiversity with the ecosystem approach, which provides a new management strategy to promote the conservation and sustainable use of natural resources. In this context, business organizational practices play a key role, and companies in any kind of industry, especially the ones considering highest polluting, must integrate biodiversity conservation into their production processes and business strategies.

This can happen through the implementation of environmental sustainability policies, the adoption of sustainable agricultural and forestry practices, and the promotion of initiatives for the conservation of the biodiversity.

At the same time, companies can benefit from adopting sustainable biodiversity management practices. For example, the conservation of natural ecosystems can help to improve air and water quality, reduce the impact of climate change, and make production systems more resilient to environmental variations (Charron, 2012). Furthermore, companies that adopt sustainable biodiversity management practices can also benefit in terms of reputation and relationships with consumers. In fact, more and more customers are sensitive to environmental sustainability and choose to purchase products and services from companies that demonstrate that they are attentive to environmental conservation. Companies can also gain economic benefits from sustainable biodiversity management practices, for example, through saving natural resources, reducing waste disposal costs, and diversifying supply sources (Amador-Cruz et al., 2021). Finally, the sustainable management of biodiversity can contribute to the development of new business opportunities linked to the valorization of sustainable products and services, technological innovation, and the creation of new markets (Dreujou et al., 2020).

Therefore, the environmental aspect of biodiversity requires an integrated approach that considers the interconnections between animal and plant species, ecosystems, and human activities. Only through the promotion of the conservation and sustainable use of natural resources and the adoption of sustainability-oriented business management practices it will be possible to preserve biodiversity for future generations (Arshad et al., 2023).

This paper consists of a conceptual study which performs a systematic literature review for analyzing and summarizing the most relevant contributions in the literature and in practice on the phenomenon investigated, that is the ecosystem approach and sustainability within organizations.

We conduct a systematic literature review that maps and evaluates the body of literature identifying potential research gaps, vividly showing the boundaries of managerial knowledge on the concept of ecosystem approach and sustainability, also considering the role and function of technology in making organizations much more environmentally sustainable with focus much more on biodiversity. The systematic review is completed with an interactive process between researched literature and analysis. Systematic research aims to reduce the number of errors in the study and objectively summarize them. This method was chosen because it can give meaning to a substantial body of information, allows us to evaluate the critical aspects of the phenomenon and to answer a considerable number of questions. This method is also useful for mapping areas of uncertainty to eliminate them or to see where research is lacking to proceed with new studies. To provide a systematic review of the literature we use the VOSviewer software.

In summary, adopting sustainable biodiversity management practices not only has significant and positive benefits for the environment and the overall society in terms of its future

existence, but it can also bring important advantages to companies in terms of competitiveness, reputation, and profitability. In this direction, one interesting question can be defined: Will it be possible to arrive at an economic management model that preserves the environment and envisions the use of resources compatible with ecosystems and the living beings that populate them? To date, we are still looking for a definitive solution through meetings, conferences, and discussions among the "greats" of the Earth. Through an in-depth systematic review, this work aims to fuel the spread of an ecological morality, respectful of natural resources, and oriented towards a sustainable economy that includes every human being, in any part of the world, without differences in social classes, religions, and ethnicities.

## The ecosystem approach: definition and interventions for sustainable management

The 1992 Convention on Biodiversity constitutes a starting point for the protection of species and habitats as it incorporates principles and techniques of environmental law already recognized in national legislation and international sectoral instruments (Pardy, 2018)). Furthermore, it constitutes a moment of development and innovation precisely because of the standardization process that takes place through the decisions of the Conferences of the Parties (which among other things are often binding rules for the parties to the Convention) and the implementation and implementation rules of the subsidiary bodies (Panetta Chair, 2013).

The aim of the Convention is threefold: the conservation of biodiversity, the sustainable use of its elements, the equitable sharing of the benefits deriving from the use of genetic resources (Kay et al., 1999). By the expression "biological diversity" the Convention means: *"the variability of living organisms of all origins, including inter alia terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, and between species in ecosystems"*.

Article 2 of the Biodiversity Convention provides us with the definition of ecosystem: *"Ecosystem means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit"*. All of Earth's ecosystems have been transformed by human activities (Roberts et al., 2021). During the second half of the 20th century, ecosystems changed at a greater rate than at any other time in human history (Waltner-Toews et al., 2008). Some of the most notable changes have been the transformation of forests and grasslands into farmland, the diversion and storage of freshwater in dams, and the loss of coral reefs (Lin et al., 2023). Today, the most rapid changes take place in developing countries, even though industrialized countries have undergone similar changes in the past. Nonetheless, it seems that current transformations are taking place at a faster pace than those before the industrial era (Alford, Compagnoni, 2018).

The main factors that cause the loss of biodiversity are: habitat modification, the introduction and propagation of invasive alien species outside their usual distribution area, overexploitation of natural resources, pollution and climate change (De Lucia, 2019). The actions required to take a step back in the degradation of ecosystems are: greater investments in technologies that respect the environment; active adaptation management; active management to address environmental problems before their full consequences are realized; large investments in public goods (for example education and healthcare); strong activity that reduces economic disparities and eliminates poverty (Longato et al., 2021).

However, ecosystem degradation can rarely be reversed without considering the five indirect generators of change: changes in population (such as growth and migration), changes in economic activity (such as economic growth, differences in wealth and patterns of trade), sociopolitical factors (from the existence of conflicts to public participation in decision making), cultural factors and technological changes (Richter et al., 2015). There are many possibilities to conserve or improve specific ecosystem services by reducing negative trade-offs or creating positive synergies with other ecosystem services (Maier et al., 2021). And it is precisely for this purpose that the ecosystem approach model was created and developed as the best tool for the conservation of biodiversity to be used when existing and tested policies are insufficient to pursue this aim (Nadalini et al., 2021).

The ecosystem approach consists of a management method in which land, water and living resources are integrated to promote the conservation and use of natural resources, thus respecting the interactions within the ecosystems on which the ecosystem depends human being (Marquez et al., 2023). In practice, all parts of an ecosystem are connected, so each part needs to be considered. This approach is mainly used in forest management, fisheries, agricultural management, and environmental research. It recognizes humans with their cultural diversity as integral components of ecosystems (Palomo-Campesino et al., 2018).

As described by the Conference of the Parties (COP-5), the ecosystem approach constitutes the first objective of the Convention (Montini, 2011). The Conference of the Parties, in its fifth meeting, approved the description of the ecosystem approach and the operational guides; furthermore, it recommended the application of the principles and other guides on the ecosystem approach. All this is elaborated in Decision V/6. This decision provides us with the definition of ecosystem approach: *“The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources”*. It is based on the application of appropriate scientific methods and first looks at the levels of biological organization that encompass the essential processes, functions and interactions between organisms and their environment (Slocombe, 1993). This priority attention to processes, functions and interactions is linked to the definition of ecosystem expressed in Article 2 of the Biodiversity Convention.

The notion of ecosystem approach is holistic and involves both the conservation and sustainable use of biological diversity, trying to ensure a balance between economic development and conservation (Mengist et al., 2020). The ecosystem approach encourages production sectors towards integrated planning, offering interested parties' opportunities, also based on specific ecosystems (Zhou et al., 2022). The different activities can involve different degrees of interest with a holistic vision, through an expanded participation of all social subjects from the general to the particular, thus, guaranteeing the fair distribution of benefits (Yigitcanlar & Dizdaroglu, 2015). It is necessary to adequately disseminate the intrinsic potential of the theoretical model of this approach for the involvement of decision makers and the various interest groups of every different social level (Graedel, 1996). The ecosystem approach aims to promote the conservation, protection and sustainable use of the elements that constitute biodiversity, ensuring the fair distribution of benefits to all social components (Theodoraki et al., 2022). This characteristic is associated with other methods, interacting, and supporting the actions carried out in situations in which a high degree of complexity is evident (Schwarz et al., 2017). This approach responds entirely to the concept of sustainable development since it recognizes the ecosystem on scale values whether local, national, regional, or global. Stakeholder participation is more positive the greater the resulting administrative and legislative support. The lack of conditions instead leads to a slow but constant depletion of natural resources (Garner, 1995).

## An overview of sustainability

The concept of Sustainable Development refers to all types of human needs, that is, not only economic ones but also those relating to the need to live in a clean environment, to be part of united and safe communities, where there are ample employment opportunities. Furthermore, the definition of sustainable development also refers to intergenerational equity, equality within individual countries as well as between different countries, to make the implementation of development easier and manage its consequences (D'Amico et al., 2014). Its definition, therefore, is contained in Agenda 21, approved during the UNCED conference in RIO in 1992 and to which all signatory countries are committed. It can, therefore, be stated that sustainability is fundamental for the improvement and development, in the long term, of human activities and can be achieved by growing not only from an economic point of view, but also from an environmental and social point of view (Ehrenfeld, 2004).

Everyday life continues to remind us how sustainability is increasingly at the center, not only in the agendas of institutions which deal with the relationship between man and the environment also in corporate strategies and programs (Wells, 2013). Businesses are crucial in the challenge of sustainability, as they are among the main users of resources (environmental and economic) to generate value (Mayyas et al., 2012), furthermore because, in the creation of value, they establish relationships with the territory and with the local communities in which they are inserted (Schmalensee, 2013). Sustainability in organizations



is conceptualized by Carter and Rogers (2008) as the integration of environmental, social, and economic criteria into the core business, creating a long-term competitive advantage.

The concept of sustainability embraces three dimensions, namely economic, environmental, and social, which are referred to as 3P - Triple Bottom Line (People, Planet and Profits). The term Triple Bottom Line was invented by the English scholar John Elkington in 1994. The following year he invented the 3P formulation: People, Planet and Profits. For him, the Triple Bottom Line serves as a kind of catalyst to move from the existing world to a more pluralistic world, changing existing paradigms. Economic sustainability is the dimension that considers not only the achievement of a profit for the members of the chain but also the economic benefit that the regions and communities that host the activities themselves realize. It encompasses several aspects, including the guarantee of positive cash flows, good profit margins and an adequate ROI (Sarkis, 2003). The economic factors are concentrated in four categories: economic performance, or the ability to carry out the operations necessary to sustain the market value of the company; *financial health*, i.e. the well-being and long-term financial sustainability of the chain; *market and structure*, i.e. the configuration of the market and the distribution chain; *institutions/systems*, or systems, procedures and values that affect the economic dimension (Sarkis, 2003).

Finally, economic sustainability is the dimension to which managers pay the most interest, although good economic performance is not sufficient for an improvement in the social and environmental dimension (Hsu, Hu, 2008).

Social sustainability is mainly concerned with human capital, that is, the workforce. This dimension is the most complicated and thorny to study, especially with regards to performance measurement, as its objective is represented by the analysis of factors that can rarely be transformed into quantitative terms such as corporate governance, relations between employees, human rights, respect for ethnic differences and community issues. Social factors and their indicators are divided into three categories (Sarkis, 2003): *workplace*, i.e. the human resources that are part of the distribution chain; *community*, or the human capital that is outside the chain and is directly and indirectly influenced by it; *institutions/systems*, i.e. the procedures, value and internal and external systems that concern the social dimension.

Environmental sustainability refers to reducing the impact on the environment caused by production activities along the supply chain. Optimizing performance in this dimension also produces positive effects on the other dimensions of sustainability, i.e. people and profit (Darnall et al., 2006).

Ultimately, sustainability must concern itself with all three aspects, with the aim of developing them simultaneously according to the principle of sufficiency without compromising anyone.

## Methodology

Our research consists of a conceptual study which performs a systematic literature review for analyzing and summarizing the most relevant contributions in the literature and in practice on the phenomenon investigated, that is the ecosystem approach and sustainability within organizations. We conduct a systematic literature review that maps and evaluates the body of literature identifying potential research gaps, vividly showing the boundaries of managerial knowledge on the concept of ecosystem approach and sustainability, also considering the role and function of technology in making organizations much more environmentally sustainable.

The systematic review is a secondary scientific research tool whose objective is to summarize data from primary research tools, for example with an exhaustive review of the scientific literature relating to a given topic and with particular attention to the sources, which must be highly referenced, to identify, highlight and evaluate, in high-quality research, all the evidence relevant to a specific scientific question, as shown by some previous studies on sustainability phenomenon (Di Vaio et al., 2022; Di Vaio et al., 2023). We therefore conducted a systematic literature review that maps and evaluates the body of literature identifying potential research gaps, vividly showing the boundaries of managerial knowledge on the relationship of ecosystem approach and sustainability. The systematic review is completed with an interactive process between researched literature and analysis. Systematic research aims to reduce the number of errors in the study and objectively summarize them. This method was chosen because it can give meaning to a substantial body of information, allows us to evaluate the critical aspects of the phenomenon and to answer a considerable number of questions. This method is also useful for mapping areas of uncertainty to eliminate them or to see where research is lacking to proceed with new studies. To provide a systematic review of the literature we use the VOSviewer software (van Eck, Waltman, 2010, 2014).

The process of identifying studies on ecosystem approach and sustainability within organizations began with a search within the Web of Science database of articles published between the years 1992 and 2024. For this selection, the following search criterion was used: the presence of the keyword “sustainability, organizational practices and ecosystem approach” within the title and abstract of the published works. Subsequently, all duplicates and articles irrelevant to the review were excluded and other relevant research was added instead. The final selection followed the following criteria: articles published in a journal that adopts a refereeing procedure based on peer-review as well as studies that contain qualitative or quantitative research and with a focus centered on the factors that can influence relationship between ecosystem approach and sustainability.

We have created a database in which the contributions present in the literature (giving priority to the contributions in journals on the topic of disability), mainly of an international nature, have been categorized according to specific dimensions, such as: the journal of publication (also identifying the journals of greater prestige in terms of high impact factor), year of publication, number of citations, average number of citations in the year, nature of

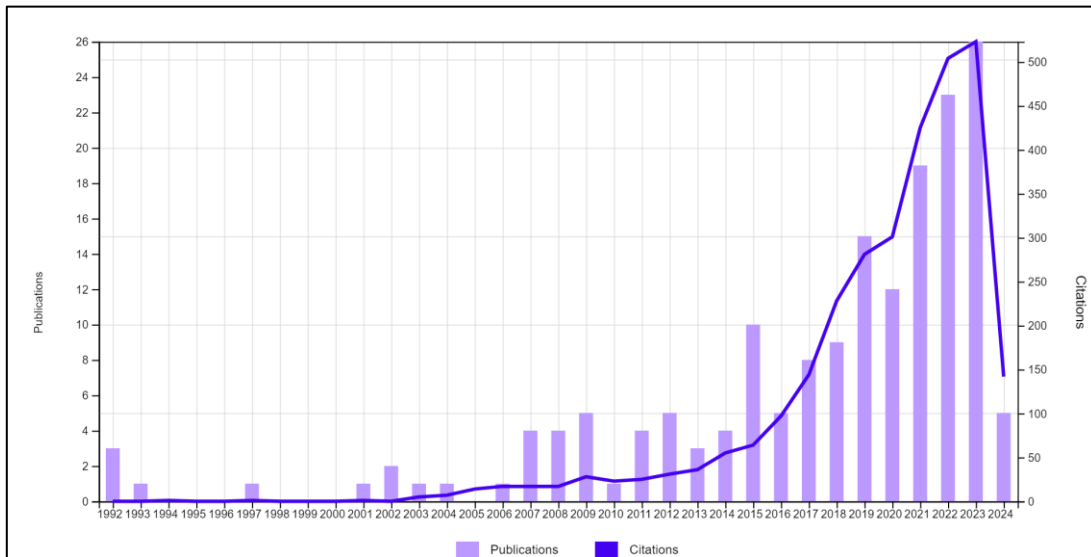


the study (theoretical or empirical), methodology adopted. Subsequently, the map of the literature relating to ecosystem approach and sustainability was created using the VOSviewer software; in this regard we used the term identification function of VOSviewer to systematically identify the key topics of the articles. Subsequently, a term occurrence threshold of 10 was applied, so that a term must be present in the title and/or abstract of at least 10 different articles to be considered as a candidate term for mapping. The threshold of 10 occurrences helps to ensure reliable placement of term relationships in the map and to remove incorrect and irrelevant word names (van Eck, Waltman, 2010, 2014). To prepare terms for mapping, VOSviewer defines the correlation of terms present in the selected articles using the strength of association measure. In particular, the degree of relatedness between the terms on the map is determined by the co-occurrence relationship between two terms compared to the degree of association that each term has with other terms present in the selected articles. The result of this process is the identification of the terms that are present several times in the selected articles and the related frequencies, that is, the number of presences of a given word within the corpus. Furthermore, a relevance score was calculated and, based on this score, the most relevant terms were selected. Next, the VOSviewer clustering algorithm was applied, which uses an optimization algorithm to systematically identify clusters of terms, i.e., subject areas, based on their relationship patterns. The clustering algorithm maximizes the sum of the association strengths of pairs of terms belonging to the same cluster, minimizing the size of the clusters (van Eck, Waltman, 2010, 2014). To identify clusters, we used VOSviewer's default cluster resolution parameter of 1 and set a minimum cluster size of 10 terms (i.e., enough terms to examine and be viewable in a map). VOSviewer then displays the relationships between the terms in a two-dimensional map. The placement of terms on the map is determined by VOSviewer's mapping algorithm which minimizes the difference between the strength of association and the distance between pairs of terms such that, on average, the terms that tend to co-occur in the title and /o in the article abstract are closer together (van Eck, Waltman, 2010, 2014). More precisely, through graphical analysis the words are grouped into a tree according to proximity measures and produce spontaneous classifications based on their proximity. The result of a visualization therefore lends itself to being interpreted as a summary of the topics covered in the text.

## Results

The search returned 173 elements including articles, abstracts, etc., with an h-index of 27 and an average citation per year of 17.27; these are, for the most part, studies of a theoretical nature that adopt a qualitative methodology. Furthermore, in figure 1 it is possible to observe an important research activity over the last 5 years, with the greatest production in 2023, as well as the trend of citations from which it is possible to deduce a continuous interest in the topic especially starting from 2015 with a significant peak in 2023.

**Figure 1 – Publications and citations**

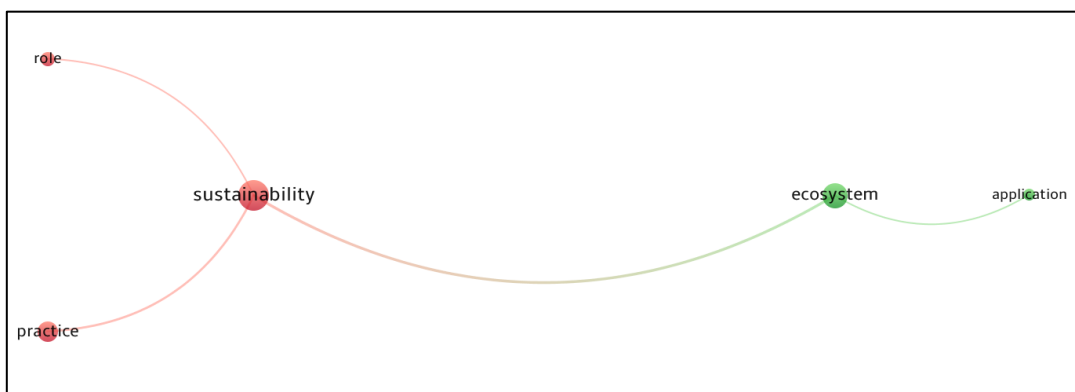


VOSviewer provides three views of the map relating to the topic we analyzed: “Network Visualization”; “Density Visualization”; “Overlay Visualization”.

The Network Visualization (Figure 2) shows the two clusters based on the color associated with it:

- cluster 1 (red), to identify research focused on sustainability in all its dimensions, i.e. economic, environmental and social;
- cluster 2 (green colour), to identify all the research focused on the definition of the ecosystem approach.

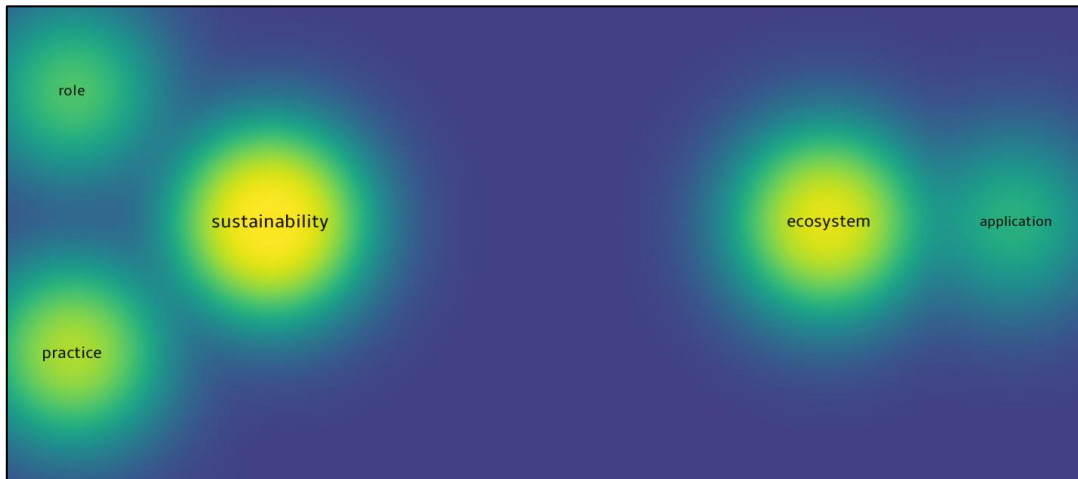
**Figure 2 – Network Visualization**



In the Density Visualization (Figure 3) the colors ranging from yellow to blue indicate, based on the intensity of the color, the number of articles associated with the topics within a given

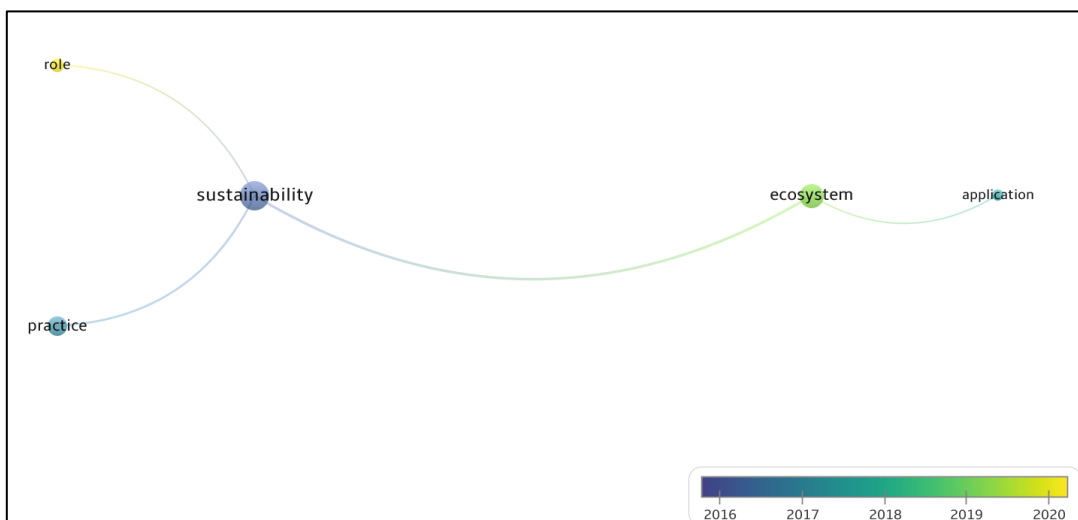
space on the map. Yellow indicates areas with comparatively high research intensity, while blue indicates thematic areas with comparatively lower research intensity. This map also confirms the interest of the literature towards the theme of sustainability and the ecosystem approach, even if the study relating to the managerial applications of the latter is less explored.

**Figure 3 – Density Visualization**



Finally, with the Overlay Visualization (Figure 4) we can identify the terms present in the articles that belong to more recently published research (the period between 1992 and 2024 is always considered); specifically, the latter are represented in the map with an intense yellow color while the topics that are present in research published in older articles are represented with cooler colors such as blue. The result of this analysis underlines that research activity on the relationship between sustainability and the ecosystem approach has mainly concentrated in the last 10 years.

**Figure 4 – Overlay Visualization**



From our research it emerged that the topic of our investigation has received relatively little attention in the literature, especially in the national one, and it is only in the last ten years that the attention of the literature has turned with greater emphasis to the topic of sustainability and ecosystem approach within organizations.

The results were processed with the narrative method which, due to the heterogeneity of the research designs, the scientific sectors of reference and the methodologies adopted by the different studies, allowed them to be analyzed, synthesized, and offered a critical reading.

The systematic review just conducted has allowed us to better understand the numerous facets that shape sustainability, ultimately leading us to arrive at a choice of positioning with respect to the scientific literature. Sustainability is initially understood as the development of humanity and the protection of resources (Goldsmith, 1972; Brown et al., 1987). Sustainability is a multidimensional concept that can be broken down on an environmental, economic, and social level (Docherty et al., 2009). All these dimensions share an orientation towards the long-term future, manifested by the protection and through the valorization of the three resources and dimensions (economic, environmental, and social) that inhabit sustainability (Brown et al., 2000). Environmental development and the protection of natural resources (Geissdoerfer et al., 2017), as well as economic development (Spangenberg, 2005) and the valorization of the resources that a company possesses (Barney, 1991; Kaneklin & Scaratti, 2010; Maurer et al., 2011), have been at the center of interest of numerous scholars and practitioners, on the other hand, however, social sustainability and the well-being of human resources leave various spaces for further investigation (Allen et al., 2017).

From a strategic point of view, according to Le Breton-Miller and Miller (2016), companies can tend towards a greater adoption of sustainability practices based on whether the strategies are based on corporate reputation, on the satisfaction of a certain type of subjects, on engaging in caring corporate cultures to encourage creativity among employees, in order to pursue an innovation strategy, or on becoming pioneers of green technologies to build stronger relationships with regulators. In contrast, companies that rely primarily on operational efficiency strategies and interact little with the public may feel less obligated to engage in visible sustainability initiatives. It follows that family businesses will engage in sustainable initiatives when their strategic priorities and competitive advantage are best realized through such practices. Nejati, Quazi, Amran and Ahmad (2017) consider strategic orientation as a determining factor in the adoption of socially responsible practices. They assert that the strategic orientation of executives and decision makers can largely influence a company's level of commitment to socially responsible practices. The study divides the strategic orientation to sustainability into short-term, therefore tactical, and long-term, i.e. strategic, approaches. The tactical approach focuses on the short-term costs and benefits associated with sustainability practices and prioritizes short-term gains without paying attention to long-term benefits. In contrast, a strategic approach implies a long-term perspective towards social responsibility, considering the costs and benefits of socially responsible practices in the long run. This implies that the corporate behaviors of small businesses reflect their managers' strategic orientation towards sustainability. Managers of companies that have a better understanding of the benefits of sustainability and reveal a

strategic approach to it are therefore expected to engage more in social responsibility activities than companies in which managers demonstrate a tactical and short-term approach to sustainability. From this it follows that the strategic approach to social responsibility positively influences the involvement of small businesses in socially responsible practices and, on the contrary, that the tactical approach to social responsibility has no influence on the involvement of small businesses in sustainable practices (Nejati et al., 2017).

Furthermore, many authors (Lovins et al., 2006) have considered in their contributions the significant role of technology in achieving sustainability. The IPAT equation, for example, formulated over 30 years ago, implicitly includes technology as a determining factor of environmental impact  $I$ , which is effectively a function of population ( $P$ ), affluence ( $A$ ) and technology ( $T$ ). Hawken (1999) identifies four main effects of technology on achieving sustainability: increasing the productivity of natural resources; transition from production models based on overconsumption to biologically inspired models; shift from possession-based to resolution-based business models; reinvestment in natural capital. Based on the considerations presented so far, the authors suggest further investigation for future work that can focus on the identification of managerial tools that make the proposed frameworks applicable and realizable.

Finally, despite the growing interest, with respect to the environmental and economic level, it emerged that social sustainability has received limited attention (Ahi & Searcy, 2015; Hale et al., 2019), so much so as to push for the theorization of the paradox of sustainability (Kurucz et al., 2013), according to which companies are so focused on protecting economic and environmental resources that they almost neglect social ones. Organizational progress risks leading to the attrition of social capital, the need to safeguard environmental or economic resources thus becomes a potential threat to reflexivity on the processes of the present and on the social dimension (Allen et al., 2017). The Resource Based View proposed by Barney (1991) considers intangible and social resources (such as human resources, their knowledge, skills and experience, etc.) as the main source of a company's competitive advantage (Kurucz, et al., 2013; Leaniz & Bosque, 2013; Pfeffer, 2005), thus making the sustainability paradox a serious concern for both the protection of social resources and the long-term success of the company itself (Missimer et al., 2017).

## Concluding remarks

Sustainable development is a situation in which development, or the quality of life, is in harmony with environmental quality and social equity, the ecosystem approach represents the programming model of economic policy, on scale values with reference to international cooperation actions as a form of authentic responsibility.

The limits that could hinder the full implementation of this method are the insufficient organization and dissemination of scientific information and the late openness towards different cultural models. Finally, the ecosystem approach presents itself as a challenge for the management and protection of natural resources in the 21st century. It is therefore

important to promote multidisciplinary collaborations between scientists, managers, politicians and local stakeholders to ensure sustainable and integrated management of ecosystems. Furthermore, it is essential to actively involve local communities in the planning and implementation of environmental policies, to ensure that they are approved and supported by the local population. Only through a holistic and collaborative approach can we hope to achieve effective ecosystem management and conserve biodiversity for future generations.

The attempt of this paper is to fill the gap between a literature and a practice that is very focused on issues of environmental and economic sustainability, but still little focused on issues of social sustainability, especially human resources. In future research it would be interesting to compare the results of the relationship between the ecosystem approach and the dimension of social sustainability which has received still little attention in the literature.

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