

The role of narratives in the emergence and consolidation of an entrepreneurial ecosystem

O papel das narrativas na emergência e consolidação de um ecossistema empreendedor

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Abstract: This study aimed to analyze how entrepreneurial narratives emerged in the EE of Belo Horizonte/MG and to understand how these narratives affected the emergence and legitimization of local EE between the years 2012 and 2022. The development of the study was based on the literature on entrepreneurial ecosystems with a focus on their evolution, understanding the conceptualization, elements, and approach of narratives, as well as on the literature that discusses public policies on entrepreneurship and socioeconomic development. The methodological approach was qualitative, inductive, and longitudinal in nature. The research method used consisted of documentary research, with data collection in digital databases, such as institutional

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websites and profiles on social networks, totaling approximately 1,000 pages. Using the Nvivo 10 software, groups of narratives were elaborated in periods of 3 to 5 years - 2012-2016; 2017-2019; 2020-2022 -, in parallel with the evolutionary perspective of the EE. It was observed how the dominant economic narrative in the region studied - led by the mining and automotive sectors, or "traditional companies" - began to rival the competing economic narrative, led by technology-based companies, considered more innovative. The competing narrative was initially complemented by interactions with government agents, idealizing the use of technology-based companies as an option for regional economic diversification. It is also noteworthy the complete absence of agents linked to traditional companies in the construction of the competing narrative, either as collaborators or as adversaries.

Keywords – Entrepreneurial ecosystem; Narratives; EE development.

Resumo: Este estudo teve como objetivo analisar como as narrativas empreendedoras emergiram no EE de Belo Horizonte/MG e compreender como essas narrativas impactaram o surgimento e legitimação do EE local entre os anos de 2012 e 2022. O desenvolvimento do estudo pautou-se na literatura sobre ecossistemas empreendedores com enfoque na sua evolução, compreendendo a conceituação, elementos e a abordagem das narrativas, bem como na literatura que discute políticas públicas de empreendedorismo e desenvolvimento. A abordagem metodológica escolhida foi de natureza qualitativa, de natureza indutiva e longitudinal. O método de pesquisa utilizado foi documental, com coleta de dados em bases digitais, como sites institucionais e perfis em redes sociais, somando aproximadamente 1.000 páginas. Com o auxílio do software Nvivo 10 foram elaborados grupos de narrativas em períodos de 3 a 5 anos - 2012-2016; 2017-2019; 2020-2022 -, em paralelo com a perspectiva evolucionária dos EE. Constatou-se como a narrativa econômica dominante na região estudada – capitaneada pelos setores de mineração e automotivo, ou “empresas tradicionais” – passou a rivalizar com a narrativa econômica concorrente, liderada pelas empresas de base tecnológica, consideradas mais inovadoras. A narrativa concorrente, no início, era complementada por interações com agentes governamentais, idealizando-se o uso das empresas de base tecnológica como opção de diversificação econômica regional. Destaca-se ainda a completa ausência de agentes ligados às empresas tradicionais na construção da narrativa concorrente, seja como colaboradores, seja como adversários.

Palavras-chave – Ecossistema empreendedor; Narrativas; Desenvolvimento de EE.

Introduction

The debate on Entrepreneurial Ecosystems [EE] has generated renewed interest in studies that analyze the influence of entrepreneurship on local development. In the academic setting, this perspective has been strengthened by the understanding that successful entrepreneurial activity cannot be evaluated only from the individual dimension - the entrepreneur (Audretsch & Fiedler, 2022; Cooke, 2016), reinforcing the importance of analyzing the contextual perspective that may favor or hinder the entrepreneurial process (Welter et al., 2018). Studies in this approach, considering the entrepreneurial phenomenon in a contextualized manner, have multiplied, including researchers from Latin America (Muñoz et al., 2023) and Brazil (Gimenez et al., 2022; Silva et al., 2021).

Initially taken as a set of actors that could foster entrepreneurial activity in each locality (Isenberg, 2011), the approach to EE has become a trend, although without proper theoretical-conceptual development (Mack & Mayer, 2016; Wurth et al., 2022). In this way, it can be said that the connections between the actors present in the ecosystem, as well as the relationship between the physical, social, and cultural attributes of the EE have been addressed only recently (Spigel, 2017; Spigel & Harrison, 2018). However, the focus of research on the topic has remained on discussing the attributes of the EE, neglecting the EE as a social construction and, therefore, disregarding the socioeconomic changes generated at the local level (Roundy, 2016; O'Connor & Audretsch, 2022).

Amid this debate, new research has emerged in search of the multifaceted nuances of EE, including the different networks that arise within the same ecosystem (Neumeyer et al., 2019; Scheidgen, 2021; Scott et al., 2022), the impact of cultural attributes on entrepreneurial action (Audretsch et al., 2021) and, also, the creation of meaning (sensemaking) by entrepreneurs and potential entrepreneurs from the narratives at the ecosystem level (Roundy, 2016; Roundy, 2019). It is these entrepreneurial narratives at the EE level that integrate the contextual perspective of analysis on the entrepreneurial phenomenon, indicating how the actors involved in each ecosystem articulate themselves to create and convey meaning to the participants (Hubner et al., 2021; Roundy, 2019). Created and disseminated by their participants, with the help of the media and digital communities (Rocha et al., 2021; Roundy, 2016), entrepreneurial

narratives can take many forms and functions, competing directly with dominant and traditional economic narratives. Moreover, the development and changes in narratives at the systemic level would point not only to the trajectory of the EE but also to the socioeconomic changes that are present in the EE (Roundy, 2019). Thus, the understanding of narratives in EE can help to answer relevant aspects of the operation of EE as networking, assisting in the construction of knowledge related to research suggestions pointed out by Wurth et al. (2022): what processes drive the co-evolution between EE actors; and how and why these actors strive to support EEs.

Under these circumstances, this study sought to analyze how entrepreneurial narratives emerged in the local EE of Belo Horizonte - Minas Gerais and to understand how these narratives affected the emergence and legitimization of local EE between 2012 and 2022. Widely recognized as a national reference as a community of technology-based companies, the ecosystem of the city of Belo Horizonte has success stories documented in local, national, and international media. In addition, it should be noted that this ecosystem was integrated and expanded immersed in turbulent contexts, such as economic crises at national and state levels, as well as highly complex contingencies such as the Covid-19 pandemic.

Through extensive research using documentary sources and procedural data analysis, we examined the emergence of entrepreneurial narratives and their impact on the EE studied. The analyzed data indicates the use of different entrepreneurial narratives during the emergence and legitimization phases of EE and how the dominant economic narrative in the region under study was supplanted by, until then, an innovative competing narrative, in contrast to the narratives perpetuated by the traditional companies that drove - and still drive - the local economy. The new competing narrative, initially with a mainly integrative aspect, gained autonomy after its legitimization, based mainly on the commercial success of the leading companies in the community and the local ecosystem. After the legitimization of the EE studied, the regional public authority starts to play a moderating role between the expectations of local companies - reverberated by the media and fostered through attractive speeches - and the planning of initiatives that are based on a broader notion of socioeconomic development. It is argued that, by directing efforts to the creation of ventures in diverse sectors, such as the tourism and health sectors, the local government sought to break with the path dependence of the region, traditionally based on the mineral extractive sector, since

it remains aware of the particularity of different industries and ventures. Practical implications for public managers and entrepreneurs are also discussed at the end of the study.

This paper is structured as follows, in addition to this introduction. Section 2 presents the theoretical framework that provided the basis for the discussion of the results. Section 3 presents the methodological aspects that guided the development of the research. The analysis of the narratives is presented in section 4 of the article. Section 5 presents the discussion with contributions and managerial implications of the study and, finally, in section 6, the conclusions of the study.

Theoretical Background

This section presents a summary of the theoretical background that guided the formulation of the study and the analysis of its results. Firstly, the literature on entrepreneurial ecosystems is discussed, focusing on their evolution, including conceptualization, elements, and the approach of narratives. Next, the literature that covers the implications of research on entrepreneurial ecosystems for public policies on entrepreneurship and development is addressed.

Entrepreneurial Ecosystems: from actors to narratives

Entrepreneurial Ecosystems are, in a straightforward manner, an “(...) interconnected set of organizing forces that produce and maintain regional entrepreneurial activity” (Roundy, 2019, p. 102). Since considerations about the entrepreneur as an individual governed only by internal and subjective characteristics seem outdated (Audretsch & Fiedler, 2023; Cooke, 2016), external and context-bound actors emerge as relevant aspects of the regional entrepreneurial phenomenon, as well as the infrastructure and sociocultural elements of the region (Roundy, 2019; Spigel, 2017).

Among the different approaches to ecosystem analysis, there are those closer to Business Ecosystems, which focus on corporate strategy, observing complex organizational networks (Hannah & Eisenhardt, 2018) and those that, in fact, dwell on Entrepreneurial Ecosystems, which analyze

entrepreneurial activity from a local perspective (Spigel & Harrison, 2018; Wurth et al., 2022). Although similar, these approaches have different ontological perspectives regarding the nature, management, and effects of entrepreneurial activity in an ecosystem (Autio & Thomas, 2022). In search of a solid conceptualization of Entrepreneurial Ecosystems, it is recommended that studies addressing the phenomenon remain clear about the perspective - or the use of the ecosystem analogy that will be used during the research (Autio & Thomas, 2022; Kuckertz, 2019).

Regarding the former approach, the referral of Business Ecosystems as a theoretical precept for the analysis of Entrepreneurial Ecosystems emerges naturally, since the first study recognized for its use of the term ecosystem in organizational studies has a perspective closer to the field of strategy, with roots in studies of comparative competitive strategies (Gimenez et al., 2022; Moore, 1993). However, research based on the perspective of business ecosystems tends to emphasize value flows and the production of economic value by participants. Moreover, they also tend not to be specific to a single location, circumscribing the target participants of the ecosystem into focal firms, suppliers, complementary firms, and consumers. Hannah and Eisenhardt's (2018) research, for example, presents how the balance between competition and cooperation among ecosystem actors is aligned with value creation at the systemic level. In this way, the effects of strategic ecosystem activity will be new value propositions (Autio & Thomas, 2022).

On the other hand, Entrepreneurial Ecosystems have a broader perspective, contemplating reflections on the socioeconomic impact derived from entrepreneurial activity and its potential use as public policy (Gimenez et al., 2022; Wurth et al., 2022). The effect of ecosystem activity on EE will be new business models (Autio & Thomas, 2022; Spigel & Harrison, 2018), which have a relationship with a wide range of actors - formal and informal - such as investors, accelerators, educational and research institutions, government actors and others (Autio & Thomas, 2022; Stam & van de Ven, 2021).

The complex dynamics of EEs, largely due to the interconnection between the various actors (Isenberg, 2011), have led to different and complementary types of analysis of the phenomenon (Spigel et al., 2020). In general, researchers interested in the systemic aspect of the ecosystem can study it both through the objective value generated by the product of the elements that promote entrepreneurial activity

and the local entrepreneurial activity itself, and through the observation of the variation of ecosystem actors and entrepreneurial activity over time (O'Connor & Audretsch, 2022).

In a broader perspective of entrepreneurial activity, EE can be examined, for example, through their relationship with local social institutions (Lowe & Feldman, 2017) or considering space, i.e., the perspective that goes beyond the conventional understanding of locality only as physical boundaries (Schäfer, 2021). Studies can also emphasize the marginalization of social actors, segregated by the networks formed among entrepreneurs (Neumeyer et al., 2019), or even seek to understand the degree of integration between different communities of entrepreneurs within the same regional ecosystem (Scheidgen, 2021). The broader perspective of analysis thus makes Entrepreneurial Ecosystems prone to contextualized and multifaceted investigations.

Following the accelerated development of the literature on ecosystems, it is considered that the perspectives for analyzing EE are positioned in two complementary approaches: (i) entrepreneurial ecosystems as networks and (ii) entrepreneurial ecosystems as narratives (Gimenez et al., 2022). The network approach is considered a natural theoretical advance of the phenomenon, since the models, previously static (Isenberg, 2011; Silva et al., 2021), are now observed from the connections between the actors that form a given ecosystem (Spigel, 2017; Stam & van de Ven, 2021). The second approach - EE as narratives -, which is the focus of this study, supported by Roundy's studies (2016; 2019), assumes that ecosystems are social constructions and, once guided by cultural processes, the discourses of the actors involved would be an integral and essential part of the development of a local ecosystem.

For Roundy (2016, p. 233), broadly speaking, EE can be directly characterized by "(...) the sets of actors, institutions, social structures and cultural values that produce entrepreneurial activity". This conceptualization is broader than those proposed in the literature until that time, which projected greater emphasis on the physical actors present in the ecosystem (Isenberg, 2011; Mason & Brown, 2014). Thus, entrepreneurs' narratives will be considered the communication tools that entrepreneurs use to communicate and create meaning concerning their organizations, becoming a central link in the way other entrepreneurs - including potential entrepreneurs - and other stakeholders relate to those ventures (Roundy,

2016; 2019), as well as in the interactions and conversations that such actors maintain about their inspirations, current activities, and future perspectives (Rocha et al., 2021; Guimarães et al, 2018).

Concerning potential entrepreneurs, narratives will influence the dissemination and valorization of entrepreneurial activity (Roundy, 2016). This is in line with discussions on local entrepreneurial culture and institutionalization of the entrepreneurial phenomenon (Lowe & Feldman, 2017), in which entrepreneurial activity, once endorsed and disseminated by relevant actors, ends up acting as a catalyst for the entrepreneurial process (Sorenson, 2018). As suggested by Mason and Brown (2014, p. 9, emphasis added), certain firms can positively impact and encourage the local ecosystem by serving as a local success story: “(...) the presence of a home-grown startup that became a global force is a vital narrative in the community: it shows the possibilities of entrepreneurship and the potential rewards of leaving a stable job for the risks of starting your own company”.

Roundy (2019) argues that the narratives of the actors of an ecosystem are an important cultural attribute of the system since they will be the means by which cultural elements will be transmitted to the participants. More specifically, Roundy (2016) posits that narratives about an EE are classified into three types: (i) success stories; (ii) historical accounts; and (iii) future-oriented narratives. Regarding the first type - success stories - the narratives privilege facts and success stories, such as achievements in the past that led to the success of the organization, and can be observed, for example, in entrepreneurs who are in the process of obtaining a large amount of investment. Success stories may also have a different scope, breaking with the narrative of individual success and incorporating the success of the ecosystem or region. The second type - historical accounts - are those stories based on the critical facts of the ecosystem or region, such as the first entrepreneurs who played a key role in that place, exemplifying how that ecosystem has developed until the present moment. The third and last type - future-oriented narratives - are those stories that communicate to the actors of the ecosystem the future vision of the whole, such as the premises that guide the ecosystem, as well as the plans to achieve new goals.

Also, according to Roundy (2016), the three types of narratives may present one or several objectives, among six possible, such as: (i) transmitting the ecosystem's culture; (ii) making sense of the ecosystem; (iii) constructing the ecosystem's identity; (iv) legitimizing the ecosystem; (v) garnering

attention for the ecosystem and (vi) charting the ecosystem's future. The functions of the narratives may be intertwined and used together (Figure 1), allowing for the flow of information and sense-making among participants.

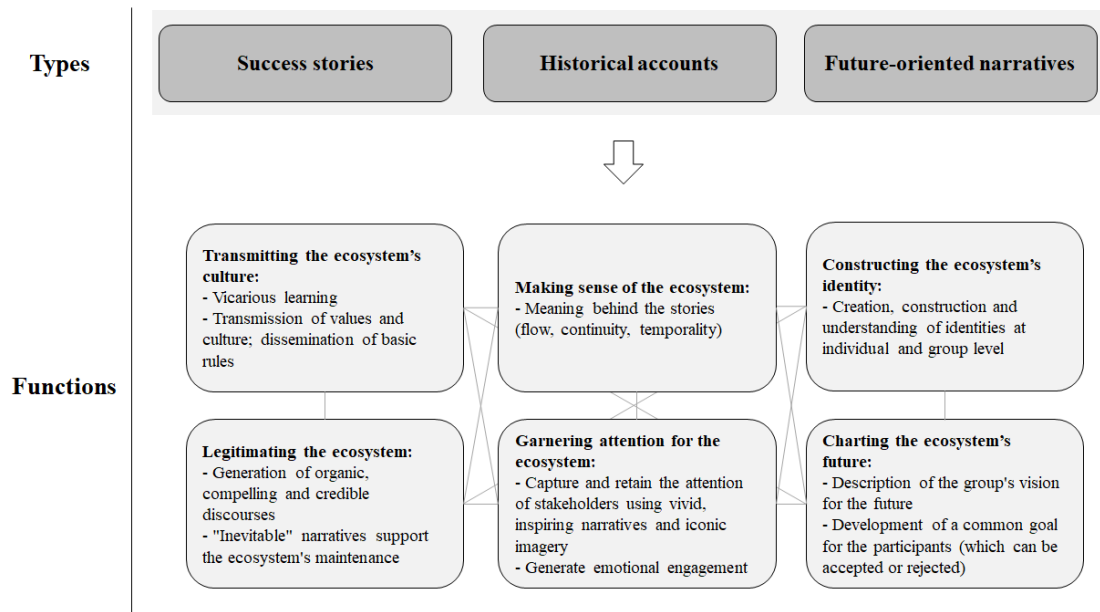


Figure 1. The types of narratives and their functions in an entrepreneurial ecosystem

Practically speaking, for an ecosystem to be established and become a competitive reference, Roundy (2019) argues that it requires the construction, dissemination, and legitimization of an internal and wide-ranging narrative. Narratives about the ecosystem may, in turn, conflict with the dominant economic narrative in the locality - for example, a local narrative of economic crisis, which emphasizes negative aspects of the regional system. Such a narrative may compete with the developmental phases of an ecosystem (Mack & Mayer, 2016), i.e. they may be developed and be specific to the birth and/or maturation phases of the regional ecosystem. In this case, the formation of an EE may begin even if other narratives are hegemonic, taking the form of specific narratives about a few participants in the ecosystem - success stories (Roundy, 2016) - and move towards a broader narrative, which contemplates the group

and is more systemic, until it becomes the dominant narrative replacing the previous narrative (Roundy, 2019). However, ecosystems are unlikely to have a linear development of their attributes and narratives, which demonstrates the specificities of ecosystems in different locations (Brown et al., 2022; Roundy, 2019).

In this way, narratives can become unique to a given EE, as Hubner et al. (2022) demonstrate. In a comparison between three distinct ecosystems - Silicon Valley, Munich, and Singapore - the authors identified specific narratives for each of them. The narratives generate the identification of entrepreneurs with the ecosystem (Hubner et al., 2022) and synthesize the identification and culture of the system with other stakeholders (Hubner et al., 2022; Roundy, 2016, 2019).

Public policy and entrepreneurial ecosystems

The debate on the role of public authorities in Entrepreneurial Ecosystems [EE] is extensive and has its roots in different discussions about the impact of government actions on economic activity and, more specifically, on regional entrepreneurial activity (Gimenez et al., 2022). As an example, it is worth mentioning the debate between the necessity of public funding for all entrepreneurial activity (Morris et al., 2015) or, on the other hand, public investment in specific activities that could have a greater chance of economic return (Shane, 2009). Specifically at the state level, studies using the EE perspective reveal the concern of public actors associated with the Government of the State of Minas Gerais in economic diversification in non-sustainable ecosystems (Santos Filho et al., 2019) and in government support for innovation in small regional companies (Cunha et al., 2022).

It is worth noting that, since the first studies published on the EE approach, government support is cited as fundamental for the emergence and diffusion of entrepreneurial activity. Isenberg (2011), for example, positions the Public Policy Domain with a leading role among the other actors in the ecosystem. In another study, Isenberg (2010, p. 2) reaffirms the aspects of a vibrant ecosystem that are essentially linked to public actors, in which public leaders “act as strong public advocates for entrepreneurs” and governments “(...) remove structural barriers to entrepreneurship (...)”.

Currently, the questions brought up by Isenberg (2010) - which portray actions embodied in public leaders, such as opening doors and acting as advocates for entrepreneurs - are supported by the debate on the governance of EEs. The understanding that public agents position themselves as critical actors in the governance of the ecosystem requires the recognition of a top-down governance approach (Colombo et al., 2019). The top-down approach assumes that ecosystems can be created and governed as an open system, where the necessary resources will be provided, for example, by local government (Colombo et al., 2019; Isenberg, 2010; Stam & van de Ven, 2021). The provision of resources from the local government is opposed to the notion that ecosystems emerge naturally, governed by the self-interest of their agents, in a bottom-up format - such as Silicon Valley, which benefits from local history and specific culture that favors technological and high-impact entrepreneurship (Colombo et al., 2019; Saxenian, 1994).

When presented on a continuum (Gimenez et al., 2022), it is possible to understand that the governance of entrepreneurial ecosystems moves away from extremes and adopts a bottom-up/top-down perspective, that is, with considerable government action, but with entrepreneurs remaining a key actor in the process. This multi-level perspective of ecosystem actors and governance is based on the multiple roles played by government, industry, universities, and civil society. For example, the interconnectedness of actors allows education and research institutions to generate new and useful knowledge in partnership with the market, and for these innovations to be close to the local context and more easily applied by civil society, thus creating value at the local level (Carayannis et al., 2018).

In addition, the informal entrepreneurial community (Spigel & Harrison, 2018) can provide specific resources for a certain type of enterprise, generating a smaller impact on businesses with greater specialization or that are derived from university research, for example, reinforcing the need for government support for these entrepreneurs (Scheidgen, 2021). In this case, government action has the function of providing the necessary balance.

Rocha et al. (2022), additionally, argue that public actors are important for the creation of connections and circulation of resources between individuals in the ecosystem, proposing that public

policies for the locality favor the integration of connections between entrepreneurs. Actions for greater integration would be an alternative to actions that focus only on financial investment, for example.

Therefore, although public policy alternatives are still diverse and far from a consensus, understanding the configuration of the local EE can help guide public policies (Wang et al., 2023). Therefore, it is recognized that public policies aimed at promoting entrepreneurial activity in ecosystems may be diverse, depending on the characteristics of the entrepreneurial context, considering, for example, the mode of governance of the network, the local sectoral diversity, and the extent to which the locality can provide resources to entrepreneurs (Gimenez et al., 2022; Stefenon & Gimenez, 2023).

Methodology

Historically, the central structure of research on the phenomenon of entrepreneurship is guided by rational decision-making models, mostly derived from neoclassical economics (Perry et al., 2012). Thus, individuals who act would be recognized as purposeful, autonomous, and surrounded by few external factors (Meyer, 2010). From this perspective, entrepreneurship research, for a long time, points out that entrepreneurial actions are taken rationally, constituting behaviors motivated by a rational objective, in search of realization of opportunities identified in the market (Davidsson, 2016; Perry et al., 2012). This fact led to the emergence of perceptions, disseminated in newspapers and magazines, that defined entrepreneurs as highly responsible individuals and aware of all their actions, often portrayed as individuals endowed with heroic or supernatural faculties (Nicholson & Anderson, 2005).

However, during the development of the still-emerging field of entrepreneurship research, the entrepreneurial phenomenon has come to be perceived as a broad and heterogeneous process, subject to contextual variations (Cooke, 2016; Davidsson, 2016; Welter, 2011). This is no different for emerging topics in the field, such as the Entrepreneurial Ecosystems [EE] approach, its connections, development, and implications for regions (Gimenez et al., 2022; Spigel et al., 2020). For the EE approach, the entrepreneur will be the key actor and generator of new business models, but subject to the influences of

the environment, as well as the various actors that constitute the system (Spigel, 2017; Spigel & Harrison, 2018). Therefore, it is important to highlight that the development of a research field will be closely connected to the research methods used for its understanding. Research fields with embryonic studies and theories are conducive to the use of qualitative research since they have a high exploratory degree and constructs that are not yet firmly defined (Edmondson & Mcmanus, 2007), as observed in the EE domain (Wurth et al., 2022).

Therefore, the methodological approach chosen for this study was qualitative, inductive in nature, with a view to the emergence of theories from the analysis of research data (Eisenhardt et al., 2016; Eisenhardt & Graebner, 2007). With this perspective, we started from the premise of observing EEs as narratives to investigate organizational and individual narratives (Gimenez et al., 2022; Roundy, 2016, 2019) and to uncover how entrepreneurial narratives emerged in the entrepreneurial ecosystem of Belo Horizonte/MG and how they defined and shaped the development of the ecosystem between the years 2012 and 2022. The research method used was documentary research, one of the possible methods for qualitative research (Yin, 2001). The focus of the documentary research was on digital bases, including databases at organizational and individual levels, such as institutional websites and profiles on social networks. It is noteworthy that the survey and analysis of data available in the digital environment and related to companies that are in each EE are recommended by the literature to capture deeper levels of the relationships between entrepreneurs, ecosystem, and context of operation (Rocha et al., 2021; Spigel et al., 2020).

Thus, Davidsson's (2016) criteria were used to identify the data sources. According to Davidsson (2016), entrepreneurship research can follow three criteria: (i) characteristics of a given entity (and the levels above or below where they are located); (ii) the emergence of new companies associated with the given entity and, finally, (iii) the consequences of the different levels of analysis. Thus, three levels of analysis were established - Macro, Meso, and Micro - in which each specific actor of the local EE could represent them - local government/community, companies, and entrepreneurs, respectively (Table 1). Data collection took place between October 2022 and March 2023.

Table 1.

Levels of analysis and data sources

Level	Objective	Sources	Archives (quantity)
Macro	Collect narratives at the ecosystem level (macro level), covering the region of interest.	Official website of the local municipality; database of the local city council; local newspapers, national newspapers; web communities of entrepreneurs (Linkedin, Meetup)	81
Meso	Collect narratives at the level of companies that are part of the ecosystem (meso level) and that demonstrate engagement with the region of interest.	Official social media profiles of entrepreneurs (Linkedin), local newspapers, national newspapers	159
Micro	Collect narratives at the level of the role model entrepreneurs (micro level) who are the managers of the leading companies in the studied ecosystem.	Official social media profiles of entrepreneurs (Linkedin), local newspapers, national newspapers	199

Note: elaborated by the authors

As a strategy for data analysis, we opted for content analysis, of a thematic or categorical nature (Bardin, 2011), observing the data from a procedural perspective (Langley, 1999) and paying attention to the structuring format for the construction of reports from longitudinal data (Pettigrew, 1990). From the longitudinal perspective, the coding and categorization of data make it possible to represent the dominant and emerging narratives in the ecosystem, as well as to evaluate the evolution of the phenomenon itself over time and its influences on the system (Roundy, 2019).

It should be noted that the initial research corpus was considerable, totaling approximately 1,000 pages, including news, documents, releases, reports, images from multiple social media - personal and professional -, transcripts of discussion chats, and others. About 80% of the data were obtained from news and reports, from national and regional databases. Still, concerning the initial corpus, it is important to

emphasize the relatively low volume of material from discussion chats on entrepreneurship at the regional level. As it will be explained during the analysis of the results, the chats from the platforms suggested by the literature (Rocha et al., 2021; Spigel et al., 2020) showed little movement and an absence of relationships in a digital and public format in the local ecosystem. Deactivated forums and outdated chat spaces with few messages prevailed, especially after the beginning of the second half of the 2010s.

To avoid "death by data asphyxiation" (Pettigrew, 1990, p. 281) Roundy's (2016) categorizations were used during the thematic content analysis to identify the dominant narratives in the local EE - success stories, historical accounts, and/or future-oriented - in their six attributions - transmitting the ecosystem's culture; making sense of the ecosystem; constructing the ecosystem's identity; legitimizing the ecosystem; garnering attention for the ecosystem and charting the ecosystem's future. The connections between the types of narratives and their functions provided the context for the creation of interpretations about the narratives and the respective ecosystem over the period of analysis.

Finally, with the support of Nvivo 10 software for data organization and analysis, it was possible to create groups of narratives in periods of 3 to 5 years, namely: 2012-2016; 2017-2019; 2020-2022 -, in parallel with the evolutionary perspective of EE (Mack & Mayer, 2016). The periods were subdivided according to the themes that emerged from the data, highlighting the first period composed of a relatively broader time frame - 5 years - due to the extensive mention of the initial phase of the researched ecosystem - both of its constitution, in retrospect, and the first results.

Data Analysis

This section presents the results of the study, particularly the narratives developed in the Entrepreneurial Ecosystem [EE] investigated over the stipulated period. Initially, the case - EE of Belo Horizonte/MG - will be presented, and then the specific narratives for the different periods, as a result of the evolution of the local ecosystem.

Case presentation

Belo Horizonte is the capital of the State of Minas Gerais, located in the Southeast region of Brazil. Founded in 1897, the city was planned to be the political and administrative center of the state and underwent an accelerated expansion during the 20th century, eventually becoming the reference of an extensive metropolitan region in its surroundings. Currently, the Metropolitan Region of Belo Horizonte is composed of 34 municipalities that influence and are influenced by the capital (Prefeitura de Belo Horizonte, 2009).

Currently, the predominant economic activity in the municipality of Belo Horizonte is the service sector. The Metropolitan Region, in turn, has a distinct economic nature, with emphasis on activities related to public administration and the mineral extractive sector. The industrial sector accounts for approximately 30% of the region's GDP. The primary contributor is the mineral extraction industry, which includes the state's main mining municipalities. Additionally, the production of motor vehicles and auto parts is a significant economic activity (Fundação João Pinheiro, 2023). Recently, the city of Belo Horizonte was recognized as a Smart City by the national government and a Creative City, with a focus on Gastronomy, by UNESCO.

However, the economy of the capital of Minas Gerais is experiencing instability, with stagnation or a reduction in the participation of its main economic activities. Since 2014, the municipal GDP has been declining, as well as its share in the GDP of the State of Minas Gerais, reaching the lowest value of the historical series in 2019 (14.9%). Other important economic indicators for the municipality, such as the hotel occupancy rate and the percentage of jobs in tourism-related branches, present a sharp decline. In addition, indicators that follow the national scenario, such as the informality rate and the unemployment rate are on the rise, affecting mainly young people (Prefeitura de Belo Horizonte, 2023).

Regarding technology-based enterprises, municipal indicators point to an increase in the number of companies in the Information and Communication Technology [ICT] sector in the total number of

active companies in the municipality, excluding Individual Micro-Entrepreneurs¹. Interestingly, there was a decrease in all the major areas of the municipality. The Central-South Region, for example, where one of the neighborhoods (São Pedro) gives its name to the most famous local business community (San Pedro Valley), witnessed the percentage of ICT sector companies drop from 3.38% in 2010 to 2.90% in 2021. The West Region, located adjacent to the Center-South Region, registered a decline from 3.04% to 2.20% in the same period. The eastern region concentrated 3.14% of ICT companies in 2010, and only 1.68% in 2021 (Prefeitura de Belo Horizonte, 2023).

When evaluated by ecosystem actors, Belo Horizonte holds the title of the state's main hub for technology-based start-ups - a total of 438 companies out of 782 spread across the state of Minas Gerais. However, this is the lowest concentration of companies in the state capital among the Southeastern Brazilian states, which suggests the dispersion of these organizations throughout the state. The spread of companies across the State of Minas Gerais is also characterized by its diversity: the largest number of technology-based start-ups is in the health sector (9.5%) and the education sector (8.3%) (Distrito, 2020). On the other hand, in the Entrepreneurial Cities Index (ENAP, 2023), Belo Horizonte ranks 18th among 101 Brazilian cities, standing out in access to capital (4th position), innovation (18th position), and human capital (13th position).

The narratives of the early decade (2012-2016): innovation and opposition

The first mention of the community of technology-based companies that became the epicenter of the entrepreneurial ecosystem of Belo Horizonte/MG is dated December 2011. At that time, an international freelance journalist with an interest in the technology market published the first account of

¹ The Municipality of Belo Horizonte characterizes the ICT Sector through the National Classification of Economic Activities [CNAE] of the ventures, more specifically the CNAE of Groups 620, 631, and 639. They are: 620 - Information technology service activities; 6201-5 - Development of custom computer programs; 6202-3 - Development and licensing of customizable computer programs; 6203-1 - Development and licensing of non-customizable computer programs; 6204-0 - Information technology consulting; 6209-1 - Technical support, maintenance, and other information technology services. 631 Data processing, internet hosting, and other related activities; 6311-9 Data processing, application service providers, and internet hosting services; 6319-4 Portals, content providers, and other internet information services. 639 Other information service activities; 6399-2 Other information service activities not previously specified; 6399-2/00 Other information service activities not previously specified (Instituto Brasileiro de Geografia e Estatística, 2023)

what would become the entrepreneurial ecosystem of the capital of Minas Gerais. The story titled “Why you should pay attention to Brazil's ‘San Pedro Valley’” would become iconic for three main reasons: (i) it is recalled numerous times throughout the reports of the ecosystem, being mentioned by entrepreneurs as a relevant moment; (ii) by citing, for the first time, the establishment of a Google office in the city - after acquiring a company from Belo Horizonte - as the birth of the local entrepreneurial community, a fact that would become the institutionalized narrative about the genesis of the community of technology-based companies in the region and, finally, (iii) mentioning, in addition to business issues, cultural aspects of the city, which would also become a point of reference for several subsequent stories and journalistic coverage.

This journalistic report suggests the sense of novelty that the technology-based entrepreneurial phenomenon had, both at national and international levels. Already at that time - late 2011 - the writer, when interviewing one of the current leading companies in the local ecosystem, questioned whether the term startup would be valid for the organization, since it had been operating for a few years and had recently made its first acquisition in the national market. Not by accident, the narrative of this period is dictated by the organizations that would become the leaders of the ecosystem, with sporadic participation of actors linked to the State Government.

In the early 2010s, 2013 was the moment of greatest visibility of the community of technology-based companies called San Pedro Valley (SPV). It is at this point in the records that it is possible to observe the spread of a “startup culture” symbolized, in this period, by two main aspects: innovation and counterpoint.

The innovation here is represented both in its practical aspect, as in the elaboration and demonstration of new products/services, and in aspects that foster informality in contrast to formal industry, especially those industries located in the city, such as the automobile and mining industry. Such companies, considered “traditional”, are commonly represented, and linked to the stereotype of the executive, manager, or formal worker. This counterpoint acquires an air of conflict and is represented by the dissemination of many narratives that aimed to legitimize and draw attention to the ecosystem, particularly with the dissemination of attractive discourses and the use of iconic images. In addition,

another innovative feature of the narratives would be linked to the city of Belo Horizonte itself, which, like a new player entering a competitive market, would be taking a more solid position in the national business environment.

Table 2 presents some examples of the counterpoint narratives of technology-based companies to large local companies, as well as the emergence of the city of Belo Horizonte as a hub of technology-based entrepreneurship at the national level.

Table 2.
Types of narratives and their functions - First period (2012-2016)

Type	Main Function	Example
Historical accounts	Legitimizing the ecosystem	“Outside the Rio-São Paulo area, a community of young innovators is starting to stand out [...]”
Historical accounts	Constructing the ecosystem's identity	“People in Rio and São Paulo know each other, but only talk at events. In Minas Gerais, the meetings happen all the time, even on the streets”
Historical accounts	Charting the ecosystem's future	“The investment in startups is part of a larger project aimed at diversifying the state's economy, which is currently based on agribusiness and mining and services.”
Success stories	Constructing the ecosystem's identity	“Belo Horizonte is becoming a hub of great startups, and we realized that it's easier to draw attention to the city than to the individual.”
Success stories	Legitimizing the ecosystem	“All the branding around the name is helpful. Today, San Pedro Valley is a brand”.
Success stories	Legitimizing the ecosystem	“Food is a key component of the local ecosystem.”
Success stories	Legitimizing the ecosystem	“The developers and designers will spend the early hours of the morning fueled by pizza and energy drinks.”
Success stories	Garnering attention for the ecosystem	“The system in San Pedro Valley is horizontal. You don't have a manager, a leader [...]”
Success stories	Garnering attention for the ecosystem	“And it is not the consumer market of Minas Gerais, whose anchors are mining and steel companies, that drive the evolution of the ecosystem”

Success stories	Garnering attention for the ecosystem	“Within a horizontal model of management typical of startups, where autonomy, determination, and accomplishments speak louder than seniority or experience [...]”
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Note: elaborated by the authors

The rise of Belo Horizonte as an important player in the national tech scene was closely followed by the State Government. Seed (Startups and Entrepreneurship Ecosystem Development), an influential program that had the endorsement of the State Government of Minas Gerais, was also launched in 2013, corroborating the perspective that the public authorities showed interest in technology-based companies in the city of Belo Horizonte and the State of Minas Gerais. With the support of the State Government, the counterpoint to the dominant economic narrative at the time was established: investment in technology-based companies would ensure the economic diversification of the State, which at that time was dependent on extractive activities. It is noteworthy that the performance of the public authorities in the incipient but ambitious community of companies, mainly under the figure of the State Government, would also give evidence to another relevant actor, but one that figured in a less impactful way during the early years of the ecosystem: the University. Although an antagonistic narrative between technology-based companies and universities was not established at that time - as occurred with the large companies in the region - universities began to gain prominence only after the second half of the 2010s.

Another important aspect, emphasized from the very beginning of the local tech entrepreneurial narratives, is the cooperation between the ventures. There are numerous mentions of cooperation between nascent companies and a friendly climate among the founders, especially among the five companies that would become the leaders of the local ecosystem. The contact between the entrepreneurs occurred through a recognized messaging application. In 2014, however, the community would have become “too big”, and it was necessary to establish a larger group - in the same messenger app - so that entrepreneurs could “talk about everything”.

As an example of group action, it is worth mentioning the development of the “San Pedro Valley Census – 2015”, a survey made and organized by the business community itself which captures visually the aspects experienced by companies and entrepreneurs at that time. Among the main challenges faced

by businesses were “hiring” and “growth”. When asked how the public authorities could help the enterprises, the survey shows that “exemption”, “financing” and “hiring local solutions” would be the most important aspects, with mention also of “debureaucratization”. The discussion groups on technology-based entrepreneurship point out how the activity between 2012 and 2016 became crescent, with the registration of potential entrepreneurs in search of greater knowledge about the innovative market or in search of partners to start a business. However, between 2015 and 2016, it is perceived that the contact in the digital format of the communities has not become popular and institutionalized enough among the participants, being possible to observe mention of “dead groups” or “difficulty in continuing recurring events around the SPV community”.

The intermediate narratives (2017-2019): relevance and coexistence

The second half of the 2010s became recognized in the Belo Horizonte ecosystem as the moment when local lead firms became not only influential at the regional level but also gained relevance at the national and international levels. Among the intermediate narratives at the individual level - that is, those narratives focused on the companies themselves - the publicization of the internationalization process of local lead firms, which established offices in several countries through acquisitions of other organizations, stands out. Interestingly, this was recognized as a milestone of success for the entire business community. One of the local entrepreneurs summarizes: “Now, everything is possible around here”.

However, this period starts again with the fact that “tech start-ups” are still in opposition to traditional companies: despite the economic crisis identified between 2016 and 2017, young companies expanded their workforce. Moreover, although the number of hires was relatively small compared to jobs in large corporations, “average pay” was “above that of traditional companies”. Because of this process, the SPV community would have become the “best startup community in the country” and “one of the main - if not the biggest - ‘Brazilian Silicon Valleys’”. The local website, which used the community's name, registered more than 200 companies. This fact encouraged greater participation of public actors, such as the local municipality and regional universities, which still appeared as supporting actors in the narratives presented. The coexistence between different actors was strengthened.

Between 2017 and 2019, the Belo Horizonte City Hall inaugurated several programs aimed at the public engaged in digital entrepreneurship: a "room" to assist technology-based companies and national and international investors; contests and competitions between technology-based companies; research and innovation projects; innovation challenges between local university students, and others. Among the initiatives, those thematic sectoral projects that became the target of public authorities during this period stand out, mainly related to gastronomy, tourism, and the health sector. The Federal University of Minas Gerais, in turn, gained relevance, participating as a partner or supporter of several projects, and mobilizing infrastructure and students at undergraduate and graduate levels. "The biggest reference in the SPV region is the Federal University of Minas Gerais (UFMG), which is still discreetly flirting with the sector, but already shows considerable results", highlights one of the documents. Among the most prominent projects is a popular "open and free entrepreneurship course", developed by local role models and operationalized on the federal university's facilities.

The role of these young university students interested in entrepreneurship would be not only the maintenance of the local ecosystem but also "(...) the formation of a second generation of companies". It is noteworthy that the concept of a certain generational division between organizations does not only occur in the aspect of the formalization of companies. The leading companies also emphasize their role in the formation of a first generation of local labor, since the jobs previously made available during the beginning of the community were not filled by professionals qualified for the "startup culture" of that era. Thus, the companies that stood out argue that they would have trained a workforce capable of working and performing other roles in new companies that were created, in addition to the possibility of acting as entrepreneurs.

It is worth noting that when observing the public evaluations of employees and former employees of the leading companies in the regional ecosystem, some aspects are highlighted, such as the fact that companies provide "opportunities for growth" or "consistent growth" and have a "strong culture". On the other hand, aspects that are related to the genesis of new technology-based companies are also highlighted, such as lack of defined strategy, absence of "career plans" or "non-existent job and salary plan", restriction

of the "startup culture" to only a few areas of the company or, in summary, negative but expected situations in a "fast-growing company".

At the systemic level, the interaction between the different actors was also accentuated in the public debate. In 2017, the City Council voted on a legislative project that expanded the list of services covered by the ISSQN (Tax on Services of Any Nature). The main proposal of this project was to increase the tax rate from 3% to 5% which was strongly opposed by the ICT sector. After sectoral pressure, the section aimed at changing the values referring to the ICT sector was not approved, since "startup owners had threatened to take their companies to other cities if the original project was approved [yesterday] in the second round". A few months later, however, a new hearing was held to discuss tax incentives for the sector, because, despite the victory over the previous bill, "(...) entrepreneurs pointed out the worrying exodus of startups from the capital to neighboring municipalities (...)".

The greater participation of public authorities in the ecosystem has enabled structured narratives about the future of the ecosystem to emerge, beyond the desire for regional economic diversification. Previously narrowly focused on the difference between tech-based start-ups and traditional firms and the dream of local economic diversification, the mapping of the ecosystem's future now included the notion that innovative ventures might at some point move away from the municipality. Moreover, the euphoria about the success of the local ecosystem - seen mainly from the perspective of the region's leading companies - was now confronted with a broader notion of development, coming from the public authorities (Table 3).

Table 3.
Types of narratives and their functions - Second period (2017-2019)

Type	Main Function	Example
Historical accounts	Legitimizing the ecosystem	"Job creation contributed to boosting the local economy, and young workers are now targeting the tech sector instead of traditional mining companies or car manufacturers."
Success stories	Making sense of the ecosystem	"The location, after all, already brings together everything that makes a region a hub for startups: a university to generate talent, innovation hubs and startups with traction for a cycle of growth."

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Success stories	Garnering attention for the ecosystem	“They [the Government] are very careful to understand that they are facilitators and those who really understand the problems and bottlenecks are the startup entrepreneurs who are here”.
Future-oriented narratives	Constructing the ecosystem's identity	“[...] we continue on a journey towards a paradigm shift in tourism in order to keep up with market trends and the use of technology in the benefit of the sector”.
Future-oriented narratives	Transmitting the ecosystem's culture	“We cannot expect the government to act alone [...] the government is a mechanism capable of fostering - with all its available resources - but it is up to all the players in the ecosystem to create actions to ensure that these resources are properly used [...]”
Future-oriented narratives	Garnering attention for the ecosystem	“[...] the increase in taxation may scare away technology companies from the capital of Minas Gerais, especially startups.”.
Future-oriented narratives	Charting the ecosystem's future	“Local entrepreneurs, however, point out the worrying exodus of startups from the capital to neighboring municipalities, [...], which have the same urban infrastructure and offer better conditions for the installation and operation of companies, generating loss of revenue and the emptiness of BH as a technological hub.”

Note: elaborated by the authors

Locally, the activity of the community of technology-based companies remained active. While one of the leading companies in the ecosystem participated in events related to the thematic projects of the tourism sector proposed by the municipality, another leading company established a regular event aimed at the digital economy, also in partnership with the municipality. Both organizations, as well as the municipal executive, would be surprised by the contextual changes that began in 2020.

Modern narratives (2020-2022): instability and planning

The last period of the narratives studied about the local entrepreneurial ecosystem of Belo Horizonte - MG shows the evolution and changes of the local community in several ways. Now somewhere between the denominations of “young company” and “technology multinational”, the leading companies of the ecosystem - all of them operating for more than a decade - have become true icons and legitimized at national and international levels. The popularity of the founder-entrepreneurs of the leading

companies demonstrates this fact: some have become influential personalities in the digital environment, providing advice on entrepreneurship and business.

Part of this influence and legitimacy was due to the impacts on consumption resulting from the Covid-19 pandemic. The high investments in technology companies that marked the year 2020 further boosted the internationalization of most of the leading companies in Minas Gerais. Thus, some of these organizations, given the context of expansion in online consumption by society, grew at a sharp pace, culminating in the IPO of one of the leading companies. During the opening speech of the company's CEO, the “entrepreneurs of Belo Horizonte” were remembered.

Meanwhile, the public authorities were divided between plans to contain the impacts of the pandemic scenario and foster activities that reiterated the need for technological solutions at that moment. Actions to develop new businesses and solutions in the health sector were encouraged with the aim of “making the capital of Minas Gerais the 'City of Health'”. In this challenging scenario, the municipality adhered to the UN Sustainable Development Goals in its strategic planning, connecting Goal 8 - Decent Work and Economic Growth - and Goal 9 - Industry, Innovation, and Infrastructure - to the municipal strategic project. The tourism sector, also a target of affirmative action by the local government in the intermediate period, was directly impacted by the restrictions imposed by the pandemic. Consequently, one of the leading companies, which operates in the tourism sector, was also highly impacted by the new global context. From this scenario, in mid-2020, the local ecosystem observed for the first time a leading company conducting a wave of layoffs of its employees.

The period of uncertainty persisted and the leading companies dissociated themselves into two groups: those that managed to grow - mainly through the popularization of digital products - and those that faced greater difficulties, such as companies linked to the tourism and entertainment sector. However, after the most critical moment of the Covid-19 pandemic, international uncertainty continued, and “young companies” began to live with situations closer to traditional companies: employee layoffs, stock market instability, and mergers as an investment alternative.

In addition, some contextual changes due to the global pandemic altered the roles of some actors in the local ecosystem. Firstly, the Federal University of Minas Gerais became more prominent, among

the narratives, as an important asset in the development of health solutions. In addition, the less favored population of Minas Gerais became the target of affirmative actions by public authorities and local companies, aiming at the digital inclusion of this social stratum.

Amidst travel restrictions as a result of the pandemic period, discussion groups on technology-based entrepreneurship in digital media received slight activity. However, the events - which were now publicized in an online format - did not have much community involvement. So, it was no surprise, “a decade later”, that “a collaborative platform” was released for the local community. It is noteworthy that the initiative is supported by a specific group of companies - considered traditional, such as financial institutions, but not directly linked to key sectors of the state economy - and has the formal objective of aggregating information from the “Belo Horizonte innovation system”, such as events, jobs, and success stories.

Table 4 presents some examples of the narratives that permeated this period.

Tabela 4.

Types of narratives and their functions - Third period (2020-2022)

Type	Main Function	Example
Historical accounts	Making sense of the ecosystem	“[...] the program reinforces Belo Horizonte's vocation in the health area, especially in this delicate moment of confrontation of Covid-19.”.
Success stories	Constructing the ecosystem's identity	“Belo Horizonte has a strong vocation for research and innovation, and one of those responsible for this is UFMG [...]. We maintain, in partnership with several institutions, the Belo Horizonte Technology Park (BH-Tec), which houses several ventures that transform the knowledge generated in academia into innovative products for society”
Success stories	Legitimizing the ecosystem	“Belo Horizonte has become a hub for startups due to the creative, innovative and technological potential of the city's professionals and most representative sectors, such as gastronomy, information technology, health sciences, fashion, energy, industry, audiovisual, games and software, among others.”

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Future-oriented narratives	Garnering attention for the ecosystem	“It is necessary to rethink how the digital transformation takes place in our territory, in order to make it more inclusive.”
Future-oriented narratives	Garnering attention for the ecosystem	“The tourism sector [...] has the challenge of reinventing itself in order to recover. And we, who have innovation in our DNA, can contribute effectively to this”.
Future-oriented narratives	Legitimizing the ecosystem	“[...] public authorities should foster and promote the technology and innovation ecosystem, so that it can also be assisted by the market in its challenges.”
Future-oriented narratives	Charting the ecosystem's future	“[...] some measures that the municipality should adopt, as a means of offering better conditions for the establishment and operation of startups, among them the debureaucratization, the adoption of an attractive tax policy and the creation of a smart plan to requalify the Hypercenter of Belo Horizonte.”

Note: elaborated by the authors

Table 5 summarizes the main actions linked to each of the levels of analysis, as well as the main narratives observed in each of the periods. The achievement of legitimization and expansion of the activities of local companies and role models stands out, as well as the greater governmental action.

Tabela 5.

Overview - Periods, levels of analysis, and main narratives

	2012-2016	2017-2019	2020-2022
Macro	Limited government activity. Dissemination of local entrepreneurial culture (horizontal, informal, appreciation of local amenities).	Increased activity of public authorities (initiation of sector-specific programs); Articulation of the "IT community" in search of sector demands (public debate); The decline in the activity of the open virtual community.	Public authorities' efforts to mitigate contingencies affect different sectors, such as the health sector; New stakeholder articulation seeks to "centralize" information about the local ecosystem
Meso	New firms position themselves as the antithesis of traditional local firms.	New firms experience the benefits of their activities (e.g. first acquisitions), as well as the complexities of growth.	Firms become legitimized and recognized. Contingencies affect firms in different ways.

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Micro	Entrepreneurs/Leaders report to the community on behalf of the organizations.	Articulation of entrepreneurs and other actors, such as the University (entrepreneurship course).	Entrepreneurs become local and national references.
Main Narratives	Types: Historical account; Success stories. Functions: Legitimizing the ecosystem; Garnering attention for the ecosystem.	Types: Success stories; Future-oriented narratives. Functions: Various, but mostly Making sense of the ecosystem; Garnering attention for the ecosystem	Types: Historical accounts; Future-oriented narratives. Functions: Various, but mostly Legitimizing the ecosystem; Garnering attention for the ecosystem.

Note: elaborated by the authors

Discussion

Despite the increase in the number of studies related to Entrepreneurial Ecosystems [EE], several questions remain. Among them, is the in-depth study of ecosystems in developing economies (Silva et al., 2021) and the relationship of actors within a given ecosystem (Spigel & Harrison, 2018), including the creation of meaning among local actors about their community (Roundy, 2019). EE, as a social construct, has been overlooked by the research field without covering the socioeconomic changes that can be generated at the local level through EE actions (Roundy, 2016; O'Connor & Audretsch, 2022), including the processes that guide the evolution of the actors involved in the ecosystem (Wurth et al., 2022). This study sought to address several of these points, based on the analysis of entrepreneurial narratives in the regional ecosystem of Belo Horizonte/MG.

Theoretical contributions

The data revealed the presence of a dominant economic narrative in the region studied - largely represented by the massive involvement and major economic influence of the mineral extraction and automotive sectors, or "traditional companies" - and how this dominant narrative came into conflict with

the competing economic narrative led by technology-based companies. The competing narrative, during its inception, was occasionally complemented by interactions with local government agents, idealizing the use of technology-based companies as an option for regional economic diversification. The complete absence of agents linked to traditional companies in the construction of the competing narrative, either as collaborators or as adversaries, is also noteworthy.

In addition, it became possible to access specific aspects of the competing narrative, such as the positive evaluation of cultural aspects such as local amenities (Audrestsch et al., 2021), call for greater government support and focus on collaboration among the group of companies. It should be noted that such aspects were boosted by narratives characteristic of the ventures' success stories, with the functions of drawing attention to the ecosystem and legitimizing it (Roundy, 2016). After the commercial success of the leading companies of the Minas Gerais business community, the whole system became legitimized, mainly through individual narratives that disseminated the commercial and financial performance of each of the organizations in the media.

After the legitimization of the group, it is argued that the narrative guided by technology-based companies becomes dominant and, nevertheless, stratifies. While agendas specific to leading companies - and other regional private organizations - become urgent, such as their success and projects to “debureaucratize” entrepreneurial activity, the debate on regional socioeconomic development is addressed mostly - if not entirely - by government actors, as illustrated in Figure 2.

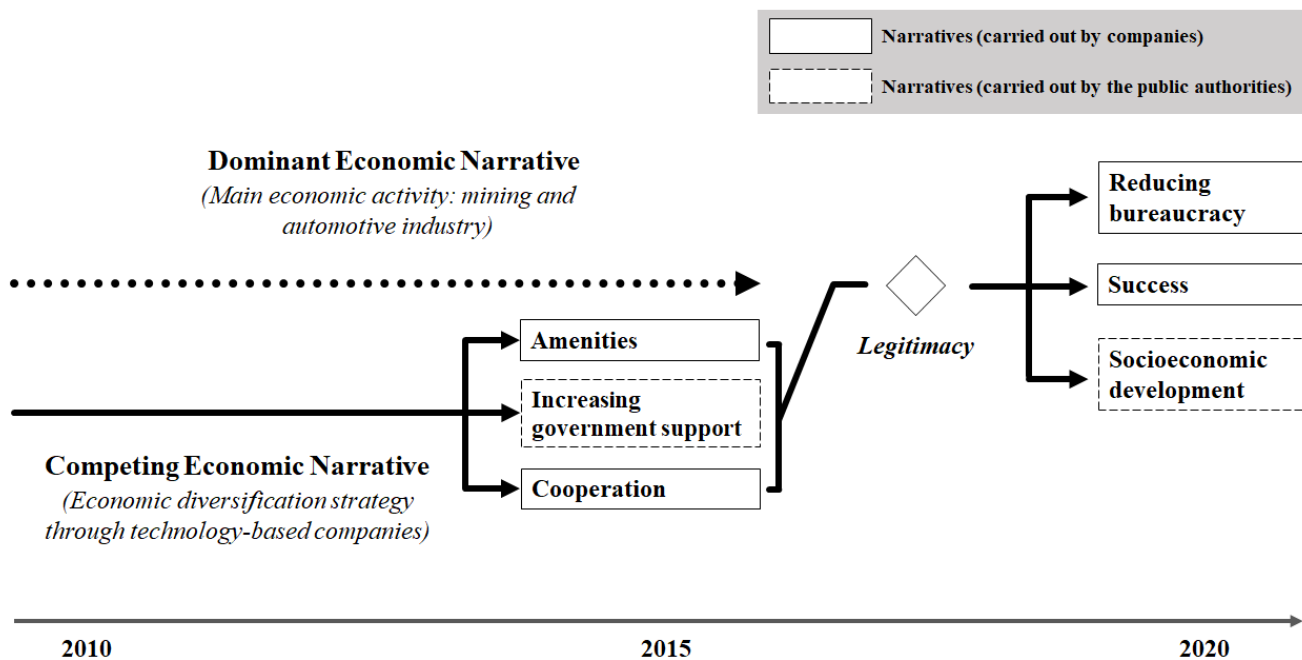


Figure 2. The stream of narratives from the regional entrepreneurial ecosystem

It is suggested that this fact is linked to two main aspects: (i) the moderating action of the regional public authorities and; (ii) the distorted evolutionary notion of the local business community. Regarding the first aspect, it is argued that public actors in the region exercise a balancing act concerning the high expectations of regional companies and the local community, imposing, as an example, a holistic notion of socioeconomic development, such as the need for integration with companies resulting from university research and the inclusion of less favored population to the regional ecosystem. This is similar to a bottom-up/top-down approach (Gimenez et al., 2022), seeking to integrate dispersed actors through connections with the community already formed and managed by the members themselves, creating new companies that are close to local stakeholders (Carayannis et al., 2018).

On the second aspect, it is argued that the high number of narratives that seek to legitimize the ecosystem, mainly through “inevitable” narratives and attractive discourses (Roundy, 2019), with a broad focus on the emergence of the local community, creates a distorted evolutionary notion of inexorable

progress, contrary to what the literature claims (Brown et al., 2022; Mack & Mayer, 2016). It is thought that this fact may impact the full development of the ecosystem since the great breadth of attractive narratives ends up eclipsing narratives about the future of the ecosystem, which aim to plan the next steps of the entire community at the systemic level. This fact becomes even more worrying since the narratives of the local ecosystem are highly focused on a specific group of companies, which, according to Roundy (2016), would denote a characteristic of a still nascent ecosystem and, therefore, one that lacks long-term planning.

The development of narratives in the analyzed EE thus illustrates socio-economic and cultural changes, especially in the competition between dominant and emerging narratives. The development of the EE has been shaped by the narratives presented by different actors, including the government and local entrepreneurs. It was observed that the implementation of a new narrative promoting local economic diversification has created a perception of progress tied to the success of certain businesses, yet not aligned with the socio-economic development goals of the public authorities. Thus, it is possible to examine the co-evolutionary processes within the studied EE (Wurth et al., 2022) by observing how the actors involved create meaning through their narratives.

Practical implications

This study also has several practical and social implications, especially for public authorities. Initially, it should be remembered that the delimitation of ecosystem boundaries is a dubious and difficult issue to conceive (Schäfer, 2021). However, confusion between terms linked to ecosystems can lead to misrepresentations about the socioeconomic values generated by them, as well as the strategies that should be used to develop them (Autio & Thomas, 2022).

Thus, through the data, it was noted, on the side of public and private actors, a lack of clarity regarding the boundary of the local business community and its scope of action. At several moments, the business community was taken as representative of the entire municipal or state ecosystem, just as the municipality studied was taken as representative of all entrepreneurial activity at the state level. Such misrepresentations end up disregarding, for example, the existence of distinct business communities

(Scheidgen, 2021) that have specific needs. And this fact is observed in the EE of Belo Horizonte, where the public authorities aim to foster enterprises in sectors other than those where the leading companies operate, such as the tourism chain and the health sector. Companies linked to the health sector, for example, would be more articulated with university-based research, requiring distinct projects for the promotion and market introduction of these ventures. In other words, there is a need for narratives that create specific meaning for this group in the ecosystem.

The integration of different actors could boost local economic development by bringing the solutions proposed by new firms closer to the local community and by integrating actors from the regional EE who are currently excluded from discussions on regional economic development. This could also broaden the socio-economic debate, mostly led by the public authorities, to the different organizations of the regional EE.

Another factor related to the diversity of sectors embraced by public authorities' actions concerns regional innovation regardless of path or territorial vocation. As mentioned, the local industries with the greatest economic impact, such as the mining and automotive sectors, were completely absent in the formation of the competing or innovative narrative in the region. In this case, we return to Cooke's (2016, p. 18) questions about the possibility of thinking about "path creations" through the variety of business opportunities in entrepreneurial ecosystems, regardless of the economic trajectory of the locality until then. This fact would represent a strength to the region and not a weakness, as would be expected from the rupture with the previous trajectory.

Concluding Remarks

The study has limitations. Firstly, it should be noted that the perspective of Entrepreneurial Ecosystems [EE] as narratives represents only one of the approaches to the phenomenon. Thus, it is not possible to isolate specific aspects of the contact networks of regional entrepreneurs, which would be in line with the other possible perspective of analysis - EE as networks. Second, despite the considerable amount of data analyzed, a considerable number of the files were obtained through direct searches on web

bases. Thus, news, releases, and other documents hosted on inactive websites could not be accessed. Finally, it should be noted that the focus of the study was on the evaluation of a specific regional ecosystem with a considerable trajectory and extensive documentation, which does not allow the generalization of the results or the adoption of its research format for other emerging ecosystems in developing economies.

As a suggestion for future research, it is recommended that new studies of narratives in regional EE - both in Brazil and Latin America - are carried out. Topics such as the influence of entrepreneurial narratives concerning the dominant economic narratives in the region could be a field of study with the potential to generate new insights into the performance of ecosystems as drivers of economic strategies proposed by local governments. Still concerning future research proposals, the conflict between the regional actors studied regarding the taxation of digital services or those based on new technologies stands out. Since this is a current and relevant topic, it is proposed that new studies investigate how technology-based enterprises in emerging economies organize themselves in favor of fair taxation. In addition, it is proposed that researchers compare how the relationship of local entrepreneurs differs concerning issues of this nature between different EE. In addition, quantitative studies are also recommended, assessing the impact of higher or lower taxation on technology-based ventures and the evolution of local socioeconomic indicators, as well as the competitiveness of EEs.

References

- Audretsch, D. B., & Fiedler, A. (2023). Power and entrepreneurship. *Small Business Economics*, 60(4), 1573–1592. <https://doi.org/10.1007/s11187-022-00660-3>
- Autio, E., & Thomas, L. D. W. (2022). Researching ecosystems in innovation contexts. *Innovation & Management Review*, 19(1), 12–25. <https://doi.org/10.1108/INMR-08-2021-0151>
- Bardin, L. (2011). *Análise de Conteúdo* (1º ed, Vol. 3). Edições 70.
- Brown, R., Mawson, S., & Rocha, A. (2022). Places are not like people: the perils of anthropomorphism within entrepreneurial ecosystems research. *Regional Studies*, 57(2), 384–396. <https://doi.org/10.1080/00343404.2022.2135698>

- Carayannis, E. G., Grigoroudis, E., Campbell, D. F. J., Meissner, D., & Stamati, D. (2018). The ecosystem as helix: an exploratory theory-building study of regional co-opetitive entrepreneurial ecosystems as Quadruple/Quintuple Helix Innovation Models. *R&D Management*, 48(1), 148–162. <https://doi.org/10.1111/radm.12300>
- Colombo, M. G., Dagnino, G. B., Lehmann, E. E., & Salmador, M. (2019). The governance of entrepreneurial ecosystems. *Small Business Economics*, 52(2), 419–428. <https://doi.org/10.1007/s11187-017-9952-9>
- Cooke, P. (2016). The virtues of variety in regional innovation systems and entrepreneurial ecosystems. *Journal of Open Innovation: Technology, Market, and Complexity*, 2(3), 1–19. <https://doi.org/10.1186/s40852-016-0036-x>
- Cunha, N. G., Moreira Silva, J. P., Guimarães, L. de O., & Gimenez, F. A. P. (2022). Effects of support from innovation and development agencies: a case study on companies awarded by Tecnova 13/2013 – FAPEMIG. *Desenvolvimento em Debate*, 10(1). <https://doi.org/10.51861/ded.dmvdo.1.009>
- Davidsson, P. (2016). *Researching Entrepreneurship* (Vol. 33). Springer International Publishing. <https://doi.org/10.1007/978-3-319-26692-3>
- Distrito. (2020). *Distrito MinasTech Report*.
- Edmondson, A. C., & Mcmanus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review*, 32(4), 1246–1264. <https://doi.org/10.5465/amr.2007.26586086>
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal*, 50(1), 25–32. <https://doi.org/10.5465/amj.2007.24160888>
- Eisenhardt, K. M., Graebner, M. E., & Sonenshein, S. (2016). Grand Challenges and Inductive Methods: Rigor without Rigor Mortis. *Academy of Management Journal*, 59(4), 1113–1123. <https://doi.org/10.5465/amj.2016.4004>
- Fundação João Pinheiro. (2023). Informativo FJP - Contas Regionais: PIB dos municípios. <https://fjp.mg.gov.br/produto-interno-bruto-pib-de-minas-gerais/>
- Gimenez, F. A. P., Setefenon, R., & Inácio Júnior, E. (2022). *Ecossistemas Empreendedores: o que são e para que servem?* PUCPress.

- Guimarães, T. B. C., Gonçalves, L. C., & Vale, G. M. V. (2018). De comunidade de prática a rede de práticas: um estudo da evolução de uma comunidade startups da cidade de Belo Horizonte. *Cadernos EBAPE.BR*, 16(4), 761–773. <https://doi.org/10.1590/1679-395168004>
- Hannah, D. P., & Eisenhardt, K. M. (2018). How firms navigate cooperation and competition in nascent ecosystems. *Strategic Management Journal*, 39(12), 3163–3192. <https://doi.org/10.1002/smj.2750>
- Hubner, S., Most, F., Wirtz, J., & Auer, C. (2022). Narratives in entrepreneurial ecosystems: drivers of effectuation versus causation. *Small Business Economics*, 59(1), 211–242. <https://doi.org/10.1007/s11187-021-00531-3>
- Instituto Brasileiro de Geografia e Estatística. (2023). *IBGE - Concla - Busca online*. <https://concla.ibge.gov.br/busca-online-cnae.html?view=atividades>
- Isenberg, D. (2010). The Big Idea: How to Start an Entrepreneurial Revolution. *Harvard Business Review*.
- Isenberg, D. (2011). *The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship*.
- Kuckertz, A. (2019). Let's take the entrepreneurial ecosystem metaphor seriously! *Journal of Business Venturing Insights*, 11, e00124. <https://doi.org/10.1016/j.jbvi.2019.e00124>
- Langley, A. (1999). Strategies for Theorizing from Process Data. *The Academy of Management Review*, 24(4), 691. <https://doi.org/10.2307/259349>
- Lowe, N. J., & Feldman, M. P. (2017). Institutional life within an entrepreneurial region. *Geography Compass*, 11(3), e12306. <https://doi.org/10.1111/gec3.12306>
- Mack, E., & Mayer, H. (2016). The evolutionary dynamics of entrepreneurial ecosystems. *Urban Studies*, 53(10), 2118–2133. <https://doi.org/10.1177/0042098015586547>
- Mason, C., & Brown, R. (2014, November 7). Entrepreneurial ecosystems and growth oriented entrepreneurship. *OECD LEED Programme and the Dutch Ministry of Economic Affairs*. <https://www.oecd.org/cfe/leed/Entrepreneurial-ecosystems.pdf>
- Meyer, J. W. (2010). World society, institutional theories, and the actor. *Annual Review of Sociology*, 36, 1–20. <https://doi.org/10.1146/annurev.soc.012809.102506>
- Moore, J. F. (1993). Predators and Prey: A New Ecology of Competition. *Harvard Business Review*.

- Morris, M. H., Neumeyer, X., & Kuratko, D. F. (2015). A portfolio perspective on entrepreneurship and economic development. *Small Business Economics*, 45(4), 713–728. <https://doi.org/10.1007/s11187-015-9678-5>
- Neumeyer, X., Santos, S. C., & Morris, M. H. (2019). Who is left out: exploring social boundaries in entrepreneurial ecosystems. *Journal of Technology Transfer*, 44(2), 462–484. <https://doi.org/10.1007/s10961-018-9694-0>
- Nicholson, L., & Anderson, A. R. (2005). News and Nuances of the Entrepreneurial Myth and Metaphor: Linguistic Games in Entrepreneurial Sense-Making and Sense-Giving. *Entrepreneurship Theory and Practice*, 29(2), 153–172. <https://doi.org/10.1111/j.1540-6520.2005.00074.x>
- O'Connor, A., & Audretsch, D. (2022). Regional entrepreneurial ecosystems: learning from forest ecosystems. *Small Business Economics*. <https://doi.org/10.1007/s11187-022-00623-8>
- Ogbor, John. O. (2000). Mythicizing and reification in entrepreneurial discourse: ideology-critique of entrepreneurial studies. *Journal of Management Studies*, 35(7), 605–635. <https://doi.org/10.1111/1467-6486.00196>
- Perry, J. T., Chandler, G. N., & Markova, G. (2012). Entrepreneurial Effectuation: A Review and Suggestions for Future Research. *Entrepreneurship Theory and Practice*, 36(4), 837–861. <https://doi.org/10.1111/j.1540-6520.2010.00435.x>
- Pettigrew, A. M. (1990). Longitudinal Field Research on Change: Theory and Practice. *Organization Science*, 1(3), 267–292. <https://doi.org/10.1287/orsc.1.3.267>
- Prefeitura de Belo Horizonte. (2009). *Planejamento Estratégico de Belo Horizonte 2030*.
- Prefeitura de Belo Horizonte. (2023). *Observatório do Milênio - Prefeitura de Belo Horizonte*. <https://prefeitura.pbh.gov.br/planejamento/planejamento-e-orcamento/observatorio-milenio>
- Rocha, A., Brown, R., & Mawson, S. (2021). Capturing conversations in entrepreneurial ecosystems. *Research Policy*, 50(9), 104317. <https://doi.org/10.1016/j.respol.2021.104317>
- Roundy, P. T. (2016). Start-up Community Narratives: The Discursive Construction of Entrepreneurial Ecosystems. *Journal of Entrepreneurship*, 25(2), 232–248. <https://doi.org/10.1177/0971355716650373>
- Roundy, P. T. (2019). Rust belt or revitalization: competing narratives in entrepreneurial ecosystems. *Management Research Review*, 42(1), 102–121. <https://doi.org/10.1108/MRR-01-2018-0019>

- Santos Filho, L. A. dos, Guimarães, L. de O., Martins, H. C., & Penna, L. B. (2019). Análise da atuação dos domínios políticas públicas e recursos humanos em um ecossistema empreendedor. *E&G Economia e Gestão*, 19(54), 95–113. <https://doi.org/10.5752/P.1984-6606.2019v19n54p95-113>
- Saxenian, AnnaLee. (1994). *Regional advantage: culture and competition in Silicon Valley and Route 128*. Harvard University Press.
- Schäfer, S. (2021). Spatialities of entrepreneurial ecosystems. *Geography Compass*, 15(9). <https://doi.org/10.1111/gec3.12591>
- Scheidgen, K. (2021). Degrees of integration: how a fragmented entrepreneurial ecosystem promotes different types of entrepreneurs. *Entrepreneurship & Regional Development*, 33(1–2), 54–79. <https://doi.org/10.1080/08985626.2020.1734263>
- Scott, S., Hughes, M., & Ribeiro-Soriano, D. (2022). Towards a network-based view of effective entrepreneurial ecosystems. *Review of Managerial Science*, 16(1), 157–187. <https://doi.org/10.1007/S11846-021-00440-5/FIGURES/5>
- Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*, 33(2), 141–149. <https://doi.org/10.1007/s11187-009-9215-5>
- Silva, J. P. M., Guimarães, L. de O., Inácio Júnior, E., & Castro, J. M. de. (2021). Entrepreneurial ecosystem: Analysis of the contribution of universities in the creation of technology-based firms. *Contextus – Revista Contemporânea de Economia e Gestão*, 19, 160–175. <https://doi.org/10.19094/contextus.2021.68011>
- Sorenson, O. (2018). Social networks and the geography of entrepreneurship. *Small Business Economics*, 51(3), 527–537. <https://doi.org/10.1007/s11187-018-0076-7>
- Spigel, B. (2017). The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship: Theory and Practice*, 41(1), 49–72. <https://doi.org/10.1111/etap.12167>
- Spigel, B., & Harrison, R. (2018). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, 12(1), 151–168. <https://doi.org/10.1002/sej.1268>
- Spigel, B., Kitagawa, F., & Mason, C. (2020). A manifesto for researching entrepreneurial ecosystems. *Local Economy: The Journal of the Local Economy Policy Unit*, 35(5), 482–495. <https://doi.org/10.1177/0269094220959052>
- Stam, E., & van de Ven, A. (2021). Entrepreneurial ecosystem elements. *Small Business Economics*, 56(2), 809–832. <https://doi.org/10.1007/s11187-019-00270-6>

- Stefenon, R., & Gimenez, F. A. P. (2023). Entrepreneurial ecosystems: a configurational research approach. *Revista Gestão em Análise*, 12(1), 7. <https://doi.org/10.12662/2359-618xregea.v12i1.p7-22.2023>
- Wang, H., Zhao, T., Cooper, S. Y., Wang, S., Harrison, R. T., & Yang, Z. (2023). Effective policy mixes in entrepreneurial ecosystems: a configurational analysis in China. *Small Business Economics*, 60(4), 1509–1542. <https://doi.org/10.1007/S11187-022-00658-X/TABLES/11>
- Welter, F. (2011). Contextualizing Entrepreneurship—Conceptual Challenges and Ways Forward. *Entrepreneurship: Theory and Practice*, 35(1), 165–184. <https://doi.org/10.1111/j.1540-6520.2010.00427.x>
- Wurth, B., Stam, E., & Spigel, B. (2022). Toward an Entrepreneurial Ecosystem Research Program. *Entrepreneurship Theory and Practice*, 46(3), 729–778. <https://doi.org/10.1177/1042258721998948>
- Yin, R. K. (2001). *Estudo de caso: planejamento e métodos* (2º ed). Bookman.

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