

The Diaspora's influence on Regional Innovation Performance – a new theoretical and empirical approach toward understanding it

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ABSTRACT

The occurrences of "brain-gain" and "brain-loss" are significant concerns for both the countries experiencing the departure of intellectual talent and those that ultimately receive such individuals. The phenomenon holds significance for stakeholders and their policy recommendations on social, economic and political areas. Moreover, there exists extensive literature elucidating the reasons behind certain nations encountering the phenomenon of "brain loss" while simultaneously observing the return of individuals to their homelands. Simultaneously, there is a limited amount of research conducted regarding the observation and comprehension of the activities in which the returning diaspora is involved post their return. Even more, there is less research done on the way the return diaspora is influencing regional innovation performance. To enhance comprehension, this article introduces a novel theoretical and empirical approach aimed at understanding the engagement of the returning diaspora in the innovation process and its impact on regional innovation performance. The novelty of this approach consists in the combination of classical theories on returning diaspora, Regional Innovation Performance and Social Fields Theory. As a result, the focus will be on the combination of the three social forces (institutions, networks, and cognitive frames) and returning diaspora. The evaluation of diaspora's impact on regional innovation performance primarily hinges on the combination and comprehension of these two factors. However, this article serves as a theoretical proposal aimed at enhancing understanding of the phenomenon and establishing a model for systematic data collection. The empirical results could lead to policy recommendations for various stakeholders and bring improvements for helping and encouraging innovation activities in the region.

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Introduction

The recent migration of individuals has demonstrated a close correlation with their assimilation into national economies. As highlighted by Naujoks (2022), this phenomenon is rooted in the connection between international migration and its growing impact on fostering stronger economic, political, and cultural ties among geopolitical entities. Thus, different economic aspects such as investments, trade or technology exchange and know-how are a result of the descendants who act as bridges in these processes. As a result, there is a growing influence of migrants and diaspora in various origin settings, as well as their impact on trade, investment, technology transfer, skills, knowledge, remittances, and innovation. Simultaneously, within this success story, there are two contrasting ends. On one side, policymakers have focused their attention on private transfers and remittances. On the other side, migrants also thrive as successful entrepreneurs, contributing significantly to Foreign Direct Investments flows, yet this aspect tends to be overlooked.

When it comes to learning and generating new knowledge, there is an agreement between regional economists and economic geographers that actors who are well interconnected play an important role in these processes. Furthermore, there is unanimous agreement regarding the importance of spatial proximity, as it fosters bonds among various actors. Additionally, it is recognised that actors in close proximity are more prone to engaging in interactions, such as the exchange of knowledge, facilitated by social contacts. Nevertheless, knowledge interactions are not necessarily explained by the spatial proximity, which is a narrow explanatory variable. P18 The proximity concept was introduced by Boschma in 2005, and in additions adds four dimensions beyond the spatial proximity concept:

- *cognitive - overlap of knowledge bases;*
- *social - micro-level trust;*
- *institutional - ethnical composition, similar laws, enforceable rules, habits, routines;*
- *organisational proximity - rate of autonomy, degree of control (Naujoks 2022, 18)*

The connection between the sociology of markets and network analysis is obvious, as the latter serves as the initial step in mapping relationships among market actors embedded in social networks, defining their identities and actions. (Powell and Smith-Doerr 2005). The theory also focuses not only on the set of rules, but also on how these rules define the types of products which are appropriate for the exchange. Furthermore, the theory aims to examine how the internal dynamics of a state influence interactions with the market. Various entities, including the organisational structures of courts, ministries, and regulatory agencies, play a role in shaping state intervention. Nevertheless, the struggle between political parties and political factions influences the way in which the state intervenes (Fligstein and Dioun 2015 2015, 8). The attempts to combine social field and innovation frameworks theories is relatively new. There is not enough research that explains technological innovation through the interplay of the three social forces: institutions, networks, and cognitive frames. The first attempts can be seen in the articles written by Rončević, and Modic (2011; 2012), which explore Regional Innovation Systems through the frame of Social Fields. According to them, in the recent intellectual development the focus is on the complexity of social life through globalisation and technological development. The second development refers to the shift towards multi-level responsibilities of social, and economic policies. Rončević and Modic were able to empirically verify the influence of the social forces on social fields of technological innovations (Rončević and Modic 2011, 326). On later stages there are additional attempts towards the exploration of this particular topic but also considering the interplay of the social forces in order to explain the innovation processes (Cepoi and Rončević 2015; Cepoi and Golob 2016; 2017; Modic and Rončević 2018). According to Fritsch and Slavtcev (2011), RIS is characterised by fundamental aspects such as knowledge, learning, absorption, utilisation, diffusion, and creation within the region. This will result in regional networks becoming hubs of innovation, where diverse actors, both from the public and private sectors will participate.

Diaspora's Engagement

Nevertheless, it is important to understand the way diaspora operates in the country of origin, especially at the moment it engages in both entrepreneurial and research activities. Thus, this article aims to offer a theoretical and methodological solution in the way this problem can be empirically tested, and at the same time to consider the particularities of each environment where the tool is being implemented.

Sinatti and Horst (2015, p. 135) highlight that in the early 2000s, there was a heightened emphasis on the diaspora's role as a significant contributors to development. During this period, the primary discussions revolved around the efficacy of aid. Simultaneously, there was a growing recognition of the necessity to identify non-traditional donors, with the diaspora emerging as new actors for development. Consequently, the interest in the diaspora was heightened by investment trends, notably the substantial remittances that surpassed official development assistance. Consequently, numerous entities, including international organizations, NGOs, as well as countries of origin and residence, have focused their efforts on guiding the human capital and financial contributions of migrants toward deliberate development initiatives.

As highlighted by the authors Sinatti and Horst, the focus on the migration-development nexus was prominent within the EU during the mentioned period. However, certain countries had already prioritised this nexus on their agenda earlier, underscoring the diaspora's role as "agents of change" (Sinatti and Horst, 2015, p. 137).

According to Naujoks, diaspora investors can be classified into various categories. A category of investors includes financial investors who seek financial returns, similar to non-diaspora investors. Additionally, both diaspora and non-diaspora exhibit a broad range of skills in various specialties, possess specific knowledge in particular sectors, and, simultaneously, remain indifferent about where to allocate their investments. Another type of investors are the expanding business investors. This group is characterised by having a company in the country of residence and expanding the operations in the country of origin.

However, beyond these primary categories, the economic activities of the diaspora can also be explained by further categorising them into sub-categories. As Naujoks (Naujoks 2022, 2) points, among these subcategories it can be mentioned *absentee business owners*, *transnational entrepreneurs* and *return investors*. As noted by Naujoks (2022, 3) the sub-category absentee business owners are conducting their operation from the country of residence, meanwhile in the country of origin there is a local manager (either a relative or someone else) who takes care of the operations. On the other hand, the transnational entrepreneurs take advantage of their dual residence, by getting involved in opportunities in both their new and original homes.

Diaspora investors have various motivations for their investments, encompassing patriotic, emotional, and other non-monetary incentives. Building on this perspective, theories regarding diaspora investments suggest that a positive impact on investments occurs when there is a strong diasporic attachment. Additionally, migrant entrepreneurs are more likely to invest in their home country compared to other investor categories (Naujosks 2022, 4-5). However, concerning the concepts of belonging and territories, it creates challenges for engagement policy and diaspora-related policy making (Sinatti and Horst 2015 ,141). The author contends that there is a geographical concern, wherein belonging is associated with the nation-state on one hand, and on the other hand, only specific localities reap the benefits of migrant contributions. Additionally, diaspora ignores the power relations that exist in the communities when we deal with a localised nature of migration. Moreover, when aspects of belonging and territories are combined, it generally sparks discussions about diaspora engagement, whether ethnic or national. Simultaneously, it has been demonstrated that diaspora engagement in the country of origin stems from attractions not solely tied to the geographical links between the place of origin and the individual. Consequently, as noted by the authors (Sinatti and Horst, 2015, p. 142), engagement can be influenced by other factors, including age, gender, professional category, etc.

Moreover, Naujosks emphasises (2022, p. 3) that the scientific literature provides three potential explanations for the disparities in the impact of diaspora investment compared to other forms of foreign capital investment on the development of various localities. Consequently, diaspora investment exerts a more significant impact than the latter group. Following this line of argument, the literature explains this phenomenon as follows:

- Relying on its networks, the diaspora decreases the risks of investments, because this group tends to be better informed and is more actively engaged in investment activities

- Collectively, the diaspora significantly influences the societal outcomes in their countries of origin. Put differently, they leverage their understanding of the local environment to their advantage. This knowledge encompasses the ability to negotiate more efficiently, taking into account local bureaucracy, organising and managing local resources, and effectively assessing the competency and abilities to collaborate factors.

- Possessing knowledge of cultural background and language skills represents additional advantages contributing to enhanced profitability (Naujosks 2022, 5).

It is noteworthy to emphasise that diaspora networks provide a significant boost to economic development. As the author points out, this is not a direct contribution of assets, but rather networks have an important impact on institutions, namely how these are designed and built. Simultaneously, it is emphasised that these effects may not be immediately obvious, but rather these effects can be felt over time in the form of an environment that supports self-sustaining growth (Naujosks 2022, 6)

The diaspora actors can also have additional roles, such as institutional entrepreneurs. In this capacity, they possess the opportunity to influence institutional agents to enhance and adapt entrepreneurship-related institutions. Among these institutions, there are the regulative institutions (Government) that can assist and support businesses. Additionally, the cognitive institutions (people's knowledge and experience in protecting the new businesses) are focusing on the aspect of finding relevant information on

markets or managing risks. Lastly, there are the normative institutions, which are focusing on the societal views on entrepreneurship, creative thinking and innovation (Naujosks 2022, 6).

Diaspora and domestic innovation

Discussing the repercussions on innovation in economically challenged nations following the substantial emigration of their science and engineering workforce, Ajay et al. (2011) highlight the existence of two approaches to address this issue. On one hand, the authors mention that talent is wasted at home. Hence, when an individual migrates to a more supportive environment, they contribute to global innovation. Furthermore, simultaneously, the countries of emigration stand to gain by importing products created with improved technology or at a lower cost. Additionally, the developing country can benefit from the returning skilled workforce and their connections, thereby fostering the development of ideas and innovation (Ajay et al. 2011, 43).

On the other hand, leading the forefront are domestic technology innovators. Thus, the authors emphasise that domestic innovators are important from the perspective of three reasons:

- 1) The slow international can be caused by the knowledge spillover localization;
- 2) The lack of understanding and inadequate adaptation by developed innovative economies to the requirements of less developed ones;
- 3) The necessity of knowledge production to create the capacity to absorb foreign technology.

Various studies highlight that mechanisms such as migration and brain drain, particularly skilled emigration, are generally detrimental to overall economic growth. However, scholars also acknowledge the existence of channels through which this detrimental process can take a positive turn, contributing to development and brain gain. Among these mechanisms, Naghavi and Strozzi (2015) identify several incentives, including the return

migration of better-trained managers and entrepreneurs, access to foreign-produced knowledge through cross-border diaspora networks, and educational attainment facilitated by migration prospects.

Nevertheless, there is a scarcity of research in the domain exploring the role of home country institutions concerning the correlation between the knowledge acquired by emigrants abroad and innovation within their home countries.

As the authors argue (Naghavi and Strozzi 2015, 2), emigration is a two-sided phenomenon. On one hand, the most obvious effect is the loss of the domestically skilled force. On the other hand, it can instigate a channel for more advanced flowback of knowledge acquired by emigrants abroad. To achieve this positive outcome, policymakers can employ the mobilisation of the academic diaspora and their connection to technological, cultural, and scientific programmes at home.

Moreover, the innovators who choose to remain in their country of origin possess innovation capabilities influenced by their access to knowledge, some of which is accumulated abroad. As highlighted by the authors Naghavi and Strozzi (2015, 2), the diaspora's knowledge takes a prominent role here, contributing to overcoming the innovation capacity deficit in the home country. Consequently, migration serves to enhance the benefits derived from innovation in developing economies. Thus, migration will stimulate the benefits from innovation in developing economies. Traditionally, return migration programs focused on mobilising the diaspora to facilitate homeland development, relying on the voluntary deployment of qualified individuals in the country of origin, with a predominant emphasis on technical assignments. However, recent efforts have shifted towards assisting entrepreneurs in establishing businesses in their country of origin, or even emphasising economic and social reintegration (Sinatti and Horst 2015, 145).

Furthermore, the authors highlight that diaspora plays a crucial role in disseminating ideas, facilitated by the existence of trust embedded in ethnic ties, thereby accelerating the flow of information. Additionally, the return of

trained and experienced migrants can contribute to knowledge diffusion. Consider Intellectual Property Rights, where the authors emphasise its influence on innovation potential. This impact is achieved through the country-of-origin absorptive capacity, which is enhanced by leveraging cross-border diaspora networks. Despite the initial perception of a drain, migrants have the opportunity to acquaint themselves with cutting-edge technologies and acquire advanced skills in more developed countries. Consequently, the acquired expertise has the potential to return to the migrants' country of origin, facilitated by their physical return home.

The authors also propose a second route, which consists of the recirculation of knowledge back to the country of origin. At the forefront is the trade and investment activities of cross-border diaspora networks or more simply, which leads to access to foreign-produced knowledge. Thus, as a result, the skilled emigrants return with new knowledge and skills to their home economy, fostering technology diffusion (Naghavi and Strozzi 2015, 2),

Lastly, the authors point out that emigration might trigger the flow of knowledge between emigrants who received the skills in their host countries and natives (Naghavi and Strozzi 2015, 9). As emphasised by Ajay et al. (2011, 43), less developed countries, concerning innovation, are compelled to depend on the adoption of technologies developed externally. Consequently, the focus should be directed towards approaching the international border, rather than attempting to alter the border itself. This approach positions local highly skilled workers at the forefront during the process of narrowing the gap between developed and less developed countries.

Social Fields

Regarding development and competition, it's essential to comprehend that the competition between actors extends beyond the national level (state vs. state) to include struggles within specific regions. Generally, the economic geography literature lacks clarity in defining what qualifies as a "region" (Healy and Morgan 2012). When we mention a region, we are not solely

referring to an administratively and legally bounded territory but rather to specific areas that can be seen as catalysts and facilitators of innovative processes. Following this line of argument, these territories differ in terms of “quality” and “efficiency” of regional innovation systems, leading to different levels of innovative output (Fritsch and Slavitchev 2011). Networks play a pivotal role in elucidating innovative processes occurring at both regional and broader levels. Lawton Smith and Waters (2011) assert that networks serve as mechanisms for information flow and fulfill two crucial functions. Firstly, networks facilitate the coordination of decisions made by distinct entities or nodes. Secondly, the authors elaborate on the transformation of data, information, and knowledge facilitated by connections. These processes result in the emergence of practice or learning communities in both local and regional contexts (Lawton et al., 2011, p. 966). Moreover, networks can be viewed as independent variables, wherein actors possess a specific structure and position (Balland 2012).

The notion of field is used in several disciplines, which means that it could be a guiding concept for interactional community study for sociologists (Wilkinson 1970, 312). The term "field" refers to various interpretations, including a configuration formed by the object and its context, the context of an object, a structure, or a structure process, among other possibilities. However, it never exclusively denotes the object on its own. Each field possesses distinct characteristics. Firstly, it constitutes an inseparable unity of the environment and the individual within that environment. Secondly, a field is inherently dynamic, undergoing continual changes and operating across time. Lastly, a fundamental feature is novelty, whether arising from random events or creative processes (Wilkinson 1970, 313).

Although the concept of a field is employed across various disciplines, it shares common traits. Each component within a field influences others, serving as both causes and consequences of focal objects or events. Furthermore, a field is unbounded, with distinctions between fields based on the focus of properties relevant to each. Fields exhibit dynamism, undergoing structural and process changes over time, as emphasised by Wilkinson (1970,

p. 313). Elements within a field realign themselves in response to these changes. The emergent nature of each field is another key characteristic. Following this line of reasoning, a field results from interactions among its parts, and it is not entirely governed by its collective properties.

One example is the Social Field theory, which as in the case of several theories (e.g. Bourdieu), disciplines, subfields, or methodologies, focuses on explaining social life in the framework of the meso-level social order, and the creation of strategic action fields.

Factors like collective engagement, the skills individuals contribute, and their ongoing efforts to comprehend political change, develop new products, or establish hierarchical orders within diverse cultural fields are at the forefront (Fligstein and McAdam 2012). Hence, according to Fligstein and McAdam, the Social Fields theory relies on three fundamental characteristics: strategic action fields, embeddedness in a broader environment, and the pursuit of fashion and order maintenance within any given field. The first characteristic refers to the meso-level orders, which are considered as the foundation for organisational life in the economy, the state or in the civil society. Secondly, the embeddedness in a broader environment consists of proximate and distal fields. Nevertheless, the last characteristic follows meaning, interest, and identity-shaping process.

Fligstein and McAdam (2012, 3) argue that any particular field is embedded “in a broader environment consisting of countless proximate or distal fields, as well as states, which are themselves organised as an intricate system of strategic action fields”. As a result, the authors encompass the idea of social skill. It implies the agency of actors and draws on ideas of constructivism and emergence, which are crucial components of the strategic action fields. The segmentation of national social spaces signifies a spectrum of institutional and cultural features that impact the dynamics of innovation processes within a specific strategic social field. States, in this context, can be viewed either as a framework for other strategic fields or as a system of strategic action fields within a designated territory. The national state, in

essence, constitutes a form of collective action, not only generating but also overseeing the strategic action field (Fligstein and McAdam 2012, 68).

Embeddedness, when understood in this manner, serves primarily as a placeholder bridging the gap between explanations offered by the rational actor model and empirical observations that elude elucidation through this theoretical approach (Beckert, 1999, p. 3). It is posited that fields can convey different social structures in markets and alter the theoretical framework governing the relationship between agency processes and structures (Beckert, 2010, p. 606). In this perspective, fields are construed as local social orders or arenas wherein actors convene and frame their actions about one another (Fligstein 2001, 108).

It is crucial to emphasise that the social concept of embeddedness and the economic model of action operate on distinct conceptual levels. Beckert (2003, p. 769) notes that the social aspect concerns external variables influencing outcomes and processes, while economic action pertains to the conception of the structure of action. Initially, embeddedness was considered a residual category indicating external influences on rational decision-making (Beckert, 1999, p. 3). Furthermore, it does not offer a distinct theory of strategic agency or intentionality. Therefore, understanding embeddedness in this way can bridge the gap between empirical evidence (lacking explanations within this particular theoretical framework) and the rational actor model. In this context, embeddedness primarily serves as a placeholder, addressing the void between what is explicable through the rational actor model and empirical observations that defy such explanation within this theoretical approach (Beckert 1999, 3).

As highlighted above, there are three distinct levels of analytic structure to ideas, and knowledge, which are the micro-, meso-, and macro- levels. The meso-level is the core, which consists of ideas or a set of knowledge (Kastelle, Potts, and Dodgson 2009). Within this level, the action takes place within and between various groups (Fligstein and McAdam 2012, 7). On the other hand, agents (who are carriers of knowledge) are part of the micro unit. In the process of building innovation systems through a micro-meso trajectory,

these form the macro level, considered as markets, sectors, industries etc. (Kastelle, Potts and Dodgson 2009, 7). Furthermore, for small businesses, the process of innovation can be regarded not only as a macroeconomic dynamic but also as an ongoing strategic process, which is independent of the market dynamics mentioned earlier (Heger 2004).

While these systems are acknowledged as factors influencing economic evolution, they are not perceived as integral components of the evolution process. Instead, the systems are seen as advancements of escalating complexity that function within a predictable trajectory of network openness (Kastelle, Potts, and Dodgson 2009, 3). As the authors argue, this statement relies on the false presumptions that these systems are parametric structures and that they are the same everywhere. Furthermore, these systems are undergoing gradual transformations, leading to a constant evolution in the structure of innovation. Moreover, for the innovation structure to survive in an environment that is constantly changing.

The environment should possess adaptive capabilities or demonstrate dynamic investment. In the analysis, innovation systems should be considered as a population, engaging in competition within a market and, most importantly.

The adoption of innovation systems will vary. Furthermore, as emphasised by Kastelle, Potts, and Dodgson, it is appropriate to label these as complex adaptive systems, consisting of intricate structures within complex populations, composed of diverse elements.

Moreover, as argued by Kastelle et al. (2009, 20), analyses of innovation systems focus on the meso level, and evaluate the rules of a system, but scholars have to include the micro and macro levels. Analysing the micro level facilitates an understanding of how a system is influenced by its agents. This involves essential processes, notably coevolutionary processes that drive changes in innovation systems, and the establishment of conditions for analysing the interactions within these systems. On the meso level, scholars observe the emergence and dissemination of certain rules among agents. Efforts to identify systems fostering sustained growth, considering factors like

national protectionism, state intervention, and capital allocation modes to firms, emphasise the necessity for key features that enable efficient adaptation of involved parties (firms, states, workers) to emerging challenges (Fligstein and Dioun 2015, 9).

There are three classical sociological assumptions. The first assumption stresses that the economic goals usually are accompanied by sociability, approval, status, and power. Secondly, economic action (a set of measures to influence actions or policies) is not explained by individual motives due to its sociality. Moreover, the economic measures are embedded in personal relations networks. Lastly, the economic action is focusing on the lack of automatic rise of economic institutions (Granovetter 1992, 4). In general, economic sociology focuses and explains actions or events that happen at micro-, meso-, and macro levels. At the micro-level, it focuses on interpersonal relationships and the way they structure various economic processes. At the meso-level, economic sociology looks at institutional architecture, and formal and informal rules of economic systems systems, to make production, competition, valuation and exchange more predictable. In turn, at the macro-level, it focuses on how different forms of capitalism diverge in terms of historical aspects, state laws, or national cultures (Fligstein and Dioun 2015, 16-17). In general, when it comes to national social fields, the focus is on three social forces that influence the interchange between the social setting and actions. Being more specific, Beckert (cf. 2010) refers to frames, institutional rules, cognitive and network topography.

As it was mentioned in previous paragraphs, sociology explains economic processes with the help of social structures on individual actions. Following this line of argument, hereby we refer to three social forces that are relevant for economic outcomes: social networks, institutions, and cognitive frames (Beckert 2010b). In addition, it is considered that these forces do not act autonomously, but rather interact with each other. On one hand, the institutional structures and networks support specific fictions. Some entrepreneurial ideas depend on the institutional framework. Even more, the institutional environment can influence the way these new ideas take root

(Beckert 2011, 23). On the other hand, cognitive frames shape the direction of imaginaries, such as cultural expectations of economic accomplishment. Innovations anchored in modern capitalist societies encourage different imaginaries and associated actions. It must be understood that economic institutions do not emerge in response to economic needs (Granovetter 1992, 7). These institutions are constructed by the actions of individuals that facilitate and constrain the availability of resources and the structure of the social networks in which they are embedded. Economic institutions are built based on activity patterns in personal networks, as it is the case with the development of business groups or firms during the evolution of an industry (Granovetter 1992, 9).

The approach prioritises innovation processes, distinct from static terms like "arena" and "stage," with a preference for the more dynamic nature of social fields. The social field perspective, rooted in social behavioural and interactional theories, provides a direct approach to studying the dynamics of communities. As a result, this approach of social fields through the frame of social forces can improve the understanding of innovation processes (Wilkinson 1970, 320). Within the context of the accelerated complexity inherent in the social world, innovations emerge as a fundamental component of social actions. In this perspective, innovations not only mark significant milestones in the development of human society but also contribute to the successful adaptation within a specific social context. The complexity of the social systems reflected in the contemporary social order has contributed to the emergence of new social areas. The role of autonomous social subsystems was raised by functional differentiation, and by multiplying the social environments in which social actions take place. The nature of social organisations underwent transformations with the emergence of new, uncertain, and unpredictable social domains (Beck, Giddens, and Lash 1994). The interaction between actors and social environments reveals various strategies for adapting to and accommodating the dynamic and more fluid structural configurations. The fluid structural setting enables actors that control the new unpredictable social area(s) and the risks of the contemporary

era. In accordance with this perspective, both individual and collective actors engage in a deliberate examination of the new social context (Cepoi and Golob 2016). The heightened complexity of social reality compels these actors to adopt such an approach. Social structures, as conceptualised by Beckert (2010), are dynamic social forces that are anything but rigid, capable of either encouraging or constraining actions.

However, it is important to examine digital innovation, especially in the current environment. In a broad sense, digital innovation is defined as the introduction of new and significantly improved digital products. Concurrently, as emphasised by Nepelski (2019, 47), digital innovation also encompasses the development of processes, organisational structures, and marketing methods. Furthermore, digital technologies can be regarded as diverging from conventional innovation policies, as they reshape the traditional innovation process. As an example, knowledge or information in digital form can be easily taken and modelled as pleasing at a low cost in comparison to raw materials. Following this line of argument, both knowledge and information have high returns as in the moment more have access, use and modify the knowledge and information, the greater the value will be as (Nepelski 2019, 47) Even more, when it come to the commercialisation of digital innovation, Nepelski (2019, 51-52) stresses that there is the need for capabilities and skills also from the non-ICT sector. These skills include managerial or financial. There should be an entrepreneurial culture, regulatory efficiency, and acceptance of failure. This aspect shows how the Social Field approach does not only fit into understanding the innovation and innovation process in a classical understanding, but also it shows its robustness in adapting toward explaining digitalinnovations. Digital innovation, originating in the ICT sector, unfolds within the complexities of this environment. Consequently, it takes shape through the dynamic interaction between the ICT sector and other economic sectors, emphasising collaboration among diverse actors within the digital innovation ecosystem—an integral facet of digital innovation (Nepelski 2019, 48). This

collaborative process not only involves the exchange of information but also underscores the significance of how this information is utilised.

Institutions

Sociological institutionalism, as emphasised by Beckert (2010), focuses on organisational fields. The dynamics of institutional change involve various mechanisms, with coercion being a pivotal element, as elucidated by DiMaggio and Powell (1983). This coercion may manifest directly or indirectly, linking access to resources with compliance. Additionally, institutional change is propelled by the influence of power, enabling institutions to enforce regulations. Furthermore, mediation through professional networks and socialisation represents alternative mechanisms facilitating institutional change.

North (1981) understands institutions as "... a set of rules, compliance procedures, and moral and ethical behavioural norms designed to constrain the behaviour of individuals in the interests of maximising the wealth or utility of principals". The main pillars of the institutional approach are the social and cultural environments because they determine the decision of individuals either to start or not a business (Bruton et al. 2010).

As highlighted by Fuentelsaz et al. (2015, 248), institutions serve as general guidelines shaping economic, political, and social relationships within a society. These rules not only establish order but also structure exchanges, minimising risk and facilitating human interaction. Formal institutions encompass economic, legal, and political rules, restraining individual behaviour and fostering exchanges. Simultaneously, informal institutions are intertwined with the values, beliefs, and behaviours prevalent in a society. At the same time, there are several dimensions that are relevant to entrepreneurship. Gnyawali and Fogel (1994) mention: socioeconomic conditions, financial and non-financial assistance, entrepreneurial and business skills, and government policies and procedures. Governmental policies should guarantee the efficient work of market mechanisms by

eliminating failures and administrative rigidities. Additionally, these policies should create a favourable context for companies that allows them to take reasonable risks for running the businesses, while governments should have a positive attitude towards entrepreneurial activities, to motivate individuals to start new businesses (Fuentelsaz et al. 2015, 248). Fiscal freedom is also an important factor, as both financial and non-financial assistance play important roles in entrepreneurship. In addition, entrepreneurial skills stem from the availability of information, entrepreneurial training programs, and technical and business education.

According to the OECD (2010), regional institutions have various roles in innovation processes, such as to create opportunities for innovation, help technology diffusion and encourage technology entrepreneurship, formulate innovation policy, or conduct basic and applied research. The creation of the appropriate context for knowledge transfer and creation relies on regional innovation policies and regional stakeholders in science and technology (Huggins and Kitagawa 2011). In addition, the impact of various institutions varies based on the domestic economic environment. It is unnecessary to assert that institutions contribute to the development performance of countries. This assertion arises from the argument that the quality of institutions differs in each country, creating distinct incentive structures for technological advancement, innovations, and diverse tools for investing in human and physical capital (Nawaz 2015, 119).

Networks

In any case, there is no clear understanding regarding the impact of networks on the innovational process. Some former studies indicate that there is a strong influence of associational involvement on innovation, while other studies conclude that social networks have small but positive impact (Adam 2011). Networks can have a significant role for the diffusion and combination of knowledge that will stimulate innovation (Granovetter 1973), which

ultimately is considered one of the factors that contributes to the development, and regional development in particular.

There is a perception that in the early stages of the innovation process, the flow of diverse ideas is important, though afterwards the support within the team or firm is more important, also valid regardless of the radicality of innovation (Adam 2011, 417).

Both the theoretical background of “innovative milieu” and “social capital” highlights the advantage of dense networks of social contacts and trustful relations for innovation performance, though the difference lies in the character of networks. On one hand, the milieu approach is based on heterogeneous actors, meanwhile social capital more focuses on a foundation of homogeneity, also supported by the closed and institutionalised nature of relevant networks (Adam 2011, 417).

The network serves an additional purpose by serving as a tool to shape institutional rules (Beckert 2010, 611). Furthermore, it is essential to recognize that not all actors within a given network in the market field enjoy equal privileges, as some may be disadvantaged. For instance, each firm holds a distinct place and role within the network, contributing to power disparities and status hierarchies among firms. Another facet of social capital, or social networks, involves the potential information embedded in social relations, serving as a foundation for action (Coleman 1988). Within diffusion studies, attention is directed toward the factors influencing the adoption or rejection of new ideas (Valente 2005, 98). Moreover, these studies seek to elucidate why some actors promptly embrace new practices while others delay acceptance. Scholars, to achieve these objectives, concentrate on the chronological development of network diffusion models. This includes various models designed to gauge the speed of diffusion, estimate rates of innovation and imitation, including macro models and spatial autocorrelation (Valente 2005, 99). An alternative approach involves network-based interventions, grounded in the notion that utilising networks as intervention points offers a promising avenue for comprehending how networks influence behaviour change (Valente 2005, 112). Nevertheless, the problem of understanding the

process of diffusion remains, even if much progress has been made from the first theory of innovation diffusion. The new insights have brought into debate new questions, but also new perspectives regarding the role of networks in the context of developmental processes (Valente 2005, 112). For the diffusion processes the link between micro- and macro levels can represent an opportunity (Valente 2005, 113).

The origin of digital innovation is from the ICT sector, which is considered a complex environment. As a result, digital innovation is formed through the interaction of the ICT and other economic sectors. It highlights the collaboration between different actors in the digital innovation ecosystem, which can be considered an important aspect of digital innovation (Nepelski 2019, 48). At the same time, it relies not only on exchange of information, but also on the way this information is used.

Cognitive Frames

The role of culture includes diffusing, activating, and selecting among available schemata, particularly when aided by institutions, networks, and social movements (DiMaggio 1997, 263). It is primordial to understand and to develop the idea of culture, as an interaction of shared cognitive structure and supra-individual cultural phenomena. The phenomenon comprises aspects such as media messages, conversations or material culture that activate the cognitive structure and supra-individual cultural structures (DiMaggio 1997, 264).

The intensity of business creation is contingent on a society's values (Bruton, Ahlstrom, and Li 2010). Consequently, certain societies exhibit a greater proclivity for entrepreneurial activity and innovation than others (Turró, Urbano, and Peris-Ortiz 2014, 362). As a result, cultural differences impact entrepreneurial activity. Behaviours and values embedded in a business culture help the innovation process (Mumford et al. 2002), as the role of values is to provide a mechanism through which the senior management exerts its influence. Therefore, language and stories, physical configurations,

and organisational rituals lead to innovation development within firms. In an organisation, values are understood as standards for the working environment, which guide employees on what is “right” and “wrong”.

Furthermore, these values shape particular behavioural norms (Dose 1997). When societal norms diverge from the perceived normalcy, cultural inconsistency is recognised. Therefore, it becomes crucial at this juncture to pinpoint the units of cultural analysis and concentrate on the interactions among them (DiMaggio 1997, 265). Additionally, culture transitions from being a latent variable to resembling education, income, and place of residence in terms of social stratification.

Prior research has demonstrated a correlation between companies fostering teamwork and risk-taking and their involvement in innovation processes (Caldwell and O'Reilly 2003). These characteristics are part of individual features, which are creative. As a result, new solutions to problems are more likely to occur. The quality of government, openness, and the type of political system are interlinked with national innovation systems and the ability of a country to innovate (Hofstede 2001). Moreover, factors like education, corruption, civic rights, and trust exert an influence on innovation and interact with the cultural dimension. Culture plays a role in shaping the cognitive framework, which, in turn, can influence how a company's personnel perceive the competitive landscape and various firm-related issues (Johnson 2002). Furthermore, it can impact engagement in entrepreneurial ventures and support or hinder the entrepreneurial activities of the firm.

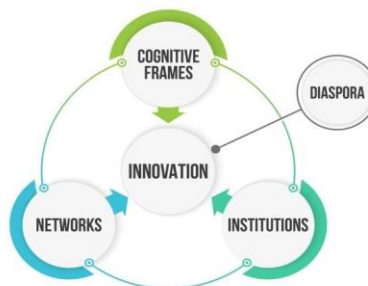
A (new) Theoretical and Systematic Data Collection proposition

The economic outcome can be explained through three social forces that exist in the market field: social networks, institutions, and cognitive frames (J. Beckert 2010a, 605). As Beckert stresses, these social forces have been shown to explain very diverse economic phenomena, having reciprocal influences in the market fields that allows one to consider their interrelations as sources of field dynamics (Beckert 2010, 606).

Furthermore, the author emphasises that the relationship is not merely casual but holds greater significance, as an alternative approach would overlook key forces influencing action, rendering the analysis incomplete. Moreover, it is essential not only to consider networks in explaining the market field but also to interconnect it with other processes, thereby creating a more embedded depiction of the processes occurring within a specific framework at a given moment in time. In social network studies, the majority of scholars primarily focus on either "whole-network" or "egocentric" approaches (Marsden 2005). The former design involves the examination of interconnected objects or actors, treated analytically as bounded social collectives, based on at least one set of objects linked by one set of relationships observed at one occasion. In contrast, the egocentric approach focuses on a central object or actor and the relations in its locality, sampled from a larger population (Marsden 2005, 8-9). Despite the usual distinction between these two designs in terms of methodological techniques and measuring instruments, they are inherently interconnected, with a whole network containing an egocentric perspective.

Drawing on Beckert's model of social forces interaction (2010) and previous research on innovation and social fields, a new variable—Diaspora—is introduced.

Figure 1. *The interplay of Social Forces, Innovation and Diaspora*



Source: Author's own drawing

The mentioned figure highlights the connection between social forces (institutions, networks, and cognitive frames) and innovation within a specific environment, with diaspora exerting influence on this milieu, particularly on innovation processes. Therefore, the inclusion of diaspora as a distinct component in societies marked by a high rate of "brain-drain" is strategically reasoned to evaluate its impact in the proposed model. It's essential to recognise that the direction of influence is not strictly unidirectional, and addressing this aspect requires a methodological tool, which will be discussed in the subsequent paragraphs.

Data collection constitutes another crucial element to contemplate in the formulation of the research design. To optimise the proposed theoretical framework, the model accommodates the utilisation of both qualitative and quantitative data. Accordingly, the researcher employs data sourced from interviews, focus groups, and various national/international reports. As a result, even if the model is very robust, at the same time it has flexibility and adaptability to the researcher's needs. Thus, an example of how this works in practice, Cepoi (2018) shows the case of explaining the innovation processes through focus groups in seven different regions regarding the level of innovation:

Innovation

1. Please assess the level of innovation within your region?
2. What are the strengths and weaknesses concerning collecting, processing, and disseminating innovation information (such as funding opportunities, potential partners, available know-how, technologies, etc.) in the region?
3. What are the regional strengths and weaknesses concerning enterprises and R&D?
4. Is the final product oriented toward the regional level?

Institutions

5. What are the strengths and weaknesses concerning the role of the public authorities and/or intermediary organisations representing these authorities?
6. Does your region have the capacity to attract talented people?
7. Does your region have the capacity to retain talented people?
8. What are the strengths and weaknesses of regional innovation-policy?

Networks

9. How networks are organised (e.g. multi-sectoral, enterprises only or sector only) and to which extent do the networks contribute effectively to innovation performance?
10. What are the strengths and weaknesses concerning cooperation between stakeholders within the region?
11. What are the strengths and weaknesses concerning cooperation between regional stakeholders and parties outside the region?
12. Do stakeholders trust each other?

Cognitive frames

13. What are the strengths and weaknesses of the culture and attitude of the population concerning creativity and entrepreneurship?
14. To what extent do the regional attitudes / culture enable the learning processes in the region?
15. Is competition seen as a positive value for the innovation process?
16. What is the role of globalisation for the innovation processes?

After each question, the participants (representatives of the academia, industry and state institutions) have to agree on a score, which will be used for further analysis.

The same approach, in terms of explaining Innovation with the help of Social Field Theory, Modic and Rončević (2018) focus on individual social forces in a comparative analysis of fifteen diverse regions. The data was collected from different secondary sources, thus highlighting the flexibility of the tool in the data collection process. The outcomes of this study emphasise that a convergence of social forces, including institutions, networks, and

cognitive frames, is adequate to stimulate innovation. This finding demonstrates the consistency of results, affirming their relevance not only at the national level (Cepoi and Golob 2017) but also at the regional level (Rončević and Modic 2012).

Another study that applied the same approach is a study of Transnational Value Chains in the post-transitional innovation systems in CEE - Analysis of Central and Eastern European regions engaged in automotive and electronics production networks (Gangaliuc 2022). The author, re-shaped the tool presented in Cepoi (2018) to fit the purpose of the research:

Innovation assessment

1. Please assess the level of innovation within your region?
2. Please assess the situation regarding collecting, processing and disseminating of information (such as funding opportunities, potential partners, available know-how, technologies, innovations etc.) in the region?
3. Please assess the involvement of enterprises in R&D?
4. Does the region rely on Open Innovation Practices, which emphasise the use of freely and openly available ideas and knowledge in their own R&D?

Institutional Support

5. Please assess the level of impact of the public authorities and/or publicly founded intermediary organisations (such as regional development agencies, innovation agencies, incubators, technology parks) in supporting R&D and innovations in the region? (R&D or Innovations?)
6. Does your region have the capacity to attract talented people?
7. Does your region have the capacity to retain talented people?
8. Please assess the innovation-policy?

Networks' Impact

9. How do the networks between businesses, institutions of knowledge, public bodies, professional associations, trade unions, NGOs etc. contribute to innovation performance in the region?
10. Please assess the level of cooperation between stakeholders within the region?
11. Please assess the level of cooperation between regional stakeholders and actors outside the region?
12. Do stakeholders trust each other?

Cognitive Frames

13. Please assess the level of the culture and attitude of the population concerning creativity and entrepreneurship?
14. To what extent do the regional attitudes / culture enable learning processes in the region?
15. Is competition seen positively or negatively by most people?
16. How is globalisation perceived in the context of the innovation processes?

Transnational Value Chains Embeddedness

17. How embedded are Transnational Value Chain relationships (TVC) or other forms of transnational relationships (TR) in the region?
18. What is the role of the regional actors (enterprises, industrial sectors and clusters) in the Transnational Value Chains?
19. Assess the role of Transnational Value Chain (TVC) relationships or other forms of Transnational Relationships (TR) for the R&D and innovative processes in the region?
20. To which extent does the regional economic performance depend on Transnational Value Chain (TVC) relationships or other forms of Transnational Relationships (TR)?

Utilising Qualitative Comparative Analysis, the study outcomes on regional development and innovation unveil notable findings. Regional cooperation, the effectiveness of innovation policies, and the potential of support institutions take centre stage. Additionally, the involvement of Triple

Helix (TVC) partners in local innovation and Research & Development (R&D) emerges as a crucial factor influencing regional potential.

Finally, it is noteworthy that in the analysis, only institutional frameworks and regional cooperation stand out as the two conditions that are both necessary and sufficient for innovation (Gangaliuc 2018, 340).

At the same time, another recent study that uses the approach of Social Field Theory, is the research on Transnational Value Chain's embeddedness in a region. Thus, on one hand this study shows the robustness of the tool in terms of results. On the contrary, it underscores the tool's adaptability, demonstrating its capacity to reshape the focus of analysis and incorporate additional conditions or alter outcomes. Consequently, the study posits that Innovation, Institutions, Networks, Transnational Values Chains, and Region Tier collectively serve as sufficient conditions for the existence of TVC Embeddedness (Cepoi and Pandiloska Jurak 2023). Conversely, only the presence of Transnational Values Chains, coupled with the absence of Innovation, Institutions, and Cognitive Frames, represents the necessary conditions for TVC Embeddedness. In the context of this paper, these findings underscore the theory's and proposed tool's remarkable flexibility.

Consequently, Figure 1 serves as an illustration of the adaptability of the model presented by Cepoi (2018) for the examination of alternative phenomena. While retaining consistent scores for each question, the novelty lies in assigning labels to the scores, thereby enhancing clarity, and facilitating a better comprehension of the significance of each score within the framework of individual questions.

Following this line of argument, it is important also to use an appropriate methodological tool, which will allow us to analyse the data in a manner in which to benefit the research the most. Considering the above-mentioned previous studies, where the main focus was Innovation, Qualitative Comparative Analysis (QCA) is at forefront as an analytical tool. The method is characterised firstly using a small number of case studies (De Meur and Rihoux 2002). Even more, for QCA it is of utmost importance to use both the theory and empirical data hand in hand. On one hand, the theory

will have the aim to determine the research problem. After, the research, using the theory, will determine the conditions (independent variables) for the selected outcome (dependent variable) (Mendel and Korjani 2012).

Another feature of QCA is its capacity to work with case memberships for the specified conditions. As highlighted by Schneider and Wagemann (2012), during the calibration process, each case will be assigned a membership for each condition and outcome. Thus, the scores in QCA are between 0 (full non-membership) and 1 (full membership). For example, as Ragin (2008) points, a value of 0.15 indicates that the sets are more 'out' than 'in' in the membership, while a value of 0.75 would indicate that these are more 'in' than 'out. Finally, QCA considers both sufficient and necessary conditions determined by the researcher for the chosen outcome. For example, by using the proposed model and using QCA as a tool for analysis, it will be possible to see if diaspora alongside institutions, networks and cognitive frames are necessary or sufficient conditions for the innovation.

Conclusions

The aim of this paper was to offer an updated theoretical and methodological approach towards explaining innovation processes in different milieus, but nevertheless within a focus on the role that the diaspora has to play. Additionally, the aim was to offer a solution toward systematic data collection, which proved to be efficient in different cases by demonstrating its flexibility from the perspective of theory and adaptability of data collection. In order to benefit the most out of the local realities, it was proposed to use the Social Fields Theory, as it implies the interplay between different social forces (institutions, networks and cognitive frames) and especially because this interplay of social forces involves different stakeholders. While the theory is firmly grounded, it exhibits the flexibility to incorporate additional elements into the equation. This adaptability was demonstrated through the interplay of the three social forces present in the innovation explanation model.

Furthermore, we noticed the essential role of institutions, networks, and cognitive frames in the advancement of digital innovation. Moreover, we identified the interdependence not only between innovations and diaspora but also the interconnectedness of Social Fields and its social forces with the diaspora, creating an optimal environment for diaspora operations. By the *milieux* we do not refer only to the regional administrative boundaries, but also to the national one. As it was shown in previous studies (Rončević and Modic 2012, Cepoi and Rončević 2015; Cepoi and Golob 2016; 2017; Modic and Rončević 2018, Cepoi 2018, Gangaliuc 2022) the proposed model can fit any territorial boundaries. Hence, the suggested model retains flexibility without compromising its robustness in elucidating innovation within a specific context. Moreover, in alignment with this perspective, these investigations have demonstrated adaptability concerning the utilised data (secondary or primary) and units of analysis (states vs. regions). Furthermore, the proposed model not only enables the exploration of diaspora's impact on innovation but also provides avenues to consider additional factors influencing the process.

From a methodological perspective, Qualitative Comparative Analysis is a relatively recent approach that has gained increased attention from scholars across various fields of expertise. This underscores its flexibility and adaptability, particularly in studies that do not necessitate a large number of cases, as is often the case with classical statistical analyses. Moreover, the need for the methodological approach to consistently consider theory and employ various operations in assigning scores for each condition and outcome constitutes a significant strength. However, it's essential to acknowledge that the role of the researcher is crucial and may introduce bias into the process.

Lastly, the combination of the theoretical framework and the methodological approach, create a favourable environment for understanding the innovation process from the standpoint of diaspora's influence. This combination was tested on several occasions for testing the effects of Social Forces on Innovation processes, thus it has demonstrated its relevance and the added value it brings to the topic of innovation.

Nevertheless, it is necessary to empirically test the proposed model and understand if there must be improvements to the proposed model.

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