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Colonialism versus independence—the role of entrepreneurial ecosystems in Azerbaijan over time

Ganira Ibrahimova · Petra Moog

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Abstract Entrepreneurial activity, its emergence, and development are considered important for the well-being of nations, especially for those in transition from one economic system or industrial setting into another. A crucial question is, why countries with similar basic resources develop differently regarding entrepreneurial activities over time? This study delivers new insights on ecosystems developing during different historical eras, and why some ecosystem factors have an impact not only during one point in time but also in the long term. The paper focuses on Azerbaijan, a country with a turbulent history, and volatile formal institutions, endowed with natural resources, and now heavily dependent on the export of oil and gas. To transform the economy and overcome this resource dependency, entrepreneurial activities could provide one solution; however, the contribution of entrepreneurship to the economic development and growth remains low. This paper provides an analysis of why the promise of entrepreneurship remains quite elusive in Azerbaijan. The study contributes to the literature on entrepreneurship by drawing on archival data to gain insights on how the historical role of

entrepreneurship and the underlying ecosystem have imprinted their long-term development of current entrepreneurial activities. It proposes a framework for a systematic and long-term analysis of the factors and mechanisms comprising the ecosystem approach and shaping entrepreneurial outcomes across a broad spectrum of historical and contemporary contexts.

Plain English Summary Innovative insights on ecosystems over time. The historical analysis of the volatile entrepreneurial ecosystem and formal institutions in Azerbaijan throughout history delivers new insights for research and policy makers on how deeply this affects entrepreneurship evolution.

Keywords Historical review · Entrepreneurial ecosystems · Institutions · Entrepreneurship development · Entrepreneurial policy · Economic systems

JEL Classification L26 · O43 · N1

1 Introduction

The existence and development of entrepreneurial activities depend on many factors, spanning institutional, social, economic, and cultural (Acs et al., 2017; Lounsbury & Glynn, 2019; Zahra et al., 2014). Beyond these general aspects, researchers are now

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looking for a broader understanding of the entrepreneurial activity, characterized as everyday entrepreneurship, which is also the focus of this research (Autio, et al., 2014; Welter et al., 2016). In particular, this paper examines the entrepreneurial ecosystem over a long-time span (Dimov, 2011; McMullen & Dimov, 2013; Wood et al, 2021), to understand the changes in supportive or hindering factors and their historical impact on entrepreneurial activity, as recommended by a number of studies (Aldrich & Ruef, 2006; Alvarez et al., 2013). We do this by focusing on entrepreneurial ecosystems, the specific factors comprising the ecosystem, along with entrepreneurial outcome (Stam, 2015). The general entrepreneurial ecosystem approach (Feldman et al., 2019) claims that entrepreneurial activity is a “social geographic phenomenon” based on triggering or hindering factors (Sternberg, 2021, p. 8), and we follow this idea in our study. We do so especially, because entrepreneurial ecosystems consider that entrepreneurship is shaped by the regional spatial context (Acs et al., 2017; Stam & van de Ven, 2021; Van De Ven, 1993; Woolley, 2017). However, there has been a paucity of research analyzing the historical context of entrepreneurial ecosystems and over long periods of time. The latter has garnered increased interest in the entrepreneurship literature; undertaking it on a national or regional level, at present and in specific years or times, and in a historical context has been recommended by researchers to gain a full understanding of the underlying factors and outcomes (Stam & van de Ven, 2021; Sternberg, 2021; Fritsch, et al., 2019). We follow this recommendation by providing a historical analysis of ecosystems to deliver new and dynamic insights of ecosystems over time. This is, to discuss and explain how and why events or changes in specific (institutional) factors in the ecosystem impact entrepreneurial activity, which cannot be explained only by a static, spotlight analysis. Thus, this paper poses the research question, what happens to entrepreneurial activities over time using the lens of history, where the factors underlying the ecosystem change?

Such long-term historical analysis of countries, industries, or institutional settings might serve as a useful tool to understand the development of entrepreneurial activity during moments of change, in different markets or societies (Wadhwani et al., 2020) in a more insightful way than analyzing only

time-invariant snapshots at a specific time or period. This study sheds light on the development of supportive or hindering factors for entrepreneurial activity over time, delivers innovative insights, and suggests that small or strong dynamics of ecosystem factors might change entrepreneurial activity at any stage in history and may have long-term, overarching effects.

To analyze the evolution of an entrepreneurial ecosystem over the long arc of history, we have selected a small country with a history characterized by change and volatility (Aliyev, 1995), Azerbaijan. Azerbaijan has undergone many changes in history, especially with respect to the institutional settings (Jafarov & Jafarova, 2017) and it exhibits the highest as well as the lowest rates of entrepreneurship at different times (Ministry of economics, 2020). Azerbaijan is at the top of the list of countries that have undergone a widespread transformation, along with Georgia, and Estonia. (Asian Development Bank, 2020); it is thus, comparable to these countries and their contexts, and therefore, it might serve as a role model for the analysis of and comparisons between such nations. Azerbaijan is a Caucasian nation, positioned on the edge of two continents, cultures, and contexts (Orient and Occident) (Babayev, 1990; Hille, 2010). The traditional resources and industries (like silk, wine, fishing, and carpet industries) in Azerbaijan are comparable to that found in other countries (Heydarov, 1982; Feigl, 2011; Niftiyev, 2021). We will show that by utilizing archives for such a small country it is possible to generate data and insights helpful to other scholars in the field to analyze other countries in this region or cultural context, or in similar situations or historical background. Thus, the results for Azerbaijan ensuing from this kind of analysis might be transferable to other countries with a similar context over time; or, it will deliver results, to be compared to other nations with different settings (Bate, 2021). However, in both cases, choosing Azerbaijan delivers novel and interesting results for a historical entrepreneurship research.

We attempt to find the answers to our research questions by working with data from different sources such as historical books, archives, policy statements, or official statistics over centuries, in different languages (Azerbaijani, Russian, Turkish, French, and German). By analyzing and categorizing these broad data using strict qualitative methods of text analysis (Strauss & Corbin, 2014), we deliver an overview

of the cultural, political, and historical contexts and resources, and other important ecosystem-related factors in a country. We also outline the particular and respective status of entrepreneurial activity during different periods and over time.

We contribute new insights on the relationship between historical context and entrepreneurship by providing long-term data and details on developments and changes in entrepreneurial ecosystems and activities. We deliver first evidence of the changes in fragile or robust entrepreneurial ecosystems and activities in different or changing historical contexts. This means, that some factors of an ecosystem may continue to exist in the same way, or develop over time, to achieve a positive and steady state effect. However, in some cases, the formal system and institutions might change in an extreme way. Our analysis shows that just one change in a formal institutional (or political) factor may cause entrepreneurship to lose its positive impact (conceptual and formal research: Acemoglu & Robinson, 2012; Acemoglu & Robinson, 2006; and with first snapshot results by Mickiewicz et al., 2021). Another important contribution of this paper to the entrepreneurship literature is to show how historical data obtained from archives can be used for new insights explaining the evolution of entrepreneurship in a specific context or nation.

2 Theoretical framework—entrepreneurial ecosystems

The well-known economists already believed that historical contexts, resources, and environment do matter (e.g., Smith, 1937; Schumpeter, 1947, 1949), and thus, different players and factors are necessary for and supportive to generating entrepreneurial activity with regard to the local needs and settings (e.g., Dubini, 1989; Van de Ven, 1993; Zahra, 2007; Zahra et al., 2014). Even without calling the infrastructure, resources, or people an ecosystem, the contextual and empirical studies deliver evidence in favor of the need for a local or national system (Acs et al., 2014, 2016) conducive to entrepreneurship over time (Saxenian, 1994; Feldman, 2001; Feld, 2012), or for longer periods and eras (Fritsch et al., 2019). This leads to the idea of an ecosystem, following a more biological and systematic approach, where players, resources, and

settings interact and relate to each other, thus forming an active and living environment either supporting or hindering the specific developments (see for an in-depth discussion Stam & Van de Ven, 2021 or Sternberg, 2021). Entrepreneurial ecosystems mean a social and interactive system and processes with different actors, resources, and (institutional) settings (or in other words, components) supporting entrepreneurial activity (Van de Ven, 1993), that are positive for the region (Stam, 2015; Stam & Van de Ven, 2021).

The development of this ecosystem approach clarifies the need for the key elements to create a productive context for entrepreneurial activity (Woolley, 2017; World Economic Forum, 2013). According to Mason and Brown (2014:5), who focused on singular players, “*The Entrepreneurial Ecosystem is a set of different individuals who can be potential or existing Entrepreneurs, organizations that support Entrepreneurship that can be businesses, venture capitalist, business angels, and banks, as well as institutions like universities, public sector agencies, and the entrepreneurial processes that occur inside the ecosystem such as the business birth rate, the number of high potential growth firms, the serial entrepreneurs and their Entrepreneurial ambition.*” In other words, the entrepreneurs and their profession are at the center of this kind of ecosystem (Mason & Brown, 2014), acting in a setting or environment that helps them to do so. Other researchers put more focus on the network between the players and resources as well as institutions, considering a more economical point of view (Granovetter, 1992) or system approach and emphasizing the institutional setting (Acemoglu et al., 2005).

Considering the research on entrepreneurial ecosystems over time, we can state that ecosystems are a complex phenomenon, consisting of social, economic, cultural, resource-specific, and political as well as individual components within a region or nation (Theodoraki & Messegem, 2017). Thus, entrepreneurial activity undertaken by individuals depend on the following: political structures (centralized/decentralized) (Gnyawali & Fogel, 1994; Van de Ven, 1993), legislative systems (taxation, property rights, private property rights, economic freedom) (Bjørnskov & Foss, 2010; DeClercq et al., 2010; Levie & Autio, 2011), natural or man-made infrastructure (cities, access to financing, logistics, trade infrastructure, technology, etc.) (Acs et al., 2017;

Table 1 Constructs of entrepreneurial ecosystem elements and outputs

Concept	Construct	Definition	Element
Institutions	Formal institutions	The rules of the games in society	Formal institutions
	Informal institutions	Cultural context	Culture
	Social networks	The social context of actors, especially the degree to which they are socially connected	Networks
Resources	Physical resources	The physical context of actors enables them to meet other actors in physical proximity	Physical infrastructure
	Financial resources	The presence of financial means to invest in activities that do not yet deliver financial means	Finance
	Leadership	Leadership that provides guidance for, and direction of, collective action	Leadership
	Human capital	The skills, knowledge, and experience possessed by individuals	Talent
	Knowledge	Investments in (scientific and technological) knowledge creation	Knowledge
	Means of consumption	The presence of financial means in the population to purchase goods and services	Demand
	Producer services	The intermediate service inputs into proprietary functions	Intermediate service
New value creation	Productive entrepreneurship	Any entrepreneurial activity contributes (in)directly to net output of the economy or the capacity to produce additional output	Productive entrepreneurship

Source: Stam & Van de Ven, 2021:814

Brown & Mason, 2017), economic conditions (free/monopolized market, trade, import/export, finance, and investment) (King & Levine, 1993), cultures, and norms concerning questions like what is a “reasonable” activity to make an earning, and what kind of jobs are allowed for an employment (Freitag & Thurik, 2010), as well as geographical advantages and regional or city-related specializations like clusters or expertise (Brown & Mawson, 2019; Malecki, 2018). Moreover, other characteristics of an ecosystem could constitute the national entrepreneurial policy (colonization and exploitation versus democracy and economic freedom, supporting or hindering factors like specific taxation or subsidies, etc.) (Acemoglu & Robinson, 2012; Stam, 2015), or forms of production (industrial versus private) (Stam, 2014).

To systemize all these factors and ideas, we follow Stam and Van de Ven’s (2021) approach; we develop an integrative model for entrepreneurial ecosystems, based on ten categories and aggregated under three key elements (Van de Ven, 1993; Stam, 2015). This leads to a broader conceptualization and a more specific definition of an entrepreneurial ecosystem, incorporating a social component as well as

a (potential) dynamic development. This definition embraces institutional settings, resource endowments as well as infrastructure and proprietary functions and the productive output of a broad entrepreneurial activity (see Table 1, page 814, Stam & Van de Ven, 2021). Moreover, this integrative, causal approach offers (a) a kind of operationalization of key elements and measurement, and (b) the observation of the co-evolution of all these elements over time and their potential interrelations and interactions. This leads to three propositions of co-evolution (P1), upward causation (P2), and downward causation (P3). All this suggests the need to deal with the mutual interdependency of the components of the ecosystem (P1), the causal positive or negative impact of the existence of the key elements on the level of entrepreneurial activity in a region or territory (P2), and the effects of entrepreneurial activity level on the ecosystem (Stam & Van de Ven, 2021:814/815).

Stam and Van de Ven (2021) develop a very thoughtful and thorough operationalization of the eleven constructs and elements, measuring with current standards and available data, offering many sub-categories to help understand the bases of the key

factor. They develop a hypothesis on the rate or level at which the existence of those variables is conducive to entrepreneurial activity. Thus, in regards to this approach, we take into account the ecosystem and the elaborated elements (as explained later) for our analysis of the main and sub-categories of the factors (see methodology section).

Further, to enlarge the snapshot analysis of ecosystems, we follow the advice of different authors having a historical orientation (e.g., Smith, 1937; Sternberg (2021), to adjust this approach of ecosystem measurement and deal with the available historical data over time. This delivers insights on the factors and the entrepreneurial outcome at different stages and periods. Luminaries of economic science used this idea before the denomination of entrepreneurial ecosystem came into existence, and a historical analysis was forgotten for a long while. However, Adam Smith, an economist and the “father” of the market economy tried to understand the economic development of different nations through the historical prism (“An Inquiry into the Nature and Causes of the Wealth of Nations” (Smith, 1937)). Another well-known Austrian economist and entrepreneurship researcher, Joseph Schumpeter, adopted a historical approach in his work “The Creative Response in Economic History” (1947). He considered the historical research to be important for the empirical study of entrepreneurship and for the advancement of entrepreneurship theory (Schumpeter, 1947, 1949). According to him, “since entrepreneurship involves uncertainty, it cannot be predicted by applying the ordinary rules of inference from pre-existing facts” (p. 150). Thus, historical research with archival data seems very useful, because it aids an ex post facto understanding (e.g., Ventresca & Mohr, 2002). In addition, a “historic turn” in management and organizational research, that has taken place over the last decade, offers an opportunity to reconsider history in the context of the current wave of entrepreneurship studies (Landström & Lohrke, 2012), human sciences, and different management fields such as international business, strategy, and organization theory (Argyres et al., 2020; Godfrey et al., 2016; Ingram et al., 2012; Jones & Khanna, 2006). However, the contribution of historical data and analysis has still mostly been overlooked, especially while researching entrepreneurial activities and development in the context of entrepreneurial ecosystems (Sternberg, 2021; Fritsch et al., 2019; Stam & van de Ven,

2021). Working with historical data involves a compromise due to the scarce availability of information and data, but it delivers a first and rough insight on the “causal” relationship between the ecosystem elements and entrepreneurial activity over time. Moreover, this approach will deliver first results on what kind of elements have been important over the centuries and might still be important in the current situation or might have a long-lasting impact in the future (Fritsch et al., 2019). Finally, we follow the recommendation by some authors regarding the historical overview, which are against defining entrepreneurial activity in a narrow way, such as focusing on the Silicon Valley model and on only high-tech entrepreneurship (Stam & van de Ven, 2021; Sternberg, 2021), but are in favor of the everyday entrepreneurship idea which suggests that any risk-taking activity involving self-employment is measured as entrepreneurial activity (Welter et al., 2016).

3 Data and method

Before starting the journey through the history of ecosystems and entrepreneurship in Azerbaijan, we present an overview on how to deal with the cultural, political, or economic settings in the country and region and obtain an idea of what is going on in the entrepreneurial arena. We develop a measurement toolbox to rank settings over the history and eras, and the stage of entrepreneurial activity. To deliver this toolkit, at any point in the historical discussion, we will check out for typical/traditional ecosystem-related aspects, such as the interdependence of all economic actors in a particular community to create new value (e.g., Acs et al., 2017) and democratic structures or political institutional settings (e.g., Audretsch & Moog, 2021; or even earlier, as recommended by Acemoglu & Robinson, 2006, 2012). The level of institutionalization of data is changing and becoming more professional or documented with time; thus, a one-to-one comparison between the different stages in history is very difficult. However, assigning the existence of a conducive factor plus points, and a negative element minus points helps organize the data. In addition, the number of people living in a country and the statistical accuracy of the measures of economic activities change over time, too. Thus, we heuristically

number the factors affecting the entrepreneurial activity, bringing it to a higher level or aggregating the available information, using a simple point ranking technique method (explained in detail in the following paragraphs), to evaluate and compare different ecosystems over time.

We can summarize the above-mentioned details in the following manner. For a better and/or easier understanding of all the processes, boosting and hindering factors, and ecosystem aspects in Azerbaijan, across the country-specific history and the respective entrepreneurial activity, we undertake a two-step analysis of entrepreneurial ecosystems in Azerbaijan during different historical periods. The methodology consists of two parts: qualitative and quasi-quantitative. The methodology of this study is highlighted below.

1. First, the boosting and hindering factors are defined in accordance with the entrepreneurial ecosystem-related literature (Stam & Van de Ven, 2021), followed by presenting the idea of operationalizing the measurement of factors in a historical context. This is done in a deductive way by building categories and codes, following the methods and instructions of qualitative research in text analysis (i.e., Strauss & Corbin, 2014; Yin, 2016; Gioia, 2021; Eisenhardt, 1989; or Gioia et al., 2013).
2. Second, the developments over the history of Azerbaijan are described. We have tried to measure it according to the ecosystem approach and by using the codes and categories for each era and period.
3. Third, the data is systematized following the simple point ranking technique method (i.e., Pandey & Leelashree, 2012), and the data is converted into the data points in regard to this systematization approach.
4. Fourth, we obtain the final conclusion by conducting a simple comparative analysis of the entrepreneurial activity development related to the particular era, using the data obtained and the point ranking technique, to deliver an overview of the time reviewed in this study.
5. Finally, we discuss the results and their contribution to the state-of-the-art discussion in this research field. We also reflect on the limitations

of our approach and offer some ideas for future research.

To deal with all the information and data obtained from the archives, books, and historical references, we followed the data structuring model of Stam and Van de Ven (2021). Thus, the most important factors have been elaborated for the different time periods; they have been systemized, extracting the words or synonyms of every factor, filled with content; in quantitative empirics, this would be named as operationalization; however, here, it is a qualitative collection of terms and descriptions of situations or context, feeding the three concepts or eleven constructs of the ecosystem framework of Stam and Van de Ven (2021) with “countable” facts for every period. This is done by reading and analyzing all the data and segregating them into categories and codes. We cannot undertake a causal regression analysis to show the effects of single factors of the ecosystem on specific entrepreneurial activity because of the historical structure of the data and the non-existing (in some periods) or non-precise statistical data over time. In the paper of Stam and Van de Ven (2021) they develop item batteries and operationalize the available data to obtain the numbers, such as for transportation or human capital or entrepreneurial output. These data are accurate and currently available. In historical research, most data are non-existent or inaccurate; however, information on the modes and routes of transportation, and the opportunities or development of a new schooling system and training in craftsmanship are accessible in the archives. Thus, we follow the general systematization of Stam and Van de Ven (2021) but organize the historical data and information into categories, sub-categories or “empirical indicators.”

To give an idea of the breadth of this measurement, the sub-categories named in this paper, as well as some references dealing with these factors and elements are detailed below. The formal (political) institutions could be captured by the words, sentences, notions, or terms falling under “corruption, rule of law, government effectiveness, political system, voice, and accountability, as well as public services like law enforcement, access to education, and health-care” (see North, 1990; Charron et al. 2014), and by even more specified terms like “voting rights, contract law, protection of intellectual property, owning rights,

freedom, rights of individuals” (Stam & Van de Ven, 2021; Bjørnskov & Foss, 2010). The informal institutions could be described in ways like “culture, norms, values, appreciation of professions/entrepreneurship, risk attitude, valuation of freedom, appreciation of role models, etc.” (Stam & Van de Ven, 2021; Fritsch et al., 2019). “Networks or social networks” can be seen as a social capital of a society, of groups or individuals; thus, they form “valuable connectedness of businesses in a region, but as well as number of business contacts, helpful to act economically, weak and strong ties, clubs, unions” (e.g., Florin et al., 2003; Moog & Backes-Gellner, 2013). The overall category of “resources” embraces many aspects, such as physical resources (water, oil, iron, silk) or transportation. Here, we include “old” transportation possibilities to do business (or channels of commerce), like trade routes or roads, caravans, water-ways, local or national trade connections (Brown & Mason, 2017), which is a more general construct compared to Stam and Van de Ven (2021). We follow as well a broader approach of “financing aspects”, including the “existence of any kind of currency, banks or similar financing (former) institutions, friends, family, fools, interest rates, financing by specific ethnic groups or tribes” (Bjørnskov & Foss, 2010). To feed the term “leadership”—which involves providing guidance and direction for collective action—with content and meaning, we embrace expressions like natural/born leaders (tribal chiefs, local role models), producer groups, co-operatives, bourgeoisie, collectives, associations, local princes’ syndicates, (closed) societies, commons and allmende, and so on (Sotarauta, 2005). “Human capital,” in this study, is measured in multiple ways to collect information on the hard and soft skills, and the knowledge and experience obtained by individuals, for example, experience in a profession, specialization in doing something, education in school or university, training in specific professional groups and merchant guilds, knowledge of languages, writing, handicraft skills, and other measurements (Moog & Backes-Gellner, 2013). “Knowledge” is reflected in terms of the investment in schools and setting up training institutions, the number of educated people, knowledge exchange, literacy rate access to education in general, and so on (Freytag & Thurik, 2010). Obtaining information on the potential or “real demand”—that is, the presence of any financial means of the population to purchase goods or

services — was hard. The average values of income could be collected; however, in the case of slavery, only limited parts of the population had any income to spend. In addition, specific taxations indicated the incomes or expenses. This category has the least number of codes and sub-categories; however, when trade came up and potteries could be sold, a corresponding demand and “income” to spend must also have emerged. So we went with these scarce information. To cover “producer services,” we searched for suppliers, transport services, and value chains (for example, in agriculture, any kind of farming and delivering goods to mills or milk production; nut, apple, or apricot plantations delivering these goods to refining and drying fruits producers). Thus, we searched for a broad spectrum of services. Finally, to capture the data and information on any “entrepreneurship activity/productive entrepreneurship,” we collected all the terms and notions implying any activity contributing (in)directly to the economy or society and its development: caravansary, camel breeders, carpenters, oil drillers, transportation organizers, restaurants, hoteliers, and all other professionals or professions and activities mentioned in the archival data were included (Jafarov & Jafarova, 2017).

This study follows a qualitative approach to the historical text analysis (Strauss & Corbin, 2014). First, we obtained the valid data. Azerbaijan is a small country, so we adopted the full source approach; we did not sort for specific archives or books but went through thousands of texts in more than a year. These texts, documents, statistics, and books were mostly obtained from the Azerbaijan Academy of Science archives, Azerbaijan History Library at UNEC (State Economic University), and Azerbaijan Historical Institute. Many of the documents were found in their original form, along with the copies of the most used historical books and papers (ca. 100). We were supported by Prof. Dr. Hidayyat Jafarov, director of Azerbaijani Archeological Institute, in our search. Further, we used online as well as non-digitally available statistics which were obtained from the Azerbaijan Government.

Second, we conducted a systematic text analysis and searched deductively to obtain the data for every period, to fill in the categories of the ecosystem approach (e.g., Eisenhardt, 1989; Gioia et al., 2013; Yin, 2016). We looked for the chapters/

information on the social and/or economic life in Azerbaijan during different periods, reading through the books, texts, and statistics. We also specifically read and analyzed the texts on behalf of finding key words of Stam and Van de Ven (2021) tables and analysis, keywords describing the different ecosystem factors. In every period or any keywords that could fit those categories, depending on the historical period, we found in a first selection hundreds of categories. This is the idea of “open coding” given by Strauss and Corbin (2014), where every word describing a fact is taken into account. Thus, we looked for the words and descriptions of the contemporary definitions of Stam and Van de Ven (2021). However, in ancient and medieval periods, those categories were named differently. For example, the category of “Leadership” was named and defined in some eras as “Tribal community”, or a prince or king or shah as a different kind or wordings for leadership. “Colonialism or Democracy” can be observed as well in the former periods, i.e. being occupied by the Turks or finding a landlord system of Arab Caliphate. This open coding and the comparing axial coding following the Strauss and Corbin (2014) approach of bringing together similar observations and obtaining other codes by different major categories, can help us in developing a “primitive-advanced” scale of factors for the Stam and Van de Ven (2021) factors and categories. This procedure, undertaken by two to three researchers, lead to a drastic reduction in the number of codes, and helped us develop sub-categories and put them under the eleven key categories. Following the processes of analysis recommended by Gioia (2021), we obtained a comprehensive set of so-called first-order terms (general codes) and second-order themes (sub-categories) and the aggregate dimensions, that is, the key categories. All these information when put together formed the basis for the further analysis, which is called data structure. We can better understand how all these words and terms are inter-related, and how they form the specific ecosystems over time by organizing all the words and the colored similarities or differences. Thus, we can interpret the raw data as categories and key constructs (Eisenhardt, 1989; Gioia et al., 2013; Yin, 2016).

Then, we compared the quality of the named categories per period. So, i.e., if human capital

is named several times only with one profession, or no public schools were mentioned, this is a lower level of human capital and skills. Instead, compared to be named and listed as, i.e., specific schools for training for a profession, different professions, clusters of expertise (i.e. silk), etc.) are listed in one period, it is a high level of human capital. Thus, discussing these rankings with the expert from Azerbaijan and within the two authors, we come up with the ranking from -3, 0 up to +3 for the different categories.

This data structure allowed us, as a second step, to rank the constantly evolving factors throughout the history. Thus, to use the collected data in a fruitful and logical way, we first systemize the data, and then, develop a heuristic model for the first insights on the relation between ecosystem factors and entrepreneurial activity over time. We use a well-tested and accepted methodological approach: the simple point rating technique.

Simple point rating technique is developed for and mostly used in personnel economics/human resources (e.g., Bergmann et al., 2001; Pandey & Leelashree, 2012); it is also used in decision-making theories or in other kinds of ranking approaches (e.g., Fielding et al., 1998) as a heuristic, descriptive methodological tool. The point ranking technique involves a more detailed, quantitative, and analytical approach to the measurement of single aspects and factors, and thus, it evaluates the factors of each process. In this method, any situation or process can be broken down based on various identifiable factors, that are in our case the elements of the entrepreneurial ecosystem, or in other words, the factors affecting entrepreneurship in a positive or negative way. Thereafter, points are allocated to each of these factors in accordance with their importance in terms of weight (+3; -3 range), and then they are summed. The sum of points gives an index of the relative significance of the process that has been rated. Following to this method, we counted every boosting factor as + point (from +1 to +3) and every hindering factor as - point (from -1 to -3) in our dataset. The basis for such an analysis is an existing theoretical framework, which helps categorize and collect the important factors and also differentiate them according to their level of importance. In this study, we systemize all factors

over different historical periods in line with the ecosystem model and framework (Stam & Van de Ven, 2021). Thus, for any historical period, we use the same framework, feed it with the accessible data on factors, and describe the situation or process at the time. Following the step-by-step procedure recommended for this approach (Pandey & Leelashree, 2012), we proceed as described below (see Theodoraki & Messeghem, 2017; Acs et al., 2014, 2017; Stam & Van de Ven, 2021). (1) We group and systemize the factors based on specific constructs or concepts, typical for ecosystems, regardless of the era (Bergmann et al., 2001). (2) We identify the important factors for each period

and create a simple ranking system or hierarchical order. (3) We assign points to the factors. Here we give a point (from +1 to +3) for any positive or supportive factor and a minus point (from −1 to −3) for any disturbing or hindering factor. If a factor is not existing or could not be generated in the historical data, then it is given zero points (0). Finally, the points can be aggregated for each concept or construct and added to deliver a categorization of hindering or supporting factors on the one side and the entrepreneurial activities (productive outcome) per period on the other side. This is shown in the chart below.

Chart 1 Ecosystem elements categorization and grading

Ecosystem elements	Points	Institutions	Resources	New value
Primitive	1	Tribes, barter, chaotic market and local trade connections, no centralized power, traditional learning, free decisions, one language, favorable policy, and taxation	Land, natural resources, local trade benefits, not processed/simple products, agriculture	Simple/primitive professions
Progressive	2	Centralized state, independent reign, organized markets and international trade connections, caravans, culture, independent leadership, trade and logistics bureaus, merchant guilds, entrepreneurship revival process, development of all regions	Long-distance logistics, cities development, trade infrastructure, transit trade, caravans and caravanserais, international trade benefits, manufactured/processed products, mining, early production, first industrial knowledge, aristocracy, religious representatives, schools, state capital	Specialization of craftsmanship and other entrepreneurial professions, early industrial production
Advanced	3	Private ownership, art, democracy, gender equality, constitution, equal voting rights, parliament, free religions, secular state, equal rights for local and international entrepreneurs	High education and culture, universities, specialized organization, unified currency and national banks, high-skilled labor, art pieces, local bourgeoisie, SME, outsourcing, local and foreign investors and capital	High professional specialization, creative professions, R&D professions, SMEs, Innovative professions
Neutral	0	No centralized power, no formal/informal institutions	Absence of resources and knowledge	Extinction of outdated professions

Ecosystem elements	Points	Institutions	Resources	New value
Unfavorable	– 1	Vassal service, feudalism, unfavorable/discriminative state and tax policy, closed economy, religious discrimination	Recourses misuse, feudal fragmentation, vassal lands, wars and military/feudal acquired/expanded lands, militarization and military knowledge	Discrimination of entrepreneurial professions
Destructive	– 2	Colonialism, discriminative tax policy, poor property rights protection, sharp social stratification, non-democratic system, serfdom, ineffective laws, corruption	Colonial resource exploitation, colonization of population, economic crisis, monopolies, syndicates, riots, concentration of production and monopolization, ineffective legislation/law	Prohibition of some entrepreneurial professions
Fatal	– 3	Totalitarian regime, no property rights, prohibition on private capital/property/initiative/accumulation, equal income, planned economy, criminalizing of entrepreneurial activity, shadow economy	Confiscation/nationalization, communism, no private capital, despotism, bankruptcy, Dependent production chains, controlled markets, cense	No private sector, Prohibition of all entrepreneurial professions, serfdom

Source: own, 2022

Thus, we can develop a first and basic *data systematization*. Therefore, the authors created a comprehensive table with all key information, stated in the entrepreneurial ecosystem definition and literature, for *every historical period*. These tables include all the key aspects, such as the historical period, the name of the administrative unit (state), and entrepreneurial activities (productive outcome). The factors and conditions that were boosting or hindering entrepreneurship during the specific historical periods in Azerbaijan, in accordance with available relevant literature and the points were implemented. Thus, we extracted the qualitative information from the archives and texts, added them to the tables and characterized them into the different constructs of the ecosystem. Then, every boosting and hindering factor in these tables was evaluated according to Chart 1, using the point ranking techniques. (*The contemporary period is not included into the data analysis, because it does not fit our historical approach. The current period is neither finished nor static, and the contemporary situation and conditions are constantly changing).

4 Historical review and estimation of the impact and effect on entrepreneurial activity

This study discusses and analyzes the different eras and important periods of Azerbaijan's history. The information and facts we could obtain, collect, and figure out by studying the archives, books, pics, papers, and newspapers are wrapped up in the following sections and summarized in the tables using the ecosystem approach of Stam and Van de Ven (2021). These tables form the bases for the heuristic measurement to show the relations or interactions between, and the impact of single ecosystem factors on entrepreneurial activity over time. Moreover, systemizing the different factors indicate which factors remain more robust or change strongly, and which ones might have a steady state, and a strong or less important effect on entrepreneurial activity over time.

4.1 Ancient Period—the cradle of entrepreneurship: the state, trade, and craftsmanship

4.1.1 Administrative units: the government of Manna; Atropatena and Caucasian Albania

Entrepreneurial activities, even at the time when this term did not exist, appeared in Azerbaijan, as well as

in other countries during the Neolithic period (eighth to seventh millennium BC), at the dawn of a producing economy (Svizzero & Tisdell, 2014). Later, with the agricultural revolution in the six to four millennium BC, this process received new an impetus, and in the Early Bronze Age (third millennium BC), with the development of production relations and productive forces, the first major social division of labor took place, and the farmers separated from the cattle breeders. This process was followed by the second major division of labor in the Middle Bronze Age (first half of second millennium BC), when the craftsmen were distinguished from all other kind of producers (Smith, 1937). This process affected the territory of Azerbaijan, and in the second half of the second millennium BC, there were two entrepreneurial groups: those who produce the goods, that are, craftsmen, and those who were a link between the producers and consumers, that are, the intermediaries or tradespeople, engaged exclusively in the purchase and sale of goods (Jafarov & Jafarova, 2017). This social layer of the entrepreneurially active individuals led to the development of international trade. Several studies prove that the population of Azerbaijan had close mutual relations with neighboring areas as well as with the well-known cultural and economic centers of the Ancient East (Jafarov, 1984, 1985). Azerbaijani artisans and merchants were active participants in the trade fairs of Small Asia at those distant times; they conducted intensive trade in the international trade factories of Kanesh, located in the territory of modern Turkey (Kultepe) (Jafarov, 1984; Yankovskaya, 1968). It was a simple barter trade, dealing with “primitive” exchange measures in terms of money equivalent, such as shells of kauri, metal ingots and hoops, or even cattle. Thus, those people were already involved in some international production-money-trade relationship and could be considered as the early entrepreneurs (Jafarov, 1984), following the general ideas of Cantillon et al. (2015) or Kirzner (1973) (Table 2).

This development continued until the ninth century BC, when the very first administrative form emerged on the territory of Azerbaijan, known as *the government of Manna* (or the Mannea Kingdom), which had relations with Assyria and Urartu (Geybullayev, 1994; Kashkai, 1977). As we know from the institutional entrepreneurial as well as ecosystem research, the state power may have a positive

(or negative) influence on entrepreneurial activity through the laws, regulations, and norms (Kayne, 1999). Besides, when well organized, it reduces the uncertainty for all economic agents in the society (Brouwer, 2000; North, 1990). This worked for Azerbaijan too, and this first centralized power provided a favorable environment for craftsmanship to develop into one of the spheres of the first ever-centralized economic market (Jafarov & Jafarova, 2017). The archaeological excavations in Hasanlu and Ziviyeh in South Azerbaijan, as well as similar excavations in the northern territories, helped discover the luxurious samples of jewelry (silver and golden cups), and pieces of clothing (Aliyev, 1995). The level of mastery illustrates the developed and valued craftsmanship of this period (Jafarov, 2020). These pieces were typically found in the graves of the wealthy, which is also a proof of valuation ability back then (Azerbaijan Academy of Science, 1995; Jafarov, 2020). Azerbaijani craftsmen also traded at the Ancient East markets, while the development of horse and camel breeding allowed long-distance transportation and coverage by caravans (Jafarov, 1984). The first centralized government successfully provided the elements, crucial for entrepreneurship activity, such as freedom relating to the choice of employment and private ownership. This supported a complex working with existing resources and created a large variety of specialized craftsmanship as well as traders and breeders of animals important for transportation. Together with developing trading networks and routes, this led to the development of an international trade process and the training of people to work in specialized facilities (jewelry, pottery, etc.) (Jafarov, 2020). This period can be considered the cradle of craftsmanship and professional trading and transport in Azerbaijan, as one of the oldest industries in this country (Table 3).

The eastern military campaign of Alexander the Great to the Middle East in the IV century BC, had a big impact on the territory: the Hellenistic culture mixed with the local culture, and it brought new opportunities in trading (Babayev, 1990; Rasulova, 1969). Moreover, at the end of fourth century BC, two independent states were formed: *Atropatena* in the south and *Caucasian Albania* in the north (Aliyev, 1990; Babayev, 1990). After the death of Alexander the Great and the collapse of his empire, the two states became independent in three hundred

Table 2 Ecosystem elements and entrepreneurial activity: 2nd half of the 2nd millennium BC

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	No centralized power (– 1)	0	– 1
	Informal	Free decisions (1), tribal values (1)	2	0
	Social networks	Local, national, and “international” trade connections (1); trade routes (1)	2	0
Resources	Physical	Wide land/grass (1), iron (1), shells (1)	3	0
	Financial	Barter trading (1)	1	0
	Leadership	Tribal (1)	1	0
	Human capital	Traditional learning (1)	1	0
	Knowledge	-	0	0
	Means of consumption	Barter (1)	1	0
	Producer services	Metal ingots (1), hoops (1), Kauri shells (1), cattle (1)	4	0
	Productive entrepreneurship	Intermediaries (1), craftsmen (1), merchants (1), farmers (1), breeders (1)	5	0
Value				
Total			20	– 1

Source: Own data 2022, following Stam and Van de Ven (2021)

twenty-third BC (Bosworth, 1989). Cities and other settlements, both in Atropatena and Caucasian Albania bordered the caravan trade routes and each of them had a big temple within its territory (Babayev, 1976, 1990). *Caucasian Albania* had an exceptional location. Distinguishably successful were the water trade routes of the Ox River (now Amu Darya River), Hirkan Sea (now Caspian Sea), and Kura River. These, along with some land routes were the main paths by which the goods from India reached the Black Sea (Babayev, 1990). Therefore, local and international trade had a new impulse to develop. Fishing was another important part of the economy; Claude Elian wrote, “The Caucasian Albanians made medical remedies from the fish fat, and used the viscera of fish to produce glue” (Feigl, 2011, page 24). Moreover, the iron ore deposits on this territory fostered the development of metallurgy; pottery was another sphere which saw development. Glass manufacturing started from the first century BC (Azerbaijan Academy of Science, 1995). Thus, entrepreneurial activity developed around accessible natural resources and produced goods using high skill levels. The coins excavated in Shamakhi in 1958 and in Gabala in 1966 revealed that both local and foreign coins were used as means of exchange (money) during this trade period (Babayev, 1990). However, four social groups existed on the territory of Azerbaijan in that period; it included slaves, individuals - identified as the producers of material valuables and resembled

the entrepreneurs - were free people (Mamedova, 1986). For a long time, the entrepreneurs were a well-respected social group. This period also gives evidence suggesting that goods were traded by exploiting the existing and new trade routes, and the competitive advantages (Babayev, 1990) (Table 4).

4.2 Middle ages—feudalism and colonization versus independence and entrepreneurship

4.2.1 Administrative units: Sassanian Empire, Arab Caliphate, Seljuk Empire, The Shirvanshakhs, and The Atabek States

In the Middle Ages (third to eighth century), the pattern of a social structure having different hierarchy levels and economic development in Azerbaijan was quite similar to that common around the world (Aliyev, 1995, pp.169–179), and thus, the development of entrepreneurial activities was also comparable. In the third to fifth centuries, feudalism emerged in Azerbaijan, with a king on the top of a non-democratic system and lords on lower aristocratic levels (Hunter, 2012). Due to the feudalistic political system, a major part of the land was transferred from the state to private ownership of a wealthy group of people, serving the kings—the so-called servicemen. To create a strong social support, the kings gave these servicemen the right to receive income from the land on which the peasants lived, in addition to their own lands. There

Table 3 Ecosystem elements and entrepreneurial activity: ninth century BC—the Manna period

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Centralized state emergence (2), centralized market (2), private ownership (3)	7	0
	Informal	Free decisions (1), early culture emergence (2)	3	0
	Social networks	National (1) and international (2) trade connections	3	0
Resources	Physical	Wide lands (1), long-distance transportation (2), caravans (2)	5	0
	Financial	Trading (2)	2	0
	Leadership	Independent (2)	2	0
	Human capital	Traditional learning (1)	1	0
	Knowledge	-	0	0
	Means of consumption	Simple form of national (1)/ international trade (2)	3	0
	Producer services	Jewelry: silver (1), golden cups (2) & pieces of clothing attires (2); textiles (2); pottery (2)	9	0
Value	Productive entrepreneurship	Specialized craftsmen (2), farmers (1), breeders (1), merchants (1), caravan leaders/owners (2)	7	0
Total			42	0

Source: Own data 2022, following Stam and Van de Ven (2021)

were two types of land ownership: inherited and unconditional feudal land ownership called “dastakert,” and conditional land ownership called “hostak,” granted only for temporary possession, for the vassal service. However, “hostak” land often became “dastakert” (“patrimony” vs. “estate”) (Mamedova, 1986). The feudal lords, in their turn, expanded their possessions through military attacks, as well as by acquiring the land of impoverished peasants (Jafarov & Jafarova, 2017). The main peculiarity of the feudal way of production in Azerbaijan, as in all countries of the East, was the almost complete absence of the lord’s own household because starting an enterprise requiring large expenses was not profitable for them. The lords were mainly focused on collecting rent from the peasants. The peasants cultivated the land, give a part of the product to the feudal lord, and perform many duties (Mamedova, 1986). This kind of economic relationship between the peasants and feudal lords explains the fact that Azerbaijan, unlike other Eastern countries, did not have serfdom in the common sense. The peasants were dependent on and subject to cruel exploitation, but they were not considered serfs of the feudal lords, and the lords had no right to buy or sell them (Jafarov & Jafarova, 2017).

For entrepreneurial activities, the feudal system was rather destructive, because people outside the “privileged” feudal group had a limited ability to enhance their lives through entrepreneurial and

business opportunities (Hunter, 2012). The feudal structure was mostly an outcome of the permanent occupation of Azerbaijan during these Middle Ages, by many big empires (Sumbatzade, 1990), such as the Persian *Sasanian Empire* in the sixth century as a result of the Sasanian-Roman war. This was followed by the dynasty of Mekhrani, the relatives of the Sasanians in the seventh century. Two types of taxes were levied in Azerbaijan during this latter period: haradj, that is tax on land, and gezit, that was taxed from individuals. Haradj constituted approximately 1/3 to 1/6 of the crops, while gezit was levied once a year on the Christians and craftsmen. Such taxation policy had a negative effect on the society in terms of entrepreneurial activity, because it directly discriminated against the main group of entrepreneurs at that time: the craftsmen. As a result, the number of artisans decreased (Jafarov & Jafarova, 2017). A new regime and taxation system was established in 681 AD when the Arabs exploited a power vacuum and entered Caucasian Albania in Azerbaijan, and made it a part of the *Arab Caliphate*. Islam started spreading in the territory, and the tax policy of colonization served the religious ideals. The locals had to pay a tax “reckoned by head”—jiziya. The women, children, and poor were exempted from this tax, and so were the men joining the army. This latter military policy of taxation—like in most big empires at that time,

Table 4 Ecosystem elements and entrepreneurial activity: fourth century BC—the Caucasian Albania

Concept	Construct	Aspects and operationalization	Point +	Point -
Institutions	Formal	Centralized state (2), centralized market (2), private ownership (3), slavery (–2), People identified as the producers of material valuables were free (1)	8	–2
	Informal	Free decisions (1), Hellenic culture impact (2)	3	0
	Social networks	National trade (1) and inherited from Alexander the Great Empire wide international trade geography and connections (2)	3	0
Resources	Physical	Land, water trade route of Ox River and caravan trade routes (2), caravanserais (2), temples (2)	6	0
	Financial	Trading (2), early industrial production (metallurgy, glass manufactures) (2)	4	0
	Leadership	Independent (2)	2	0
	Human capital	Traditional learning (1)	1	0
	Knowledge	New industry knowledge (2)	2	0
	Means of consumption	International (2) and local trade (1), production (2)	5	0
	Producer services	Remedies and glue from fish fat (2), pottery (2), glass and iron items (2)	6	0
Value	Productive entrepreneurship	Merchants (1), caravan owners (2), specialized craftsmen (2), fishers (2), fish fat remedies and glue producers (2) breeders (1), intermediaries (1)	11	0
Total			51	-2

Source: Own data 2022, following Stam and Van de Ven (2021)

resulted in a reduced number of craftsmen, merchants, and independent entrepreneurs, in favor of army men (soldiers) (Tables 5 and 6).

As a result of the collapse of the Arab Caliphate, the *state of Shirvanshakhs* came up as an independent government; it extended from Derbent to the Kura River and the shore of the Caspian Sea (Ashurbeyli, 1984; Buniyadov, 2007a). Despite the short period of independence, the entrepreneurial activities revived, the Islamic tax was abolished, the merchants, potters, breeders, fishers, and craftsmen returned to their professions, new craft specializations emerged (Buniyadov, 2007a), and trade flourished again and almost the former level of business activities, quality, and trade could be reached. This is presented in Table 7.

However, this period was too short to lead things to a robust stage. So, again, in the eleventh to thirteenth century, Azerbaijan fall under foreign occupation; this time the *Seljuk Empire* (1037–1194), held out its military policy on the colonized territories. This meant high taxation on the independent self-employed and no taxes on the members of the military. The occupants were never interested in the development of their colonies; rather, they wanted to use the population as a military force for further expansion which negatively

affected the entrepreneurial activity (Buniyadov, 2007a, b; Sharifi, 1978) (see Table 8). Thus, these occupations became a kind of recurring political phenomenon in Azerbaijan, and the country turned into a diversified society with different religions and cultural roots. This had an impact on Azerbaijan as a nation which is imprinted until today; modern Azerbaijanis are multicultural and tolerant towards different religions (Buniyadov, 2007a, b).

At the end of the eleventh century, the Seljuk Empire weakened, and the Shirvanshakhs state became independent again. To develop more resilience against future occupations, this state united with the regional neighbors, particularly with the Georgian kings and established the *Atabek State* (Farzaliyev, 1983). A unified language, currency, and means of weights and measurements were introduced. This emergence of a stable and independent state, and commonly accepted money and measures (1136–1225) boosted the development of such spheres as craftsmanship, and trade and culture; thus, the entrepreneurial activities received a boost (Buniyadov, 2007b). Ganja City was named the most developed and rich city at that time: up to 500,000 people lived there at a time when cities with 20,000 to 30,000 residents

Table 5 Ecosystem elements and entrepreneurial activity: third to fifth centuries, the Sassanian Empire

Concept	Construct	Aspects and operationalization	Point +	Point -
Institutions	Formal	Colonial power (−2), non-democratic hierarchy system (−2), vassal service and feudalism (−2), unfavorable for craftsmen taxation (−1), poor property rights protection (−2), vassal lands (hostak/dastakert) (−1) serfdom abolishment (2)	2	−10
	Informal	Severe social stratification (−2), expanding lands by military attacks (−1) and acquiring the land of impoverished peasants (−1), discrimination of craftsmen (−1)	0	−5
	Social networks	Local connections (1)	1	0
Resources	Physical	Wide lands(1), agriculture development (1)	2	0
	Financial	-	0	0
	Leadership	Colonial (−2)	0	−2
	Human capital	The number of craftsmen, merchants reduced, in a favor of farmers paying natural taxes to feudal (−1)	0	−1
	Knowledge	-	0	0
	Means of consumption	Internal/colonial trade (1)	1	0
	Producer services	Agriculture (1)	1	0
Value	Productive entrepreneurship	Less farmers (−1), much smaller amount of craftsmen (−1)	0	−2
Total			7	−20

Source: Own data 2022, following Stam and Van de Ven (2021)

in Western Europe were considered large (Buniyadov, 2007b). Handicrafts and other entrepreneurial activities developed in this period and had a minimum of 30–40 different craft specializations. Ganja also was the biggest silk-producing

center in Azerbaijan (Buniyadov, 2007b). Moreover, there were rich iron and copper mines close to the city, and this affected the development of all crafts dealing with metals. Ganja produced weapons and ammunition for the entire region

Table 6 Ecosystem elements and entrepreneurial activity: seventh century—the Arab Caliphate

Concept	Construct	Aspects and operationalization	Point +	Point −
Institutions	Formal	Colonial power (−2), non-democratic hierarchy system (−2), taxation based on religious/professional discrimination (−1) (heavy tax burden for non-Islamic and non-military population, tax called Jizya). Poor property rights protection (−2)	0	−7
	Informal	Colonization(−1) and religious discrimination (−1) of population	0	−2
	Social networks	Local connections (1)	1	0
Resources	Physical	Wide lands (1), agriculture (1)	2	0
	Financial	-	0	0
	Leadership	Colonial (−2)	0	−2
	Human capital	The number of craftsmen, merchants, and all independent entrepreneurs reduced, in a favor of army men (−1)	0	−1
	Knowledge	Military (−1)	0	−1
	Means of consumption	Internal/colonial trade (1)	1	0
	Producer services	Agriculture (1), military acquisitions (−1)	1	−1
Value	Productive entrepreneurship	Even less farmers (−1), and an even smaller amount of craftsmen (−1)	0	−2
Total			5	−16

Source: Own data 2022, following Stam and Van de Ven (2021)

Table 7 Ecosystem elements and entrepreneurial activity: 861–1538—The Shirvanshakhs State

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Short term independence (2), feudalism (– 2); abolishment of pro-military (1) and later religious (1) taxation, unfavorable for craftsmen and self-employed individuals	4	– 2
	Informal	Free choice (1), revival of entrepreneurship (2)	3	0
	Social networks	Revival of pre-colonial trade relations (2)	2	0
Resources	Physical	Wide lands (1)	1	0
	Financial	Trading (1)	1	0
	Leadership	Independent (2)	2	0
	Human capital	-	0	0
	Knowledge	Traditional learning (1)	1	0
	Means of consumption	Local (1) and international trade (2)	3	0
	Producer services	Pottery (2) and jewelry (2), as before colonization	4	0
Value	Productive entrepreneurship	Higher and reviving numbers of craftsmen such as (potters (1) jewelers (1), clothing makers (1), new specialized craftsmen (2), farmers (1) merchants (1) intermediaries (1), breeders (1), fishers (1)	10	0
Total			31	– 2

Source: Own data 2022, following Stam and Van de Ven (2021)

of the Southern Caucasus, and hence, became an important city. As a consequence, the majority of Ganja's citizens consisted of independent traders and craftsmen. This leads to the overview in Table 9. Ganja had a great impact on the development of Azerbaijan (Fig. 1) (Alizade, 1956). Unfortunately, a strong earthquake in 1139 affected Ganja city's development; it had many negative effects on all the positive aspects discussed earlier (Sultanov & Sultanova, 1958).

Historians refer to this era as the Azerbaijani renaissance. Azerbaijan introduced famous astronomers, poets, and architects to the world. This period was distinguished by the peak of Azerbaijani literature development; Nizami Ganjavi ("from Ganja") was the most famous poet, and his work "Hamse" has been translated into 27 languages. The fact that cultural and entrepreneurial activities peaked at the same time might suggest that liberal and cultural factors and economic development often develop in tandem and affect each other (Freitag & Thurik, 2010). Another important development was the adoption of a commonly spoken language in Azerbaijan; Turkish

became the main language for communication in Azerbaijan (Buniyadov, 1978, 2007b).

4.3 Thirteenth to fifteenth century—the Mongol period

4.3.1 Administrative units: the Mongol Empire

Various military campaigns occurred in the territory during these prospering times, and finally, in the thirteenth to fourteenth centuries, the social and economic situation in Azerbaijan became unstable. After three main military rallies of the Mongol Empire (XIII) and later the Golden Hordes (XIV), Azerbaijan became a part of the Mongol Empire (Alizade, 1956). The local government of Shirvanshakhs still existed, though it obeyed the invaders.

Forty tax forms were introduced in addition to the duties and tribute during the Mongol invasion. The territorial policy of the Mongols, whose main source of income was cattle breeding, reduced the land used for agriculture (Buniyadov, 2007a, b). This led to lower harvest, which harmed the local farmers. The local feudalists lost their lands and sources of income.

Table 8 Ecosystem elements and entrepreneurial activity: Middle Ages (1037–1194)—The Seljuk Empire

Concept	Construct	Aspects and operationalization	Point +	Point –
Institutions	Formal	Colonial power (– 2), high taxation on independent entrepreneurs, (– 1) no taxes to members of the military (– 1). Poor property rights protection (– 2)	0	– 6
	Informal	Colonization and militarization of population (– 2)	0	– 2
	Social networks	Local connections (1)	1	0
Resources	Physical	Wide lands (1)	1	0
	Financial	-	0	0
	Leadership	Colonial (– 2)	0	– 2
	Human capital	The number of craftsmen, merchants and all independent entrepreneurs reduced, in a favor of army men (-1)	0	– 1
	Knowledge	Military (– 1)	0	– 1
	Means of consumption	Internal colonial trade (1)	1	0
	Producer services	Military acquisitions (– 1)	0	– 1
	Productive entrepreneurship	Very small amount of farmers (– 1) and craftsmen (– 1) (diminishing again)	0	– 2
	Total		3	– 15

Source: Own data 2022, following Stam and Van de Ven (2021)

Table 9 Ecosystem elements and entrepreneurial activity: Middle Ages (1136–1225)—the Atabek State

Concept	Construct	Aspects and operationalization	Point +	Point -
Institutions	Formal	Long-term Independence (2), property rights (3), unified currency (3), and measures, language (1)	9	0
	Informal	Free choice (1), craftsmanship (1), culture (1)	3	0
	Social networks	National trade (1) and wide international trade connections (2)	3	0
Resources	Physical	Even wider lands (1), development of Ganja city (2), iron and copper ore mining (2) and production (2), spill-over effects to the whole nation (2)	9	0
	Financial	Production (2) and trading (1)	3	0
	Leadership	Independent (2)	2	0
	Human capital	Advanced craftsmanship specialization (2)	2	0
	Knowledge	Traditional learning (1), early industry knowledge (2), research (2)	5	0
	Means of consumption	Local (1) and international trade (2)	3	0
	Producer services	Weapons and ammunition to the whole Southern Caucasus region (3), silk and textile (2), iron and copper ore (2), porcelain and crafts that used metals (2)	9	0
	Productive entrepreneurship	Independent traders (2) and merchants (1), crafters—craftsmen specialization, 30–40 different craft professions (1 × 30)	33	0
	Total		81	0

Source: Own data 2022, following Stam and Van de Ven (2021)

Additionally, the Mongols followed the policy of enslaving the local men to use them during military campaigns, and the crafts masters and entrepreneurs were mostly male. The 200 years of the destructive

policy during the Mongol occupation led to a near-collapse of individual craftsmanship in Azerbaijan (Alizade, 1956) (Table 10).

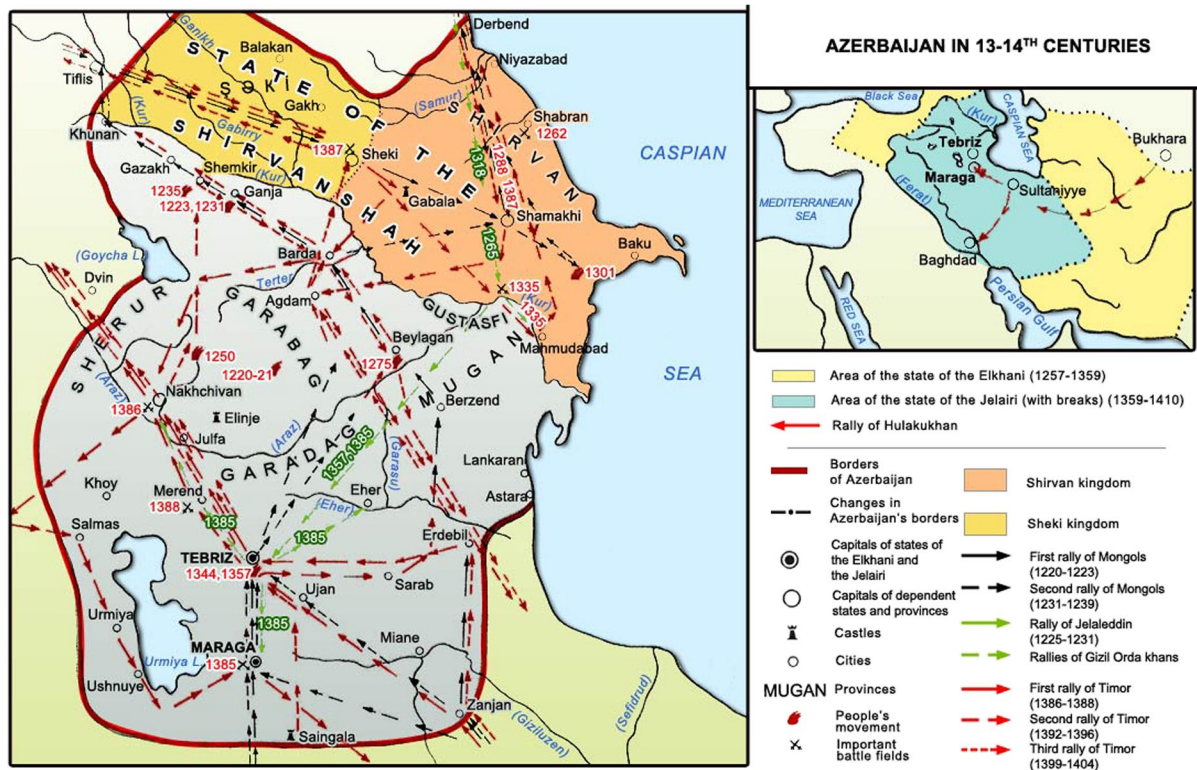


Fig. 1 Geopolitical map of Azerbaijan, thirteenth to fourteenth centuries. Source: <https://www.history.az/images/3/460432.jpg>

4.4 Fifteenth to seventeenth century: independent again—the Silk Route and international trade

4.4.1 Administrative units: *Qaragoyunlu* and *Aggoyunlu* states, the *Safavi* State

After the fall of the Mongol Empire, at the beginning of the fifteenth century, the *Qaragoyunlu* and *Aggoyunlu* states became the new rulers and formed local governments in Azerbaijan (Heydarov, 1982). These independent regimes created a new “prosperous” era for the cities in Azerbaijan (Fig. 2) (Farzaliyev, 1983), and the traditional entrepreneurial activities started reviving (Buniyadov, 2007a, b). For example, in the second half of the fifteenth century, Baku turned into the main port on the Caspian Sea and played an important role in the trade with Moscow and Central Asia; Tabriz, Ganja, Shamakhi, and Ardabil were declared the main silk and

cloth producing cities (Heydarov, 1982). The carpets from the cities of Shirvan and Tabriz gained popularity (Buniyadov, 2007a, b) and became world famous around 1475. Thus, craftsmanship and trading again became an important force in the society and economy (Azerbaijan Ministry of Culture, 2015). Fishing, agriculture, and caravan trade revived, while the number of taxes decreased drastically from 40 during the Mongol empire to only three in this new government. The craftsmen paid tax for production, the farmers paid the living tax reckoned by the head, and also the tax for irrigation if they used water for this purpose (Buniyadov, 2007a, b) (Table 11).

In 1501, the *Safavi* state with its capital in Tabriz City was formed on the remnants of these states; it was founded by the new dynasty of Shah Ismail Safavi of Azerbaijan, who in 1502 became the Shah of Persia (Muradaliyeva, 2011). The economic and

Table 10 Ecosystem elements and entrepreneurial activity: thirteenth to fifteenth century—the Mongol period

Concept	Construct	Aspects and operationalization	Point +	Point -
Institutions	Formal	Colonial power (−2), non-democratic hierarchy system (−2), slavery(−3), heavy tax burden of 40 taxes (−1), poor property rights protection (−2)	0	−10
	Informal	Severe colonization and slavery (−2)	0	−2
	Social networks	Local connections (1)	1	0
Resources	Physical	Wide lands (1)	1	0
	Financial	-	0	0
	Leadership	Colonial (−2)	0	−2
	Human capital	Severe reduction of farmers, craftsmen, merchants and all independent entrepreneurs, in a favor of army men (−1)	0	−1
	Knowledge	Military (−1)	0	−1
	Means of consumption	Internal/colonial trade (1)	1	0
	Producer services	Military acquisitions (−1)	0	−1
	Value	Productive entrepreneurship	0	0
	Total		2	−17

Source: Own data 2022, following Stam and Van de Ven (2021)

social role of Tabriz, Shamakhi, Baku, Ardabil, Julfa, and other Azerbaijani cities increased due to the development of international trade alongside the great “Silk Route” and the fair, open-minded, and liberal leadership of this government.

For the ecosystem and entrepreneurial activities of Azerbaijan, the Great Silk Route (starting in the first to third centuries BC as “Strabo path”) (Muradalieva, 2011) is of great importance. It has changed its paths and directions over time, but the Azerbaijani cities (Fig. 3) have always remained its part; Azerbaijan has been a gate between Europe and Asia (Heydarov, 1982). However, Azerbaijan played a great role in the trade and pathway of the Silk Route during the fourteenth to eighteenth centuries, when the goods from China were transported to the European markets, partially through the Caspian Sea. These water routes for transportation were widely used because they were the cheapest during that period (Heydarov, 1982). The enormous and steadily growing trade along the Silk Route also boosted the development of infrastructure and entrepreneurial activities in the Azerbaijani cities. They had caravanserais, which combined the functions of a hotel and a warehouse. The caravan trade provided work for various professionals: camel drivers, camel breeders, guards, moneychangers, and other servicemen. Besides, special bazaars and fairs were organized for foreign merchants and guests. All this helped boost trade and entrepreneurial climate in

the region (Muradalieva, 2011). Over a long period, these Silk Route activities helped Azerbaijan in being identified as a trading, transit, and intermediating country (Heydarov, 1982).

Silk became the main export item of Azerbaijan, especially when in 1562 the governor signed a trading contract with the English-Moscow company Jenkins (Mahmudov, 1993). The silk trade became a topic of negotiations between the Safavi state, the Russian Empire, and other European countries. The records of famous German traveler and embassy member, Adam Olearius, sent by the duke of Holstein to Moscow and Persia, show that he aimed to reach agreements with the two countries for establishing the silk trade route through Moscow into Holstein. He also mentions Azerbaijan in his work, “The Voyages & Travels of the Ambassadors” (Paris, 1666), and describes his two visits to Azerbaijan (1636 and 1639) and records that it produced more than 20,000 silk cocoons per year, mostly in the Shamakhi City (Olearius, 1666).

Other craft types were also developing rapidly beyond this famous silk trade city of Shamakha. Saf-ron, harvested in different rural areas, was another valuable good exported to Moscow and Europe during this period (Muradalieva, 2011). Baku gained more fame as a port city and for its oil resources (Fig. 4) (Mahmudov, 1993). Tabriz City became the center of carpet production (some pieces of that period are still kept in Milan and British museums, due to their extraordinary

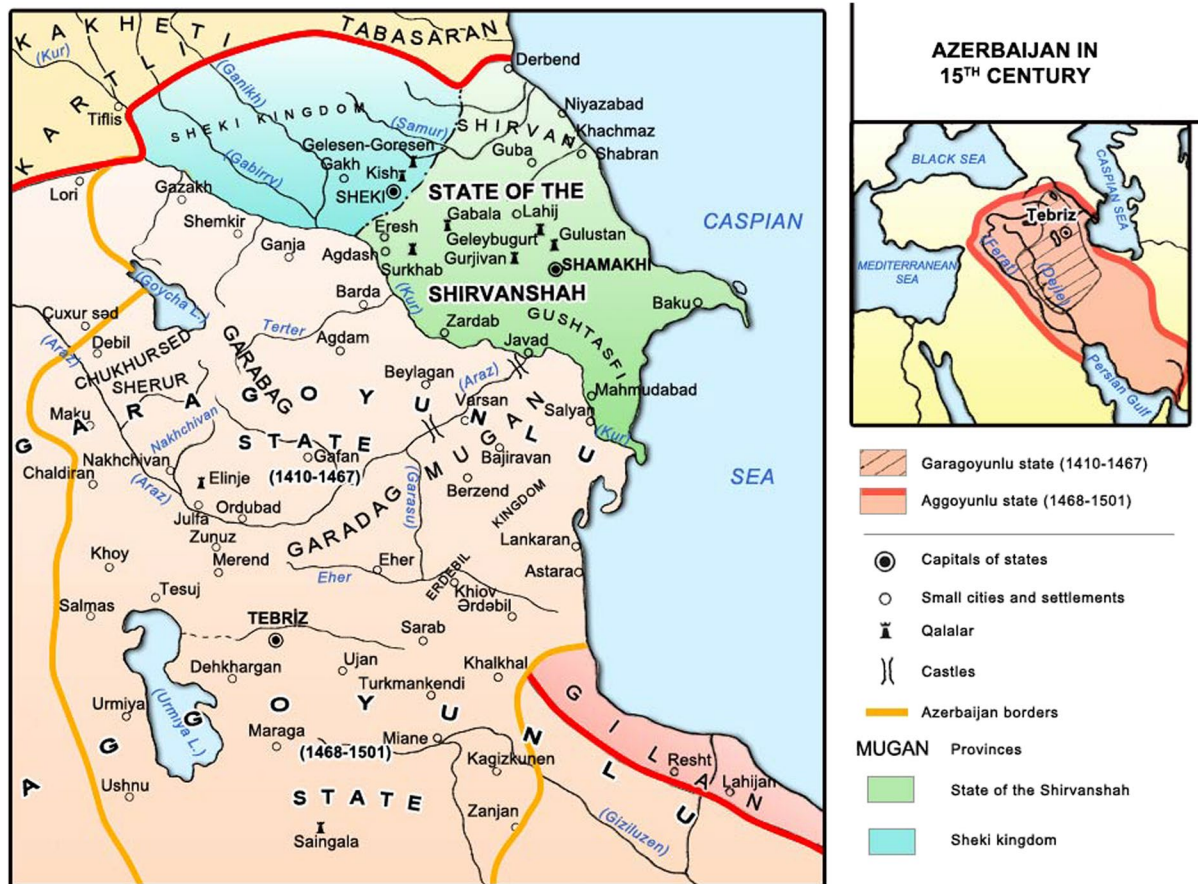


Fig. 2 Geopolitical map of Azerbaijan, fifteenth century. Source: <https://www.history.az/images/3/139582.jpg>

quality and design (Heydarov, 1982). Moreover, similar to the first high period of entrepreneurship, the art and culture developed during this period (Freitag & Thurik, 2010). In XVI, a school of miniature art was established in Tabriz and many valuable manuscripts were produced during this period. Among them, were “Shah and Darvish” with three miniatures (Saltikov-Shedrin Library, St.Petersburg), “Shahname” with 258 miniatures (Metro Museum and Houghton collection, New York), and the world-famous “Khamsa” with 14 rare miniatures (British Museum, London). They all are considered as masterpieces of miniature painting and book art in the East because of their rich designs and exotic decorative adornments (Azerbaijan Ministry of Culture, 2015). Besides, the trade with Russia and Western Europe, strong Azerbaijan-India trade relations also existed. The local population referred to Indian

merchants as “Multans,” who stayed in caravanserais and had their own living areas in the cities (Chardin, 1735). In addition to these trade relations, a cultural or religious bond, Zarathustrianism (the cult of fire) also developed. A fire temple called “Ateshgah” was erected in the Surakhani region, as a symbol of the good relationships between the two nations (Kaempfer, 1712); it broadened the cultural and religious diversity in Azerbaijan which exists until today (Buniyadov, 2007a, b).

During this period, the nation mainly consisted of four social groups: feudalists, merchants, craftsmen, and farmers (Heydarov, 1982). The craftsmen in their turn were divided into three categories: (1) individual craftsmen, (2) united workshop organizations with several craftsmen (asnaf), and (3) craftsmen, working in workshops belonging to the feudal. However, there was only one group of traders: the Azerbaijani

Table 11 Ecosystem elements and entrepreneurial activity: Qaragoyunlu and Aggoyunlu States

Concept	Construct	Aspects and operationalization	Point +	Point -
Institutions	Formal	Independence(2), reduced amount of taxes (1)	3	0
	Informal	Free choice (1), craftsmanship, trade, and culture revived (2)	3	0
	Social networks	National trade (1) and wide international trade (2) The great Silk Route (2)	5	0
Resources	Physical	Ports (2))and shipping development (2) at the Caspian Sea, transport ways and routes (2), Evolving cities (2) along the Silk Route, more resources (1), more agriculture (1)	10	0
	Financial	Production (2) and trading (1)	3	0
	Leadership	Independent (2)	2	0
	Human capital	Industrial production (3) and advanced craftsmanship specialization (2)	5	0
	Knowledge	Traditional learning (1), industry knowledge (2)	3	0
	Means of consumption	Local (1) and international trade (2)	3	0
	Producer services	Intermediary trade (2), silk (2), cloth (2), carpets (2), agricultural products (1)	9	0
Value	Productive entrepreneurship	All over new developing cities and areas (2): Merchants (1), craftsmen (1), farmers (1) and traders (1), shipmen (2), boat owners (2), caravan leaders (2), hostels (2), breeders of cattle and camels (1)	15	0
Total			61	0

Source: Own data 2022, following Stam and Van de Ven (2021)

merchants. They preferred to use the Ottoman trade routes; the goods transported by this pathway were all gathered in the major cities of Istanbul, Izmir, and Halebe, and then they were transported to Europe by sea (Heydarov, 1982). The Silk Road and trade had an enormous impact on the development of the Azerbaijani entrepreneurial activities, the craftsmen, and merchants. However, the discovery of a transportation route from Europe to Asia via sea and around the African horn reduced the importance and use of the Silk Route, but it was still active (Swietochowski & Collins, 1999) (Table 12).

The overall development of entrepreneurial activity in that period is considered very high, although it was strongly related to the Great Silk Route and international trade. Therefore, this period mostly saw the developing “around” this international trade process along the route. Entrepreneurship was mostly focused on the service (merchants, Caravan Sarai’s, moneychangers, transportation services, etc.) and export sectors, and was mostly involved in international trade in products, such as silk, carpets, and spices, the traditional trade on the Silk route trade. However, an increase in craftsmanship and production was also witnessed.

4.5 Eighteenth century: Azerbaijani Khanates—feudal fragmentation

4.5.1 Administrative units: Tabriz, Urmiya, Khoy, Maku, Garadag, Maraga, Sarab Karabakh, Ganja, Shamakhi, Baku, Derbend, Guba, Sheki, Lankaran, Iravan, Nakhchivan khanates, and the sultanates of Ilisu, Gabala, Aresh, Gazakh, Shamshaddin, Jar-Balakan, and Tabasaran

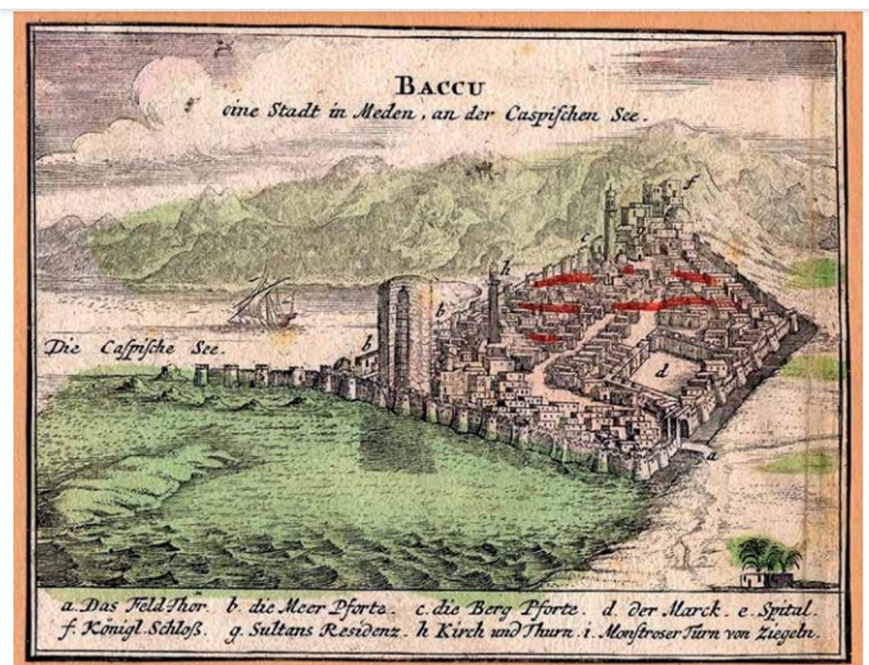
Political instability following the assassination of Shah Nadir in 1747 ended the long and robust rule of the Safavi state (1501–1747) which saw the peak of a positive development. The struggle for succession to the throne among the four heirs of the Shah ended in the repeated transfer of power, and this resulted in the feud and the emergence of independent local states — Khanates, on the territory of Azerbaijan (Fig. 5), and later on — to Russian Empire rallies (Abdullaev, 1965). A heavy tax burden was developed (35 types of taxes levied) in response to the strong need for money. Tabriz, Urmiya, Khoy, Maku, Garadag, Maraga, Sarab Karabakh, Ganja, Shamakhi, Baku, Derbend, Guba, Sheki, Lankaran, Iravan, Nakhchivan khanates, and the sultanates of Ilisu, Gabala, Aresh, Gazakh, and Shamshaddil



Fig. 3 Illustration of Azerbaijani cities by Adam Olearius, 1666. Source: Adam Olearius. The Voyages & Travels of the Ambassadors: Sent by Frederick Duke of Holstein, to the Great Duke of Muscovy, and the King of Persia, Paris, 1666, pp.

144–145. Image produced by ProQuest as part of Early English Books Online. www.proquest.com Image published with permission of ProQuest. Further reproduction is prohibited without permission

Fig. 4 View of prospering Baku, 1683, by German traveler Engelbert Kämpfer. Source: Amoenitatum exoticarum politico-physico-mediarum fasciculi V, quibus continentur variae relationes, observationes et descriptiones rerum Persicarum et ulterioris Asiae, multa attentione, in peregrinationibus per universum Orientum, collecta, ab auctore Engelberto Kaempfero. Lemgoviae: Typis & Impensis Henrici Wilhelmi Meyeri, Aulæ Lippiacæ Typographi, 1712, p.269; <https://irs-az.com/new/files/2019/265/3072.pdf>



Jar-Balakan, and Tabasaran developed as little political power centers. This process was strengthened by the feudalist independence in the territory and very weak economic ties between the regions in the territory of Azerbaijan (Rahmani, 1981). Some of these regions

are still important parts of Azerbaijan, while others were annexed by Russia and Iran as a result of the war between them (see next section). The economic situation got worse during the Khanates period (Buniyadov, 2007a, b). Every Khanate had its own regulations,

Table 12 Ecosystem elements and entrepreneurial activity: sixteenth to eighteenth centuries—the Safavi state

Concept	Construct	Aspects and operationalization	Point +	Point -
Institutions	Formal	Independence (2)	2	0
	Informal	Free choice (1), The Great Silk Route Era culture and trade development (2), art development (3)	6	0
	Social networks	National trade (1) and wide international trade (2), The Great Silk Route (3) evolving cities along the Silk route (2)	8	0
Resources	Physical	Baku port (3), cheap water transportation (2) caravanserai (2) and other trade infrastructure (2), transit country and routes (2), silk (2), saffron (1), further development of shipping (2) wide lands (1)	17	0
	Financial	Production (2) and trading (1), export of silk (2)	5	0
	Leadership	Independent (2)	2	0
	Human capital	Craftsmen organizations (3), industrial production (3)	6	0
	Knowledge	Traditional learning (1), industry knowledge (2)	3	0
	Means of consumption	Local (1) and international trade (2) along the Silk Route	3	0
	Producer services	Intermediary trade (2) transit trade (2), carpet production (2), silk and silkworm (2), miniatures (3), saffron (1)	12	0
Value	Productive entrepreneurship	Merchants (1), craftsmen (1), farmers (1), traders (1), caravanserai owners (2) caravanserai (hotel) staff (2), camel drivers (1), guards (2), moneychangers (2) other free servicemen, required to assist Silk way trade (2), artists (3), teachers at crafts schools (2); strong development and prospering cities (2) and rural areas, shipbuilders (2), farmers (2) saffron producers (2) silkworm and silk producers (2)	31	0
Total			95	0

Source: Own data 2022, following Stam and Van de Ven (2021)

and taxation and economic systems. Only the system relating to the property rights was similar in all Khanates, and the lands were still granted by the governor (Khan) except that conditional inheritance was changed to unconditional inheritance. The feudal fragmentation destroyed the existing production ties between the cities and other regions of Azerbaijan and resulted in the decline of total entrepreneurial activity (Jafarov & Jafarova, 2017) to a much-reduced scale to include only small craftsmen and merchant operations. Feudal fragmentation also created a favorable condition for the Russian empire to invade and gain control in Azerbaijan (Buniyadov, 2007a, b) (Table 13).

4.6 Nineteenth century—Russian colonization

4.6.1 Administrative unit: Russian Empire I

This period did not start on a favorable note for entrepreneurial activity. As a result of the two Russian-Iranian wars, the territory of Azerbaijan had been divided between the two fighting nations in the nineteenth century. It reduced the population of Azerbaijan;

however, when the war ended, the people who had fled, started returning to the region. The local khanates were deposed by the Gulistan agreement in 1813 and the Turkmenchai agreement in 1828 (Aliyev, 1995; Buniyadov, 2007a, b), and Azerbaijan became a Russian colony. The Russian Tsar awarded the ruling administration as one governor (Aliyev, 1995; Buniyadov, 2007a, b), who held power above the local aristocracy (“beks”) (Jafarov & Jafarova, 2017) and had the right to take away the property of any bek. He could also award properties to the beks, determine the tax rates and tax types, and rent the manufacturing and production locations, including the oil wells, salt lakes, ports, and fish farms. The governor also approved the courts’ decisions (Jafarov & Jafarova, 2017). This period was highlighted by the severe colonial exploitation of Azerbaijan by the Russian Empire, and a very centralized and non-democratic governance structure (Jafarov & Jafarova, 2017). The major portion of the population (90%) consisted of free farmers, while the two other social groups were the aristocracy (beks and religious representatives), and merchants and craftsmen (Buniyadov, 2007a, b). The local aristocracy and the Russian

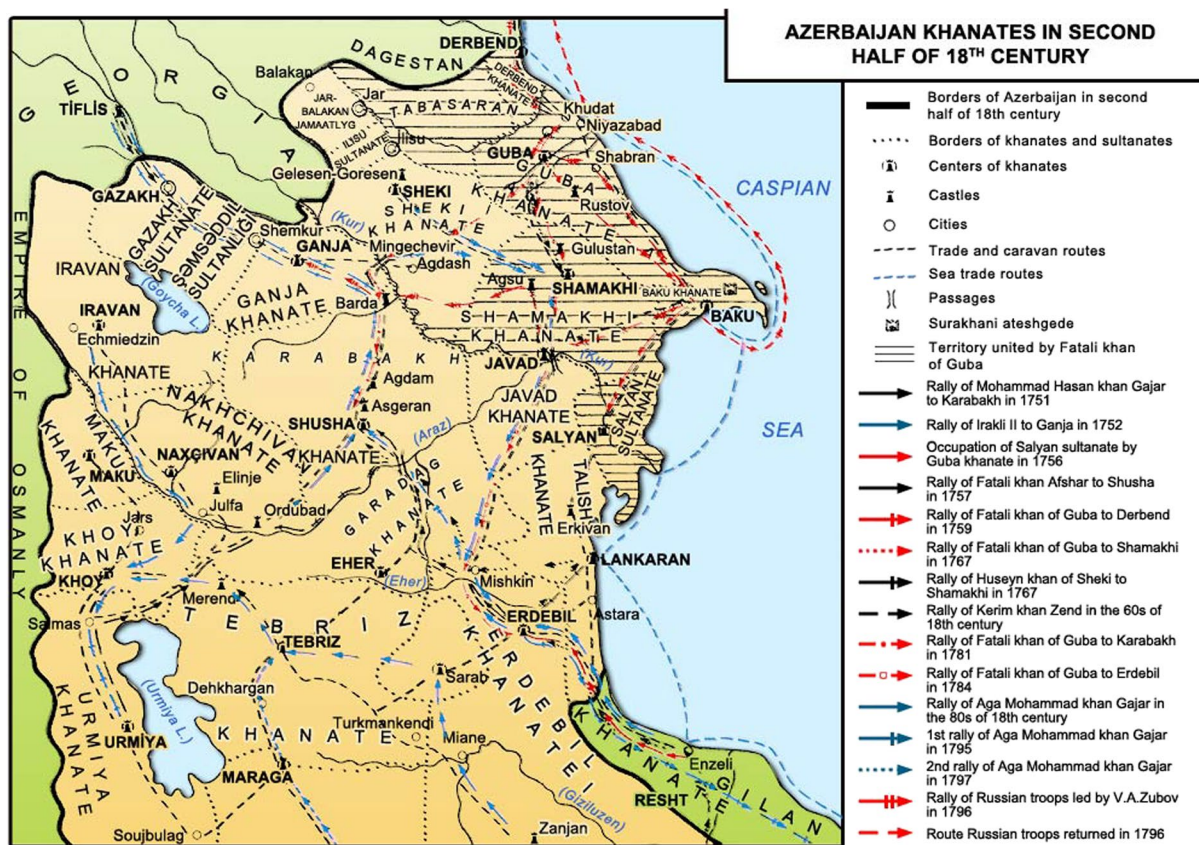


Fig. 5 Geopolitical map of Azerbaijan, eighteenth century. Source: <https://www.history.az/images/3/292821.jpg>

imperialistic system could not co-exist peacefully, and open riots occurred in 1841 when the law declared that the lands of local aristocrats should be confiscated and they belonged to the Russian Empire (Jafarov & Jafarova, 2017). This law instilled insecurity related to investment and ownership, and different population groups openly protested against the colonial exploitation for several years. These riots lasted until 1846, when Tsar Nikolai I acknowledged the right of the aristocracy to inherit the lands as their property. Thus, a stable environment for farming, manufacturing, and craftsmanship, fostering a prosperous economic development, was restored (Jafarov & Jafarova, 2017).

As a positive consequence, two-thirds of silk produced in the Southern Caucasus were from Azerbaijan during this latter time. A “Society spreading the silk production and trade on the territory of Southern Caucasus” was established in 1836, and a “Practical school of silk manufacturing” was established in 1843 in Azerbaijan to ensure a standard quality and easy trade

(Sumbatzade, 1964). Additionally, there was a high demand for mastic by the Russian cloth industry; this boosted mastic’s production in Azerbaijan’s Guba City (Aliyev, 1998). These changes resulted in a situation, that was the opposite of the closed economy during the period of the Khanates. This led to the re-emergence of capitalism and manufacturing in Azerbaijan (Ismailov, 1964). However, Azerbaijan was mostly exploited and utilized by the Russian Empire for its materials resource (Sumbatzade, 1964) (Table 14).

4.7 Second half of the nineteenth century: Industrialization and the oil boom

4.7.1 Administrative unit: Russian Empire II

The technician, F.A. Semenov drilled the first oil well in the history of Azerbaijan in 1848, in the Bibi-Heibat area, in the suburbs of Baku (Jafarov & Jafarova, 2017). From then onwards, oil was widely used in

Table 13 Ecosystem elements and entrepreneurial activity: end of eighteenth century—the Khanates

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Feudal fragmentation (− 2), feudalism (− 1), non-democratic hierarchy system (− 2), Poor property rights protection (− 2), closed economy—every khanate had its own governor, regulations, taxation and economic system (− 1), vassal service (− 1)	0	− 9
	Informal	Social stratification (− 2)	0	− 2
	Social networks	Local trade (1)	1	0
Resources	Physical	Small khanates, broken production ties between them (− 2)	0	− 2
	Financial	-	0	0
	Leadership	Feudal system (− 2)	0	− 2
	Human capital	-	0	0
	Knowledge	-	0	0
	Means of consumption	Local trade (1) and trade between khanates (1)	2	0
	Producer services	Agriculture (1)	1	0
Value	Productive entrepreneurship	Lessened number of craftsmen (− 1) merchants (− 1) and farmers (1), discrimination of all other entrepreneurial professions (− 1)	1	− 3
Total			5	− 18

Source: Own data 2022, following Stam and Van de Ven (2021)

the mass production processes across the Russian Empire (Kuzminov, et al., 2017). Hence, there was a huge demand for the oil discovered in Azerbaijan (Jafarov & Jafarova, 2017) (Fig. 6). This led to the developments in oil production and the discovery of new wells and resources. The production of kerosene started in 1859 in the Russian capital (Jafarov & Jafarova, 2017). The mines and wells that now belonged to the Russian Empire were given for short-term rents of maximum 4 years; thus, the renters were not interested in importing or inventing new technologies for sustainable production (Sumbatzade, 1964). In 1865, an auctioneer company (modern LLC), Siemens Brothers & Co. built the largest copper-smelting plant in the Russian empire, located in Azerbaijan. Later, Siemens Brothers & Co built a cobalt factory in Dashkesen City. Silk production was also developing, and in 1861, in Nukha, the Voronin brothers opened the largest silk-producing factory in Europe. It won a bronze medal in an exhibition in London in 1862 for its production quality and design (Jafarov & Jafarova, 2017).

Under the influence of the “Russian capitalism development,” the “oily” Baku began to grow rapidly in the last quarter of the nineteenth century. It became the largest center for oil production in the

entire Caucasus. In 1859, Russian entrepreneurs, Kokarev and Gubanin founded a large oil refinery in the Surakhany district. In addition to this plant, dozens of other oil-related industrial enterprises operated in the Absheron region (Kuzminov et al., 2017). Even though the oil industry was developing, the system as a whole was not conducive to entrepreneurial activity and risk-taking, because the oil fields were rented out by the Russian Empire only for 4 years. This encouraged the leasing entrepreneurs to recover the high costs involved in the business due to exploration and test drilling during the 4 years (Kuzminov et al., 2017); this led to an extremely inefficient production because the renter was often unable to profit from his enterprise. Thus, this short-term leasing system paralyzed the development of this industry specifically and entrepreneurial activities more in general (Mendeleyev, 1949).

The representatives of the nascent industrial bourgeoisie, who were interested in investing their capital in the oil business expecting large profits, demanded the abolition of this ineffective renting system. The Tsar government reckoned with those demands, and on February 17, 1872, this system was abolished. From then onwards, the oil fields’ rent periods were changed up to the maximum of 24 years. In addition,

Table 14 Ecosystem elements and entrepreneurial activity: nineteenth century—the Russian Empire I

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Colonial power (−2), non-democratic hierarchy system (−2), no private property rights (−3), ineffective and expensive rent system of production facilities (−2), ineffective legislation (−2),	0	−11
	Informal	Colonization of population (−2), open riots (−2)	0	−4
	Social networks	Colonial trade connections (1)	1	0
Resources	Physical	Exploitation and utilization of local resources and resource-rich lands by the Russian Empire (−2)	0	−2
	Financial	Russian capital (1)	1	0
	Leadership	Colonial (−2)	0	−2
	Human capital	Local aristocracy (2) and religious representatives (2)	4	0
	Knowledge	Traditional learning (1), manufacture knowledge (2)	3	0
	Means of consumption	Internal/colonial trade (1), manufacturing (1)	2	0
	Producer services	Agriculture (1), silk (2), mastic polish (2)	5	0
	Productive entrepreneurship	Merchants (1), craftsmen (1), farmers (1)	3	0
Total			19	−19

Source: Own data 2022, following Stam and Van de Ven (2021)

Fig. 6 Oil fields in Baku suburbs, Balakhani, 1900. Source: https://www.azer.com/aiweb/categories/magazine/ai102_folder/102_articles/102_oil_chronology.html



the rent contracts were sold on auctions to individuals and free entrepreneurs (Kuzminov et al., 2017). Initially, this sector required capital infusion. As a result of the auction biddings in 1872–1873, the major part of the oil fields and the most important oil areas rent contracts were sold to the Russian, Azerbaijani, and foreign auctioneers, and thus, they went into the hands of such private entrepreneurs as Mirzoyev (AZ), Lyonozov (RU), Vermashev (RU), Kokorev (RU), Gubanin (RU), Tagiyev (AZ), Benkendorff (DE), and K. Trading House (UK), and other big capital owners (Jafarov & Jafarova, 2017; Kuzminov et al., 2017). In 1879, the Swedish Nobel brothers established the “Nobel Brothers” company. In the 1880s, they were followed by the Rothschilds, and in the 1890s by the

James Vishaus Anglo-Russian Oil Company, Benkendorff, and K. Trading House (Jafarov & Jafarova, 2017). In 1873, only 12 companies were engaged in oil production in Baku, while in 1883 and 1900, there were 79 and later 146 companies, respectively. The capital investments in the oil industry were rapidly growing (Kuzminov et al., 2017). Despite the insignificant share of Azerbaijani entrepreneurs in the oil business, some Azerbaijani oil producers, and the first female business woman of Azerbaijan, Nabat Ashurbayli, were able to accumulate a huge fortune. The class of Muslim business people had a certain influence on various aspects of life in the Azerbaijani society (Jafarov & Jafarova, 2017).

Baku held the first place for the oil production in the world between the nineteenth and twentieth centuries based on the investments and the possibility of acquiring an ownership in the oil fields (Kuzminov et al., 2017). In 1873, an entire city district was set up for the factories and workers in Baku; it was called “Black city” because of the color of the oil that could be smelled and seen all over (Kuzminov et al., 2017). The development in the oil business and industry also led to the development and increased the demand in the related industries, that are, the chemical industry - producing sulfur, pyrite, soda, and other products (Sumbatzade, 1964). In addition, the business of the suppliers of work and food developed. Eventhough these were highly important spheres, the development of the other industries was not proceeding and the dependence on the oil and gas industry was created. This changed slightly in 1897, when Tagiyev (AZ) sold his oil fields and refineries for 5,000,000 rubles to the English companies. He reinvested the capital in new businesses in different industries, such as, textile, shipbuilding, and fishery. This helped other industries to flourish, and therefore, to slightly decrease the dependence on oil (Jafarov & Jafarova, 2017).

Merchants and craftsmen constituted local entrepreneurs, other than those involved in the oil and gas industry. The industrialization process led to the reduction in the number of craftsmen, as craftsmanship gave way to small businesses (Jafarov & Jafarova, 2017). However, the merchants were still active during this period. In 1876, the law regarding the merchants’ rights and the Merchant’s Guilds were established in Azerbaijan, which was then, a part of the Russian Empire. The Merchants’ Guild consisted of three categories of merchants: the merchants of the first guild had the right to open a shop, bureau, or a storage facility in any location within the territory of the Russian Empire, while the merchants of the other two guilds were subject to rules and limitations. The merchants of the first guild could conduct foreign trade, own ships, and had the right to move freely in the country; they enjoyed the “passport benefit.” The merchants of the second guild could own river ships. In addition, the merchants of the first and second guilds could own factories and plants, and were exempt from physical punishment and conscription. The merchants of the third guild could carry out petty trade, maintain taverns and innards, and do handicrafts (Orlov, 2017).

Parallel to this more or less flourishing business environment, the cultural and the educational system were also developing. A new kind of schools, with classes separated by age and gender, was opened in 1865; male and female gymnasiums were established in large cities, such as Baku and Ganja (Jafarov & Jafarova, 2017). Libraries and reading halls belonging to schools were opened across the country. In 1868, the first independent library and reading hall was opened in Ganja, and in 1894, the first national reading hall was opened in Baku. Thus, Azerbaijan was developing into an open and modern society (Jafarov & Jafarova, 2017) (Table 15) besides being a part of the Russian Empire, and only due to some exceptional rules of freedom.

4.8 Beginning of the twentieth century—economic crisis and monopolization

4.8.1 Administrative unit: Russian Empire III

The World Economic Crisis during 1900–1903 had an enormous effect on the Russian Empire, and therefore, on Azerbaijan’s economy. It negatively affected the oil and metallurgical sector, though it did not bring down the light industry production. The small- and medium-sized enterprises faced the biggest challenges in those years, and later on, the majority of them went bankrupt. This allowed monopolies to strengthen and led to the concentration of production (Akhundov, 1954; Muradalieva, 1989).

However, in 1901, against all these odds, more than a half of world oil production came from Azerbaijan’s oil industry, and between 1898 and 1901, Baku produced more oil than the USA. Judging by the capital concentration, Baku’s oil production was in the first place, not only in Russia, but in the entire world (Kuzminov et al., 2017). Thus, even at low prices, the oil industry of Azerbaijan, in general, remained profitable; during 1902–1904, the Nobel Brothers Company received a net profit of 9.3 million rubles, Baku Oil Company received over 1.5 million rubles, Russian Association “Oil” received about 1 million rubles, and so on. (Ibrahimov, 1984). Therefore, despite the crisis at the beginning of the twentieth century, foreign capital continued to flow into Baku, and its position was very significant and strong. The interest of foreign business persons in Azerbaijan was still growing. The Noble brothers, the Rothschild,

Table 15 Ecosystem elements and entrepreneurial activity: The Russian Empire II

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Colonial power (–2), no private property rights (–2), high taxes (–2), non-democratic governance (–2)	0	–8
	Informal	colonization of population (–2), cultural development (2)	2	–2
	Social networks	colonial trade connections (1), foreign investors welcomed (3)	4	0
Resources	Physical	Resource-rich lands (1), exploitation and utilization of local resources by the Russian Empire (–2) and foreign investors (–2), industrial production (2)	3	–4
	Financial	Foreign capital (3)	3	0
	Leadership	Colonial (–2)	0	–2
	Human capital	Local bourgeoisie emergence (2), Merchant guilds (3)	5	0
	Knowledge	Outsourcing (3), import of industrial knowledge (2), schools(2)	7	0
	Means of consumption	Local (1), colonial (1), and international trade (2)	4	0
	Producer services	Silk (1), Mastic polish (2), Oil (2), Kerosene (2), Cobalt (2), sulfur(2), pyrite(2), soda(2), textile (2), ship-building(2),	19	0
	Value	Productive entrepreneurship	13	0
		Merchants (1), craftsmen (1), Foreign businessmen (3), Local aristocracy – entrepreneurs (2), nascent industrial bourgeoisie (3) fishers (1) innards and tavern owners (2)		
Total			60	–16

Source: Own data 2022, following Stam and Van de Ven (2021)

and other oil giants were still among the international investors. The British companies were particularly active financially from 1898 to 1903, investing approximately 47 million rubles in oil enterprises of Baku. The Royal Dutch Shell (UK), the Standard Oil (USA), the Caspian-Black Sea Company (FR), and the Nobel Brothers from Sweden were working on new oil fields in Baku, too. Out of the 213 million rubles invested in the Azerbaijani economy by foreign investors, 8% was from Germany, 30.5% from France, and 53.3% from the UK. Millionaires from different countries invested in different areas as well. While the German investors were also interested in the railway industry and security market (bonds, stocks, etc.), the French and British capitalists preferred the copper and oil industries (34.6% of the total copper produced in Russia belonged to Azerbaijan). Thus, 167 enterprises were engaged in the oil industry, of which 29% were national, and 71% foreign capital (Jafarov & Jafarova, 2017). Half of the employees engaged in this sphere were Azerbaijanis, and the rest half were foreigners. So, these were more like oligopole structures instead of broad Azerbaijan entrepreneurial activity in this sector.

By 1900, the six largest companies are as follows: (1) Partnership of Nobel Brothers, (2) Montashev,

(3) Caspian-Black Sea Partnership Rothschild, (4) Baku Oil Company, (5) Caspian Partnership, (6) Society for the production of Russian oil and liquid fuels, constituting only 3.6% of the total number of companies, accounted for 50% of all oil produced in Baku. This more and more monopolistic concentration of power also occurred in the refining industry. Despite the reduction in the total number of refineries, their volume of produce grew continuously. The same six largest factories of the early 1900s were producing 44% of all kerosene, and one of them, namely Nobel Brothers, produced over 22%. Under the conditions of the existing industrial crisis, the Nobel Brothers Company had taken the control over the oil export from Baku in a major way, so much so that some firms and entrepreneurs, including local oil producers (Sh. Asadullayev, M. Nagiyev) had to request the Nobel Company for the permission to sell their products in Astrakhan, Russia (Muradaliyeva, 1989).

On one hand, this foreign capital inflow led to the further development of some entrepreneurial activity in Azerbaijan; however, that was true only for the large businesses and entrepreneurs, who prospered even during a crisis. On the other hand, the sharp drop in oil product prices during the crisis led

to the bankruptcy of many small and medium-sized entrepreneurs and contributed to the concentration of oil production in the hands of large monopolistic associations (syndicates) (Jafarov & Jafarova, 2017). The tendency to unite was observed also among the Baku ship owners. In 1903, large ship owners like Tagiyev, Buniyatov, Ashurov, Manafov, Useynov, and Humayevs signed a kind of syndicate agreement (Jafarov & Jafarova, 2017) to survive.

Baku had become a large industrial and commercial center of Azerbaijan. More than 5,000 enterprises served more than 400,000 people in the city and the surrounding villages. Baku had extensive import–export relations, not only with the other Azerbaijani cities, but also with the trade centers of the Caucasus, Russia, and other countries. All other spheres of industrial production were also located in Baku City. In 1912, Baku housed 462 industrial enterprises (177 in oil industry), and in 1915, it had 549 enterprises (184 in oil industry) (Jafarov & Jafarova, 2017). By the end of the nineteenth century and in the early twentieth century, Baku had already become a large industrial center with a great reputation for international and local entrepreneurship. The rapid development of industries created the preconditions for the banking sector development. In 1913, Baku had 15 large banks, which played an important role in international import–export and lending operations (Ibrahimov, 1984). The local banks mostly belonged to the Russian and Azerbaijani magnates (Muradalieva, 1989). Baku and other parts of Azerbaijan were also exporting cotton, wine, walnut, silk, wool, nuts, raw or shabby skin, fur, fish products (including caviar), porcelain, dishes, and so on, to the various Russian and Caucasian countries, Iran, and the world markets (Sumbatzade, 1964).

The agricultural sector in Azerbaijan also prospered during that period. The main area in this sector development was cotton production and delivery to the textile industry (Valiyev, 1987). According to the 1914 statistics, cotton harvest in Azerbaijan accounted for 70% of the total volume of cotton produced in the Caucasus. “This stimulated the development of other related industries, such as textile factories; they were almost monopolistic, with the largest factory belonging to H. Z. Tagiyev (it had a construction cost of 1 million gold coins, and imported 2500

cars from Europe to ensure supply the plant (Seidzade, 1978)).”

The need for cotton grew constantly, and the amount of cotton processed increased by 5.3 times in 1901–1910. The products were mainly sold to Russia, Central Asia, and Iran (Seidzade, 1978).

The development of sericulture also played an important role in the history of entrepreneurship in Azerbaijan. At the end of the nineteenth century, there were more than 400 large and small silk-weaving enterprises in such cities as Zagatala, Fizuli, Ordubad, Shusha, and Sheki. The Azerbaijani silk became recognized in the world (Valiyev, 1977). In addition, 114 of the 120 silk-processing plants (more than 2/3) in the Caucasus were situated in Azerbaijan (Valiyev, 1977).

Grape constituted another prospering agricultural industry. The alcoholic drinks, such as wine and cognac, were the main products of this industry. More than 30% of the vineyards in the Caucasus belonged to Azerbaijan during 1901–1913. The country accounted for more than 45% of grape production in the Caucasian region for the corresponding years. At the beginning of the twentieth century, more than 1300 small, medium, and large enterprises dealt with primary wine, vodka, and cognac processing and production in Azerbaijan (Ismayilov, 1960). Licorice root was also exported to the UK and USA; it was widely used in the pharmacy, dyeing, and confectionery industries (Ismailov, 1964).

The fishing industry was a popular sphere of entrepreneurship at that time, too, given the geographical location and resource access. Fishing in Azerbaijan became the third most profitable industry after oil and wine production. It was divided into different specialization areas: torch-bearers, hunters, rowers, technicians, transporters, marinades, and so on (Seidzade, 1978). This division of labor promoted different performers in every stage. All fishing units were integrated under the control of large private fishing and joint-stock companies. Four syndicate fishing companies, with the largest ones in Azerbaijan, occupied more than 40% of total white fish caviar exports in the world market. On an average, more than two million rubles per year inflow into the state treasury resulted only from the fishing industry, which was mostly owned by Azerbaijan’s wealthy individuals (Seidzade, 1978).

The entrepreneurial activity of the said period was controversial. On the one hand, there was a huge inflow of foreign direct investment, the oil boom, the development of oil and related industries, and other large industrial productions and monopolistic or oligopolistic structures (Muradaliyeva, 1989). However, for the first time, there arose a local aristocracy—entrepreneurs, who formed a brand-new social layer of the nascent bourgeoisie who owned big capital. They also invested into the country's development, opened schools and universities, financed students studying abroad, built theaters and libraries, opened new facilities and factories, and provided new working places. In addition, there were female entrepreneurs, which indicated cultural development, and evolution; the early female voting right was also introduced in Azerbaijan (Jafarov & Jafarova, 2017). However, on the other hand, there were the small enterprises, which were negatively affected by the economic crisis; many of them had to close their businesses and switch to bigger industrial production houses as employees (Jafarov & Jafarova, 2017). This process of mergers, monopolization, and consolidation of capital occurred all over the Russian Empire to stand the consequences of the economic crisis (Poliak & Markova, 2010) (Table 16).

4.9 Azerbaijan Democratic Republic—the Secular State

4.9.1 Administrative unit: ADR

After the October Revolution in Russia, the “Caucasian Sejm,” including the entire Caucasian Region, was announced. On May 26, 1918, Sejm accepted its inefficiency, and the member states declared their independence, demanded their rights on their behalf, and voiced their democracy (Allahverdiyev & Mehdiyev, 1990).

In Azerbaijan, the Declaration of Independence of the Azerbaijan Democratic Republic (ADR) (Fig. 7) was announced on May 28, 1918, after being signed by the newly established government (Rasulzadeh, 1990a). This declaration announced the following: (1) Azerbaijan is a rightful and sovereign independent state (South and East Transcaucasia), (2) it is a national democratic republic, (3) ADR aims to establish friendly relations with all states, specifically its neighboring countries, and (4) ADR will not

discriminate against any nationality, race, religion, or gender, living in its territory and gives them equal rights. The same day, the new temporally government was declared. All the capitals in the world received radio notes about the restoration of the Azerbaijani government, and the Azerbaijan Democratic Republic was introduced to the world. On September 17, ADR moved its capital from Ganja to Baku (Fig. 8) (Balayev, 1990; Swietochowski, 2004).

The main economic goals of the democratic government were to remove the deficit of goods and to heal the destruction that followed the riots and the past political situation. Hence, in 1919, the National Bank of Azerbaijan has started its activity; the united currency, Bakuvian Bonna, was accepted. The freedom of trade was declared, and the Russian federal government no longer owned the oil sector. All the manufacturing entities were returned to the previous local owners and businesses; in case they were confiscated and nationalized by the Russian Empire, the remaining foreign businesses were still operating but now without a rent fee to the Russian government. In 1918, to increase the oil production, the “Bureau of Trade of oil and oil products” was opened (Aliyev, 1995; Jafarov & Jafarova, 2017). In addition, the state language changed from Russian to Azerbaijani, and the first study books in the Azerbaijani language were published in 1919. Azerbaijan was one of the first countries in the Caucasian Region, as well as in the whole world, to provide equal rights for men and women, including the voting rights (Constitution of ADR, 1918 (Rasulzadeh, 1990a).

The unified government provided a better living environment to the majority of the population. The education and economy were boosted. The government sponsored the youth to help them receive higher education in Europe (Balayev, 1990; Jafarov & Jafarova, 2017; Rasulzadeh, 1990b). The Baku University opened its doors to the first students. The schools were nationalized; the structure of education remained unchanged, but education was provided in the national Azerbaijani language. The majority of the buildings were erected by the famous European architects of the time who were invited to Baku by the local magnates to add up to the city's new face (Jafarov & Jafarova, 2017).

This particular period is often called the “Golden Age” of the Azerbaijani entrepreneurial activity in all related literature (Buniyadov, 2007a; Jafarov &

Table 16 Ecosystem elements and entrepreneurial activity: twentieth century—the Russian Empire III

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Colonial power (−2), no private property rights (−2), high taxes (−2), non-democratic governance (−2)	0	−8
	Informal	Colonization of population (−2), cultural development (2),	2	−2
	Social networks	Colonial trade connections (1), foreign investors welcomed (3)	4	0
Resources	Physical	Development of Baku City (2), exploitation and utilization of local resources by the Russian Empire (−2) and foreign investors (−2), industrial production (2)	4	−4
	Financial	Foreign (3) and local capital (2), Banks emergence (3), small business bankruptcy (−3), the World Economic Crisis of the 1900 (−2)	8	−5
	Leadership	Colonial (−2)	0	−2
	Human capital	Local bourgeoisie (3) monopolies (−2), discrimination of local entrepreneurs (−2) outsourcing (3)	6	−4
	Knowledge	Private scholarships (3), schools (1), and universities (3)	7	0
	Means of consumption	Local colonial (1) and international trade (2), monopolization (−2) and concentration of production (−2), syndicates emergence (−2)	3	−6
	Producer services	Oil (2), Ships (2), Cooper (2), Textile (2), Silk (2), Wine and Cognac (2), Fish and Caviar (2), Cotton and wool (2), Walnut and nuts (2). raw or shabby skin (2), fur (2), porcelain (2), pottery (1)	25	0
	Value	Productive entrepreneurship		
		Foreign businessmen (3) and local magnates (3) in oil industry SME (3) in agricultural sector	9	0
Total			68	−31

Source: Own data 2022, following Stam and Van de Ven (2021)

Jafarova, 2017); this period had all the conditions required for entrepreneurship to flourish—initial capital, opportunities, initiatives, education, knowledge and skilled workers, access to resources, one language, a banking system, transportation, and of course, independence and democracy and the entrepreneurs planning the future (Acs et al., 2017).

A specific group of Azerbaijani entrepreneurs of that period acted financially intensively, being the same people owning oil areas or refining entities in Azerbaijan. They were millionaires and played an important role in the social and economic development of the country, not only in this period, but also during the Russian occupation (Jafarov & Jafarova, 2017). The private entrepreneurship in the oil sector started to flourish again because of democracy (Swietochowski, 2004). Besides the development of the oil and oil refining industries, these people also invested in other industries, to diversify economically, while maintaining the main focus on oil. Therefore, textile factories, ship-building, manufacturing, and construction facilities also existed. These people (like Haji Zeynalabdin Tagiyev, Musa Nagiyev, Murtuza Mukhtarov, Shamsi Asadullaev, Seyid Mirbabaev,

Salimov, Mirzaev, Mantashov, and many others) were the real influencers of their times; they invested their money for the development of the country. Many schools, theaters, hospitals, and buildings in the country were constructed by them. They owned many businesses, and hence, they also provided jobs to a significant proportion of the population in those days. They are a historical example of driving entrepreneurial spirit in a country while also being socially responsible (Seidzade, 1978). Despite the fact that they were mega entrepreneurs having the biggest shares of the market, they also tried to increase the society well-being. Moreover, they provided opportunities to the small- and medium-sized enterprises through financial supports to small entrepreneurs and start-ups by allowing them to become suppliers or helping in transport, food delivery, and other sectors. This way, they helped creating a conducive environment for all kinds of entrepreneurial activities, at all levels (Jafarov & Jafarova, 2017). The culture also flourished during this period; in 1914 and 1916, teachers' seminaries were established in Ganja and Baku, respectively. In 1904, "the society of Muslims actors" started its activity; in 1908, the first Azerbaijani and

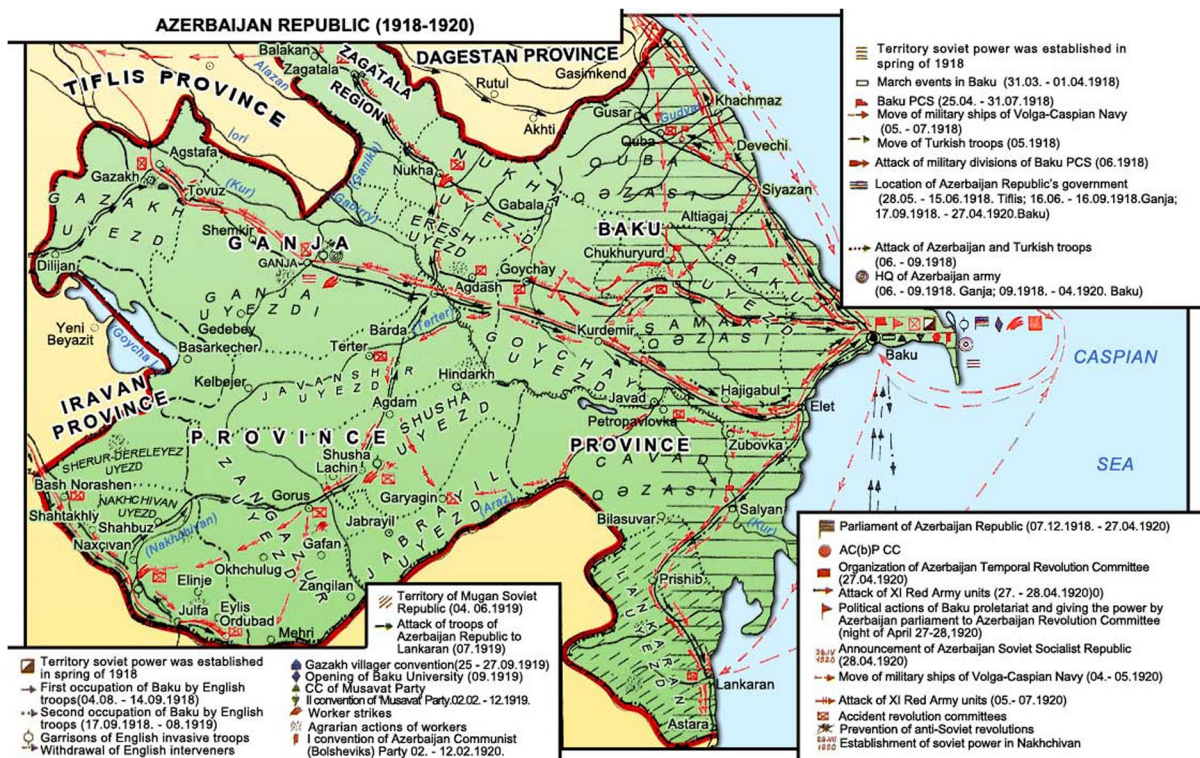


Fig. 7 Geopolitical map of Azerbaijan, 1918, the Azerbaijan Democratic Republic. Source: <https://www.history.az/images/3/434201.jpg>

Fig. 8 The ADR office in Ganja: M. E. Rasolzadeh and the other members of the parliament. Source: <https://millikimlik.az/2021/3451/>



whole East opera “Leyli and Mejnun” was premiered (Aliyev, 1995). In 1901–1917, the free press emerged as a start-up business with “Molla Nasraddin” and

“Sharqi-rus” as the most highlighted newspapers representing the democratic ideas of those days (Jafarov & Jafarova, 2017) (Figs. 9 and 10) (Table 17).



Figs. 9 and 10 First ADR Parliament members at Paris Peace Conference, 1918. Source: <https://en.azvision.az/news/87493/azerbaijan-celebrates-100th-anniversary-of-establishment-of-the-azerbaijan-democratic-republic.html>

4.10 1920—the Soviet period. Socialism and de-entrepreneurship

4.10.1 Administrative unit: USSR

The end of the new government was abrupt when Soviet Russia refused to recognize the independence of ADR. On April 27, 1920, the last session of the ADR was held, and it protested against the Russian behavior; on April 28, a month before the 2-year anniversary of the country's independence, ADR was declared invalid and Soviet power was established (Guliev, 1997). Azerbaijan was included in the USSR since 1920; however, it became a full-fledged subject of the soviet system only in December 1936. Prior to this, the country had undergone a harsh process of Sovietization by the Bolsheviks. The Moscow Executive Committees (CEC) of the Transcaucasian republics decided on the Treaty of Alliance between the Azerbaijan, Armenian, and Georgian SSRs, and established the Federative Union of Socialist Soviet Republics of the Transcaucasia (ZSFSR), signed in Tbilisi, on March 12, 1922 (History of USSR in documents, 1917–1957, pp. 309–310). This should have eased and speed-up the Sovietization process in all three countries. The ZSFSR existed for 14 years, and this period was marked by the severe destruction of the national elite, local aristocracy, politicians, entrepreneurs and self-employed, and representatives of private business in these three countries (Matveeva, 2002). During the 14 years, the process of building political and economic institutions took place, which was defined as the victory of socialism in the Transcaucasian republics (Constitution of ZSFSR, Sect. 4, Chapter VII, Article 38). After the 8th All-Georgian Congress (February, 1937), where the decision to dissolve the ZSFSR was taken, all the three republics

became independent members of the USSR (Hille, 2010). The most important result from an economic point of view was the “cleansing” of bourgeois elements, which in effect meant the abolition of private property and the nationalization of large, medium, and small private enterprises (Hille, 2010). This ZSFSR era could be referred to as a very harsh and painful transitive period from capitalism to socialism.

However, it is considered that the Soviet system did not penetrate the Caucasian society as deeply as in the Slavic parts of the USSR. Private enterprises and black markets were never fully eradicated, and corruption weakened the soviet system (Matveeva, 2002).

All the private enterprises and small- and medium businesses were nationalized and included into a centralized economic system (Tokarzhevsky, 1958). The formation of the Azerbaijan's economic structure continued gradually, and the main industries were oil, gas, chemicals, textile industry, food processing, mechanical engineering, and metallurgy (Aliyev, 1982). Baku and the North Caucasus were the main source of oil for the entire Soviet economy; up to 80% of the entire USSR oil was produced in Azerbaijan SSR. During the Second World War, Baku provided 90% of the oil needed by the Soviet Army (Agayev et al., 1995). Many international sources consider Baku oil as a main factor that leads to the victory in the Second World War (Muchin, 2020; Sultanov, 2005; Tieck, 2005). After World War II, all sectors of the economy increased their production. In 1950, the production of industrial goods increased by 39% compared to that in 1940. Industrial development intensified and regional and industrial structures improved. The volume of goods production increased by 5.5 times compared to that in 1940. Between 1941 and the 1970s, 146 large state-owned

Table 17 Ecosystem elements and entrepreneurial activity: the Azerbaijan Democratic Republic

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Independence (2), private property rights (3) constitution (3), gender equality (3), voting rights for women (3), Democratic system (3), parliament (3) secular state (3), equal rights for entrepreneurs (3)	26	0
	Informal	Free choice (1), cultural (3), and education development (3)	5	0
	Social networks	Local (1)and international (2)trade connections, foreign investors (3)	6	0
Resources	Physical	Wide lands (1), natural resources (oil and minerals) (1)	2	0
	Financial	Foreign (3) and local (3) capital, national Banks (3), the unified money currency (3)	12	0
	Leadership	Democracy (3)	3	0
	Human capital	Local bourgeoisie (3), local (3) and foreign entrepreneurs (3), the Bureau of Trade of oil and oil products was opened (3)	12	0
	Knowledge	Schools (2) and universities (3), state scholarships (3)	9	0
	Means of consumption	Local (1) and international (2) trade, industrial production (2)	5	0
	Producer services	Oil (2), ships (2), copper (2), textile (2), silk (2), wine and cognac (2), fish and caviar (2), cotton and wool (2), walnut and nuts (2), raw or shabby skin (2), fur (2), porcelain (2), pottery (1) publishing (3) architecture (3), and construction (3)	34	0
	Value	Productive entrepreneurship		
		Foreign businessmen (3) local entrepreneurs (3), SME (3), fishers (2), craftsmen (1), merchants (1), farmers (1), traders (1), artists (3), oil magnates (3), silk producers (2), carpet producers (2), clothing producers (2), poets (3), writers (3), composers (3), theater owners (2), bank owners (2), private school owners (2), start-uppers (3), scientists (3), artists (3), academicians (3)	54	0
Total			168	0

Source: Own data 2022, following Stam and Van de Ven (2021)

industrial enterprises were built and started operations; they included large plants such as aluminum plants, refinery plants, hydroelectric power stations, and others (Veliyeva, 2009). This laid the foundation for the development of such industries as heavy industry, energy, chemistry, petro-chemistry, oil refining, ferrous and non-ferrous metallurgy, instrument engineering, and electrical engineering (Aliyev, 1982). However, the Russian policy did not change, and Azerbaijan was still used as a resource-rich satellite of the USSR-Russian metropolis, and all the big plants were state owned (Agayev et al., 1995).

The Soviet period could be considered as very destructive in relation to entrepreneurial activity because the socialistic ideology was opposite to the entrepreneurial ideology of making free decisions (Audretsch & Moog, 2021). Entrepreneurship, as such, was forbidden during the early years of the Soviet state, because it did not fit into the political and ideological doctrine of the new regime (Aidis et al, 2010; Estrin & Mickiewicz, 2011). Thus, the

decrees “On the Confiscation of Equity Capital,” “On the Nationalization of Industrial Enterprises,” “On the Nationalization of Foreign Trade,” and other acts, were used in the adoption of the new “criminal law” (Veliyeva, 2009). The situation involved a struggle between collectivism versus individualism and equal state income versus business profits. Personal income was prohibited and persecuted by law; thus, there was no opportunity for any capital accumulation for further business establishment, even if the system failed (Estrin & Mickiewicz, 2011; Hogwood, 2000; Van Hoorn & Maseland, 2010). However, the entrepreneurial inclination of the entire USSR population remained so strong that the transition to a socialist economy proved to be a difficult task. Therefore, the New Economic Policy (NEP) was proclaimed by Lenin in 1921 (Glaza, 2009). The essence of NEP was to allow the return of elements of a market economy during peacetime but with mandatory state regulation. The NEP idea was perceived by the communist ideologists as a “strategic retreat” to

soften the transition to socialism. It implied a significant restoration of capitalism to improve the economy for a successful introduction of communism (Glaza, 2009). Private enterprising was permitted, such as trade between peasants in case if they had the surplus product after payment of a tax, which was guaranteed in small quantities. Foreign trade and leasing of enterprises were also allowed. However, Stalin after becoming the new leader of the USSR, gradually eliminated this initiative, and entrepreneurship was prohibited once again (Georgadze, 1982).

The absence of private property and formal institutions protecting rights and property, as well as the controlled market laws, could not allow the discovery of entrepreneurial skills and qualities in the population. This process continued from 1929 to 1986. However, the policy of industrialization and the command-centralized top-down management system could not provide the population with all the goods and services it needed, and thus, handicrafts and handicraft production existed irrespective of the established political rules of the state (Andryukhin, 2010). The Soviet power tried to control this; however, the situation was quite controversial: according to the law, the individual craftsmen could engage in legal trade, but the tax levied on such activities was more than 50% (About Personal Income Tax: Decree of the USSR Supreme Soviet of 30 April 1943). This was why most individual craftsmen avoided an official registration and tried to operate in the shadow sector which rendered their activity illegal (Matveeva, 2002), due to the lack of a free market for craftsmen's products and the absence of a legal opportunity to sell hampered entrepreneurial activity (Andryukhin, 2010). In addition, the law enforcement or authorities punished the identified individuals who had not registered their business activities (Gaikov, 1969).

Despite the fact that entrepreneurial activities and communism were incompatible, and that the USSR government was authoritarian, some development work was done to benefit the locations of industrial sectors and facilities in the country, for the regions with a low standard of living, and to increase the use of human resources in small and medium towns during the USSR regime. All official enterprises were also nationalized and included into the USSR global production chain (Tokarzhevsky, 1958). All this meant that if the system failed, there will be no possibility to improve the production scenario because the factories in the supply chain were situated in different soviet republics.

In case of a system collapse, all the member countries were doomed to free fall, hyperinflation, and absence of the private sector, and extra-long production lag, which happened in 1988, when the USSR broke down (Jafarov & Jafarova, 2017) (Table 18).

4.11 Current period: independent Azerbaijan Republic

4.11.1 Administrative unit: Azerbaijan Republic AR

The beginning - political instability period: Azerbaijan became independent again. In 1991, the Supreme Council of Azerbaijan elected Ayaz Mütalibov as the First Secretary of the Communist Party Central Committee of the Azerbaijan SSR, and he became the first president of the new Azerbaijan Republic. After the adoption of the "Declaration on the restoration of state independence of the Republic of Azerbaijan" on August 30, the first presidential elections were held on September 8, which was won by Ayaz Mütalibov. However, the country faced heavy political instability. Immediately after the collapse of the USSR, Azerbaijan was involved in the war with Armenia in the Karabakh region, resulting in the loss of about 20% of Azerbaijan's territory. One million Azerbaijanis were expelled from their lands and became refugees. This war and the defeat resulted in national revolts, and the president, Ayaz Mütalibov resigned in May 1992, after the Azerbaijani army lost Shusha, the city considered as the cultural capital of Azerbaijan. The interim President Isa Gambar assumed the office until the next elections took place, 1 month later. In June 1992, the representative of the National Front, Abulfaz Elchibey was elected as Azerbaijan's president (59.4% votes). However, his presidency led to a worse political situation and bigger losses on the battle field. He invited Heydar Aliyev to take the position of Prime Minister. In 1993, Heydar Aliyev was elected as the president of Azerbaijan by 93% of the electorate. His presidency solved many problems, including the war situation; he signed the peace treaty with Armenia. A new era dawned on Azerbaijan and its economic status changed to a transitive one (Hasanov, 2009, Estrin & Mickiewicz, 2011).

Current development and state of today: Since its independence, Azerbaijan has been driving its economic growth mainly by developing its hydrocarbon resources. In fact, its GDP per capita increased

Table 18 Ecosystem elements and entrepreneurial activity: the Soviet period, 1920–1989

Concept	Construct	Aspects and operationalization	Point +	Point-
Institutions	Formal	Colonial power (– 2), communism (– 3), nationalization (– 3), prohibition of private sector (– 3) prohibition of private capital accumulation (– 3), prohibition of private initiative (– 3), equal income (– 3), planned economy (– 3), criminalization of entrepreneurship (– 3), high taxes (– 2)	0	– 28
	Informal	Religious discrimination (– 1), corruption (– 2), sovietization, shadow economy (– 3)	0	– 6
	Social networks	Personal connections with USSR/nepotism (1)	1	0
Resources	Physical	Dependent production chains (– 3), development of all regions (2), resources (1)	3	– 3
	Financial	State financing (2), controlled markets (– 3)	2	– 3
	Leadership	Totalitarian/authoritarian system (– 3)	0	– 3
	Human capital	Sovetization/colonization of population (– 2)	0	– 2
	Knowledge	Cense (– 3)	0	– 3
	Means of consumption	Trade within USSR (1)	1	0
	Producer services	Oil (2), cotton (1), fishing and caviar (1)	4,	0
	Productive entrepreneurship	No private sector (– 3), Small and discriminated amount of handcrafters (– 1)	0	– 4
Total			11	– 52

Source: Own data 2022, following Stam and Van de Ven (2021)

tenfold between 2001 and 2014, and the oil exports enabled Azerbaijan to become an upper-middle-income country (OECD, 2019). Reforms to the business environment and the development of infrastructure contributed to the creation of favorable conditions for economic growth. However, the economy's heavy reliance on oil extraction has rendered it vulnerable to commodity price shocks. This vulnerability was exposed during 2014–2016, when the oil-price collapse resulted in the devaluation of the national currency (manat) and a sharp recession (OECD, 2019), many bankrupted local banks, very high interest rates (up to 30%), and so on. The country has somehow recovered, but the crisis has shed light on the need for diversification of the economy towards the non-oil sector. Thus, in 2016, the government adopted 12 strategic roadmaps with the goal of developing non-oil sectors, particularly small- and medium-sized enterprises (SMEs) (Strategic Roadmaps, 2016).

The potential of the SMEs in Azerbaijan remains largely untapped. They contributed only 6.4% of value added and 18.5% of employment in different years up to 2016, compared to 60–70% of employment and value added in the OECD countries (OECD, 2019). A large portion of the current workforce is engaged in

low-productivity occupations in big national firms or foreign-owned companies or hotels. Sometimes, they work in micro-enterprises that have limited growth potential or their own informal SMEs (OECD, 2019). Therefore, the reforms that promote the development of new activities and export sectors can also result in more high-productivity jobs and give rise to new entrepreneurial activities. Besides, the SME share in the GDP is less than 3% (Azerbaijan State Statistical Committee, 2021). Today, Azerbaijan faces a large-scale task of modernizing and diversifying the economy to reduce its dependence on the export of natural resources, which is still more than 90% (Statistical Committee of Azerbaijan Republic, 2021). By implementing this SME strategic roadmap and action plan, Azerbaijan's uneven, oil-driven economic structure may be reshaped, and SMEs' potential may be realized to the fullest. That is why, small and medium-sized enterprises (SMEs) should be empowered to play a prominent role in the diversification and in promoting the growth of non-oil sectors and boosting innovation and productivity. The former existence of entrepreneurial activities shows that this is possible, and Azerbaijan, when those could and should probably focus on industries with a competitive advantage over time; for example, organic agriculture (fruits,

nuts, tea, wine, etc.), silk, textiles, craftsmanship, logistics and transport, tourism, and hospitality business, as well as technology-oriented startups based in the chemical, gas, and oil industry. Moreover, the ecosystem should be analyzed more deeply with a focus on the banking system and interest rates, private ownership and legal situation, access to wireless payment, transportation issues (i.e., freight flights, railway connection only via Russia, logistics via vans), non-membership in international trade agreements, educational system, vocational training, taxation, corruption, venture and business angel capital, and so on. All in all, we cannot deliver an ecosystem overview like for the other historical periods at this point. Nevertheless, the scarce accessible data show that there are potential industries or triggering factors conducive to broader entrepreneurial activities in Azerbaijan, and which will help them thrive in the coming years. In addition, the formal institutional setting can be interpreted as a strong impact factor on entrepreneurial activity. Thus, the present supportive government measures in regard to entrepreneurship could be fostering positive factors and delivering a positive push for entrepreneurial development in the future. The institutional setting might be hindering at the moment, even when trying to push entrepreneurship on a federal level, due to political leadership, banking system or property rights. Wrapping up, as long as the ownership structures are unclear, financing is expensive and complicated, and taxation and probably (political) nepotism, the Russian pressure (current war with Ukraine), and the autocratic government structures are existing, the rate of entrepreneurial activities might remain small in Azerbaijan.

The Soviet Union destroyed the private sector in a favor of production concentration and economy industrialization; however, some structures of those specific periods still remain on the territory of modern Azerbaijan. Oil is still the main basis of its national economy, and now, it is owned by the State Oil Company of Azerbaijan Republic (SOCAR). Many industries that started with craftsmanship are also developing; for example, silk production in Sheki, or carpet production in Gabala, Ganja, Guba, Shirvan, Nakhchivan, and Karabakh. Ganja produced metal ammunition during the Atabek State period because of the metal ore, and grapes during the Russian empire colonization; now, there are wine, car, and aluminum factories. Baku was always famous for oil, and fishing

industries, that still exist. The cotton production also remains high (Ministry of economics, 2020, <https://www.economy.gov.az/ru/article/azda-sahib-inkishaf-tar/21410>). Thus, all that could become the bases for a more flourishing entrepreneurial setting in Azerbaijan, but the general context is not supported.

5 Results

In this chapter, the results of the point system approach are presented, and the different ecosystems at different time periods and eras in Azerbaijan are evaluated. The data were obtained in the previous step of data systematization and categorization, as described in the methodology section. We present descriptive tables, figures, and graphs depicting the positive and negative elements of the entrepreneurial ecosystem at different historical periods (Table 19). As already explained, every aspect in describing the ecosystem at its time is given a point, either positive for triggering and being supportive of entrepreneurial activities, or negative, when hindering it, in a range from -3 to $+3$. A zero was given when something did not exist, or the aspect does not have a real impact. Then, we added all the positive and negative points for each historical period (working with Tables 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18); we also added the points for the observable entrepreneurial activities (productive entrepreneurship) at those times, resulting in the following overview.

By adding all the negative and positive aspects as well as the data on entrepreneurial activity, this overview delivers various interesting insights; this is represented by Fig. 11. The first overview to be recognized is, that for Azerbaijan over time, the positive and negative factors as well as the entrepreneurship rate do often and strongly oscillate, and go from one extreme to another. Thus, Azerbaijan seems to be a country with strong changes in the ecosystem, and thus, extreme ups and downs in the entrepreneurial activity. If we had the data for Switzerland or Great Britain (for the last 600–700 years), we would see a different picture due to the more stable overall system (Acemoglu & Robinson, 2006, 2012). Moreover, we can observe a more general outcome in the case of other countries as well. We may find more data and inputs to feed the positive and negative aspects with data points, and thus, the observations would become

Table 19 Boosting and hindering factors and productive entrepreneurship outcome

Historical period/state	Boosting factors / positive points	Hindering factors / negative points	Productive entrepreneurship
Tribal community	20	− 1	5
Manna	42	0	7
Albania	51	− 2	11
Sassanian Empire	7	− 20	− 2
Arab caliphate	5	− 16	− 2
Shirvanshaks	31	− 2	10
Seljuk Empire	3	− 15	− 2
Atabek State	81	0	33
Mongol period	2	− 17	0
Qaraqoyunlu and Aggoyunlu	61	0	15
Safavi	95	0	31
Khanates	5	− 18	− 2
Russian Empire 1	19	− 19	3
Russian Empire 2	60	− 16	13
Russian Empire 3	68	− 31	9
Azerbaijan Democratic Republic	168	0	54
USSR	11	− 52	− 4

Source: Own data 2022

more accurate and the levels of hindering or supporting structures would become “stronger” and more distributed. Thus, at the beginning of the historical overview, the resources or the political system is not as developed and described by the data as in the nineteenth century; the same holds true for entrepreneurial professions and activities, which develop over time and become increasingly fine-grained and diverse.

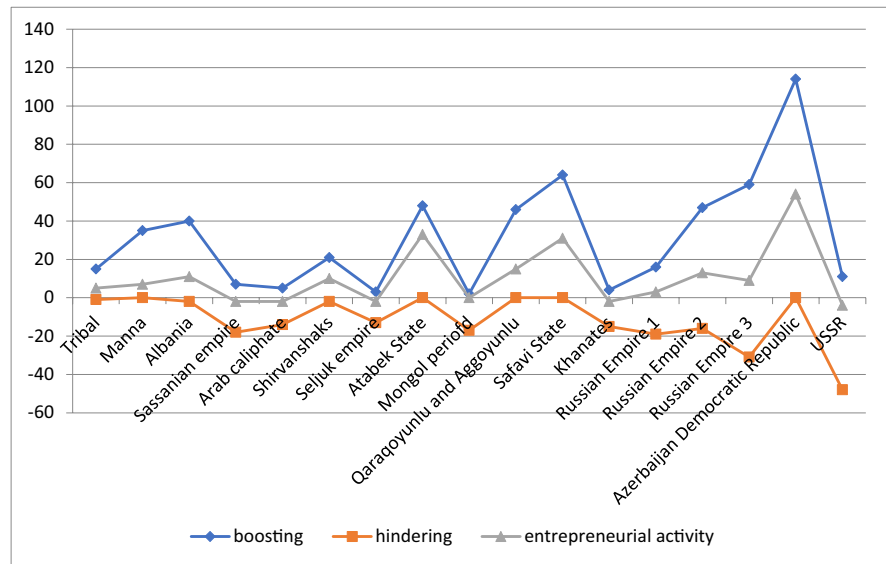
We can observe that the higher the negative numbers of the evaluation, the lower the outcome of entrepreneurial activities is. This itself might not be surprising, but it is intriguing to get a closer look into that.

On the one hand, in some periods the (strongly) hindering factors can be overcome by a strong positive counterpart of factors, and thus, making entrepreneurial activity observable, against all odds. Thus, even in critical historical periods like under the Russian Empire, or the Sassanian Empire, entrepreneurial activities survived or existed, and some productive outcome is still observable. Especially this pattern is observable during Aggoyunlu and Qaraqoyunlu states period and Safavi State, or Russian Empire (1), 2, and 3. Despite the fact that negative factors were remaining on the same level, the entrepreneurial level was

increasing, because of independence and/or positive political expectations.

On the other hand, even when the aggregated positive factors are above zero, but the negative factors are existing or even strong, this cannot be equalized or balanced. Thus, the entrepreneurial activity often stays around zero or below (i.e., the Manna period of Russian Empire 1). Therefore, it seems necessary to have higher values of positive factors to generate productive entrepreneurship, and that negative factors have a disproportionate (negative) impact. In case the negative factors are overwhelming, the entrepreneurial activities are crushed, as happened in the USSR period. We disentangled all the ecosystem factors one by one, and measured and compared them in relation to the entrepreneurial activity, or productive outcome, to get a deeper insight into the data to look for some factors in the ecosystem framework which might be more influential than others in relation to entrepreneurial activity over time. Going back to the framework of Stam and Van de Ven (2021:814/815), the different point evaluations of all single factors or aggregated concepts suggested that, as a specific single factor, the formal institutions show a deep impact, and they aggregated the institutional background

Fig. 11 Positive and negative factors and entrepreneurial activity (productive entrepreneurship). Source: Own data, 2022



(based on formal and informal settings as well as culture and social networks).

Therefore, we focus on this concept and its relation to entrepreneurial activity over time; it seems that this institutional aspect has a main effect on how the other resources and factors can be used, and thus, on the development and status of entrepreneurial activity in the different eras and historical periods. This includes the formal rules of the game in society, the cultural setting, and the societal network structures, such as hierarchies. When diving back into the historical data from Tables 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18, we observe that these institutional concepts embrace colonial power, high or unfair taxation, nepotism of specific groups supporting the non-democratic government, and so on. Thus, over time, we can observe either more or less a more open-minded liberal settings (or even democratic structures) in contrast to more centralized, authoritarian, non-democratic settings or taxation systems or ownership rules and legal settings, in favor of specific groups or political or cultural missions and aspects. Mongol Empire is a negative example; it had formal settings like a strong colonial power, a non-democratic hierarchy system, heavy tax burdens resulting from 40 different taxes, more or less no property rights, and slavery, leading to a diminishing or almost non-existing entrepreneurial activity. The USSR regime, which took over the government of Azerbaijan is another such example. During this period, the

country had to struggle with a strong colonization power, dictation communistic and nationalistic rules prohibiting private ownership and a private sector or capital accumulation, running a regime of planned economy, extinguishing private initiatives and almost determining entrepreneurship as a criminal activity, and fighting it with high taxations. Informally, corruption and nepotism, a shadow economy, and discrimination due to religion and diversity were common. This parallely caused one of the lowest rates of entrepreneurial activity that ever existed in Azerbaijan. The periods of the Qaragoyunlu and Aggoyunlu states stand out in contrast; the government guaranteed the independence of the people and the states, the number and amount of taxes were reduced dramatically, the inhabitants had a free choice about where to live and what to work for, the Silk route and international contacts were (re-)established, trade was allowed and welcomed in the culture, and the work as craftsman or trader was appreciated and not doomed. Thus, in this era, we can observe a positive development of entrepreneurial activity (Table 20) (Fig. 12).

This relation of positive developments in the institutional context of entrepreneurial activity can be strongly observed during the short but fruitful period of the democratic Azerbaijan Democratic Republic. During this period, the country was independent and the government was democratically elected with a parliament, the vote for women was established, gender equality existed on the first level, private property rights were manifested, a

Table 20 Productive entrepreneurship and institutions

Historical period/state	Productive entrepreneurship	Institutions (formal, informal, social networks)
Tribal community	5	3
Manna	7	13
Albania	11	12
Sassanian Empire	−2	−12
Arab caliphate	−2	−8
Shirvanshaks	10	7
Seljuk Empire	−2	−7
Atabek State	33	15
Mongol period	0	−11
Qaraqoyunlu and Aggoyunlu	15	11
Safavi	31	16
Khanates	−2	−10
Russian Empire 1	3	−14
Russian Empire 2	13	−4
Russian Empire 3	9	−4
Azerbaijan Democratic Republic	54	37
USSR	−4	−33

Source: Own data, 2022

constitution with legal and human rights was decided, different religions were accepted, the church and state were divided as in a secular state, foreign investors were welcomed, and national and international trade connections were fostered. In this period, we can observe one of the most flourishing developments of entrepreneurial activity.

The development during the Safavi period is also very interesting; here, long-term freedom with the same level of hindering factors led to the rise of entrepreneurial activity.

Thus, we follow the general idea of Acemoglu and Robinson (2006, 2012), as well as Audretsch and Moog (2021) that democratic structures or well-working political institutional settings foster entrepreneurial activity, expressed differently: formal institutions in a liberal way support the productive outcome.

It is interesting to note that even when other important ecosystem factors do exist in periods of more centralized, non-democratic institutional setting, these positive factors do not thrive; thus, the institutional setting seems to have a strong impact on the usefulness of other factors in the ecosystem. We tested this proposition only on a descriptive level and figured out a very strong and significant positive correlation of 0.853. Thus, we can deliver, that over different time and historical periods, entrepreneurial activity and its “Ups”

and “Downs” can be seen in a more or less obvious pattern; the periods of independence and local governance offered more favorable conditions, and thus, entrepreneurship was boosted. However, during the periods of colonization, along with heavy tax burdens on colonies, as well as population militarization and resource exploitation, the entrepreneurship level fell. We cannot prove a causal relationship using our data, but we can deliver the first hints that this might be an interesting relation to be examined in the future.

6 Discussion

This study provides the first analysis of entrepreneurial ecosystem data over different historical time stages and levels of accessibility. With our long-term historical overview of changing and developing ecosystems, their interacting and related actors, and the entrepreneurial development in Azerbaijan over centuries, we followed the proposition of Stam and Van de Ven (2021) and others (Acs et al., 2016; Audretsch et al., 2022; Colombo et al., 2019; Sternberg, 2021), to study ecosystems over longer periods of time. We break these main concepts down to items

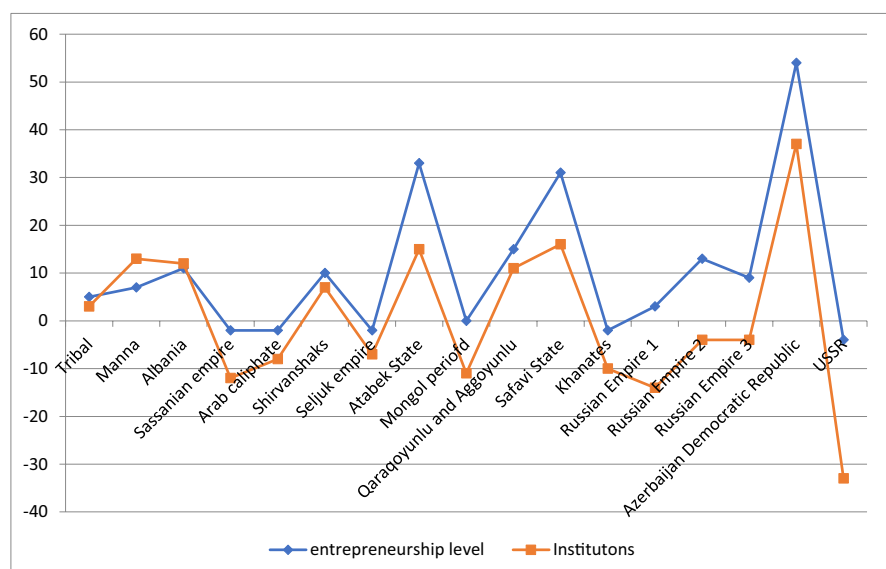
and measures fitting the historical approach but on a much broader level, thus being able to be used at any historical stage, for the available and accessible data - by checking for terms and words relating to different periods and developmental stages. Based on these more aggregated insights and data, we contribute to the measurement of factors in a developing ecosystem over time (historical eras), and on how to generate graphs for long-term entrepreneurial activities and historically important periods and eras by using this information. Thus, we bring together all the multifaceted information in a more structured way to deliver a first approach to deal with so many historical information regarding ecosystems and entrepreneurial activity on a country level. The overall goal of doing this is to obtain the final ideas or hints to better understand, classify, and contextualize the current entrepreneurship situation in Azerbaijan (or other countries as well).

This overarching historical approach helps to uncover and interpret small as well as fundamental changes and developments in ecosystems and entrepreneurial activities. And, as can be seen in our study too, the often unevenly changing aspects. Our study helps as well to understand the mentioning and idea of Acs et al. (2014), that especially some specific, temporal change in ecosystem elements and their uneven development over time could cause tremendous effects on the entrepreneurial activity,

inhibiting or being conducive. Thus, our study offers several contributions to entrepreneurship and ecosystem literature.

First, we help understand that Acs et al. (2014) are right in thinking about the bottlenecks concerning specific ecosystem factors by showing that the formal and informal rules and settings of an ecosystem lead to great differences in other factors in the related social system, and thus on the entrepreneurial activity. This is in line with the discussion by Fritsch et al. (2019), who explain why some regions within a country or some countries are always “hotspots” of entrepreneurial activity while others are not (Acs et al., 2016), and with Acemoglu and Robinson (2006, 2012) and Audretsch and Moog (2021), who discuss that a more democratic formal (political) structure is the basis for freedom of choice and thus, entrepreneurial freedom and development. Our historical review suggests the associated reasons, and how they could be measured and explained over time, based on the ecosystem and by using a systematical framework. The study of Mickiewicz et al. (2021) supports this general idea, too, that negative changes in institutional settings and rule of law hinder and diminish entrepreneurship activity quite fast due to a feeling of insecurity regarding risks. Thus, our study could help to understand this not even for some years but over a long-term period.

Fig. 12 Productive entrepreneurship and institutions.
Source: Own data, 2022



Second, we suggest an approach on how to systemize qualitative, historical data, with varying depths of information. By working with the framework and feeding in the available information systematically, we can understand the changes in the ecosystems over time and organize the data to measure the factors and potential relationships between factors or concepts. Even the rudimental point rating system helps organize the overwhelming data and offers descriptive or heuristic new insights and results. It can be shown that even in the ancient or medieval times, ecosystems existed and created a supportive or hostile environment for entrepreneurial activities.

Third, this work shows that using a historical approach and chronology of entrepreneurship development can be challenging, given the lack the information and sources. In our study, we tried to systematize the historical development of entrepreneurship in Azerbaijan by using data from different sources and languages. This way, the historical facts in combination with contemporary entrepreneurial research and knowledge made it possible to shed some light on the important “moments of change” in entrepreneurship in a specific nation, as well as to better understand the development processes and define the factors, that hinder and boost entrepreneurship across history. The systematized information on entrepreneurial activity in Azerbaijan across the long historical period—from ninth century BC till the Soviet Union—shows that entrepreneurial activity was always present in this country. However, the levels and periods of entrepreneurial activity varied, depending on the variety of the ecosystem factors and seemingly on the form of governance and formal institutions. The worst conditions for entrepreneurship were presented by the colonial governance, when the territory of Azerbaijan was conquered and ruled by huge empires such as the Arab caliphate, or during the Turkish, Mongol, Persian, and Russian invasions. The main barrier to entrepreneurship during the colonial reigns during the Middle Ages (Arab Caliphate, Mongol Empire, Seljuk Empire, and Sassanian Empire) was the militarization of the male population and a very high tax burden reckoned by the colonizers, based on religious/gender discrimination. The social factor of entrepreneurship was affected, while all existing and potential entrepreneurs became army men. Russian colonization proved to be slightly different because some entrepreneurs still existed. The Russian empire

was mostly interested in the Azerbaijani resources, rather than in its population. In this period, the capital factor was affected, while all the enterprises were nationalized and ownership passed on to the Russian empire. However, entrepreneurship, trade, and market economy in Azerbaijan flourished in the periods of independence, while in the periods of colonization, oppression, or authoritarian regimes, the economy experienced decreasing entrepreneurial activities, due to militarization, high taxes, and resource exploitation.

7 Limitations and further research

While our analysis and comparing ecosystem-over-time approach deliver the first insights suggesting that some elements or factors in an ecosystem might be of fundamental importance, we are not able to deliver any causal relationships or evidence with our historical, descriptive, and heuristic approach. Moreover, we deliver only first deductive codings, and the data sorting or keyword search could be more systematized. Thus, we deliver a first search scheme, which might need adjustments for larger countries and databases.

We observe that an authoritarian or non-liberal governmental structures limits the probability of private ownership and that all such formal institutional settings lessen entrepreneurial activity; this might be because some important constructs of factors in the ecosystem, such as the financial or natural resources, and human capital or technology or transport facilities, were not accessible or sufficiently useful in these more autocratic periods, which is in line with the theory of Acemoglu and Robinson (2006, 2012), or in the results of the first attempt with small panel data by Mickiewicz et al. (2021). We can only deliver the first initial ideas about this relation, and further research is needed to deliver a weighing logic of ecosystem elements, or to go deeper into the interactions between those elements and factors or prove any causal relationships. This might be in line with Audretsch and Moog (2021) and their general studies on the relation between entrepreneurship and democracy. This may also conform with the state-of-the-art research dealing with institutions, places, and ecosystem factors and entrepreneurship, such as Audretsch et al. (2022), who show the importance of institutional or political setting for latent and

emergent entrepreneurial activity for 66 nations. The innovative and first insights of eleven cities, and their ecosystems, especially institutional settings and the productive or unproductive entrepreneurial activity, show that institutions as well as a stable civil society (democracy) matter greatly (Audretsch et al., 2021). We guess, more research on these ecosystem interrelations over time would deliver helpful insights on interdependencies, and thus, help the support systems in becoming more targeted.

Our data shows that the historical development of triggering and hindering factors and the entrepreneurial activities in Azerbaijan over time show strong ups and downs. So, to generating these long-term historical ecosystem data for the comparable countries (e.g., Argentina, or the countries in Africa or Asia), and also for the countries with a stable historical development like Switzerland or Great Britain, would be an interesting research approach (Acemoglu & Robinson, 2012). This would deliver insights on the impact of long-term continuity on entrepreneurial activity compared to extremely dynamic situations. This could help explain the current status quo of entrepreneurial culture and activities from an overarching long-term perspective. Moreover, it would deliver interesting insights to check for long-term effects of hindering factors, especially political and formal institutions, and if they have a long-term impact on individual characteristics of risk-taking or the thoughts on starting a business. Here, the overarching or overlapping effects into the next generation or era could be tested, in terms of imprinting factors. We do have trend data over centuries, but deeper insights could be generated and causal relations tested with panel data (for some of the potential interrelations over time, when enough data are accessible for long-term analysis or event analysis). Moreover, a meta-analysis of the existing studies analyzing different (eco-)system factors (Hayek, North, etc.) and their impact over time, or the entrepreneurial infrastructure data, impact of government settings, and institutional factors, could deliver specific insights on these issues, as done by the quantitative study of Stam and Van de Ven (2021) in some aspects—but this should happen over longer time periods or eras. Our data—due to a very long historical time period—could not be delivered by thoroughly chosen, operationalized variables or indices, as recommended by many authors. This leads to the need for better access to historical statistical data,

or magazines and chronicles to obtain more precise data to work with, and to get deeper insights into the ecosystem framework.

We followed the elements of an ecosystem based on and developed by Stam and Van de Ven (2021) as an interactive social system of different actors and institutions. Of course, these factors and elements could be more diversified or specified to help measure and making sense of the changes or historical effects over time. Thus, we recommend the use of comparable data to work with these tested and validated elements of an ecosystem, while enlarging this measurement tool to include more qualified factors and cover more important aspects of context, especially for periods of change, turmoil, and problems (crisis, natural catastrophes, technological disruptive inventions, etc.). We can grow from the deductive to inductive research or theory building. Even with its limitations, our study offers the first historical insights focusing on ecosystem factors over time and their impact on entrepreneurial activity. This paper shows how archival data may be a sleeping giant with the potential to trigger future entrepreneurship research with new tools to deal with, search, and organize data over long periods of history, and to derive bold new insights from these qualitative data. Thus, we hope to open new doors to further research with a historical lens.

Author contribution All the authors whose names appear in the submission have made substantial contributions to the paper, in discussing the idea, writing it, and analyzing the data.

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Declarations

Conflict of interest The authors declare no competing interests.

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