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Scientific article • DOI: 10.2478/rsc-2023-0011 • RSC • 15(1) • 2023 • 118-128

RSC

Research in Social Change

EXPLAINING INNOVATION FOR INNOVATION LEADERS AND EMERGING INNOVATORS WITH A FOCUS ON SOCIAL FIELD THEORY

Victor Cepoi*

Faculty of Information Studies (Slovenia)

Abstract

Old economic approaches can no longer be applied for explaining the changes that are occurring, as the technological advancements are posing newer challenges. Thus, the new approach considers innovative processes that function as promoters of economic development. Innovations are considered to be aspects of any grand strategies, as they are crucial elements for development. Within the literature, scholars have studied factors that contribute to the development of innovation and innovation processes. The present paper revolves around the Social Field Theory, as this theory considers the determinants of innovation at different levels. By using the Social Field Theory, we manage to consider the interactions existing between social environments and different stakeholders as local orders or social arenas. Thus, this paper aims to deepen the studies on innovation, by focusing on the Social Field Theory, which will allow the intertwining of innovation and social forces not only in the case of strong innovators, but also those that are considered as emerging innovators. This will help with better predictability and improvement of society's economic and social traits. To do so, qualitative comparative analysis (QCA) will be employed, as it will allows us to see the sufficient and necessary conditions so that there is innovation in the selected case studies.

Keywords

innovation • social field • QCA • institutions • networks • cognitive frames

1. Introduction

Old economic approaches can no longer be applied for explaining the changes that are happening, as the technological advancements are posing new challenges. Thus, the new approach considers innovative processes that function as promoters of economic development. Innovations are vital aspects of any grand strategy, as they are crucial elements for development (Makarovič, Šušteršič, and Rončević 2014; Rončević 2021). Furthermore, they have become a component of social actions for the successful adaptation to the social context. Nevertheless, until now innovations in the context of the complexity of the social world, were a breaking point in the development of human society. Considering the complexities of the relationships in the environments where we live, the relationship between the social environments and actors has changed. As a result, we notice that these actors control the new arising risks and social areas of the contemporary era by adaptation and adjustments of the social context. All these processes are seen as triggers of innovation.

Within the literature, scholars have studied factors that contribute to the development of innovation and innovation processes (Etzkowitz and Leydesdorff 2000; Edquist 2001; Isaksen 2001; Carlsson et al. 2002). In these studies, the important effect was highlighted that innovations have on different societal dimensions such as culture, social and economic. As such, this paper revolves around the Social Field Theory, as it considers the determinants of innovations at different levels (Fligstein and McAdam 2012). By using the Social Field Theory, we manage to consider the interaction between social environments and different stakeholders as local orders or social arenas. In other words, social fields can be regarded as local orders where 'interactions between more and less powerful collective groups according to rules and shared meanings take place' (Fligstein 1997). Within each of these social fields, there is an interplay between three main social forces: institutions, networks and cognitive frames. These social forces not only determine the way how these new economic realities look, but also determine the way all actors interact with each other while engaging for innovation. Furthermore, individual or collective agents are considered as units of analysis, because of the merger that

*Corresponding author e-mail: victor.cepoi@ is.unm.si

determines the social rules of the local order. As a result, in this paper, in order to focus on a specific region, we focus on the Social Field Theory, as it allows considering a specific order as an individual region.

Thus, the present paper aims to deepen the studies on innovation, by focusing on the Social Field Theory, which will allow to have the intertwining of innovation and social forces not only in the case of strong innovators, but also those that are considered as emerging innovators. This will help with better predictability and improvement of society's economic and social traits. Qualitative comparative analysis (QCA) will be employed, as it will allow us to observe the sufficient and necessary conditions, so that there is innovation in the selected case studies.

1.1. Innovations and its determinants

Overall, when it comes to innovation, one might find different approaches towards defining it (Adolf, Mast, and Stehr 2013). As scholars point out, the diversified approach towards defining innovation is because the term innovation and innovation processes contain processes of evolution, creation, modernisation, social change and development (Adolf et al. 2013, 14). Additionally, when it comes to the technological component of the innovation activity, there should be considered factors such as patents, innovation process and news products (Rončević and Modic 2011).

Adam and Westlund (2013) highlighted that innovation must be valued for aspects such as civil society, organisation and the culture that it contains. At the same time, it is important to keep in mind that innovation is linked to the progress that happens in the society in science and technology (Almeida and Kogut 1997), thus making it important not only to the economy and firms, but also for the society (Arend 2008).

Schumpeter (1934) pointed out that when talking about innovation, the general understanding must be a sum of different factors such as new markets, different environments, production of new goods or the introduction of new processes. Furthermore, not only the changing structure of the relationship between various actors, but also the changing structure of the society influence the way innovation is perceived (de la Mothe and Paquet 1998). This idea is accompanied by the understanding that innovation in general is a social and collaborative achievement (Oddane 2008), which follows the modern trend of seeing innovation in a broader view, highlighting its social and technical components (Park 2002).

Beckert (2010) pinpointed that the economic outcomes in each milieu can be explained by three forces: institutions, cognitive frameworks and networks. As the author highlights, these forces constitute the social forces in the context of the Social Field Theory. Thus, their interrelation explains the diverse economic phenomena, which makes these relations not casual, but a more significant one as it must consider all forces at the same time. In other words, there is a constant interaction between the three social forces when certain phenomena are being explained. It allows us to create a clearer understanding of the processes in a specific milieu.

The innovation systems are not perceived as part of the evolution process, even if they are considered as part of those features that determine the economic evolution. Furthermore, relying on the false presumptions that these systems are parametric structures and that they are the same everywhere, the systems are perceived as upgrading of increasing complexity that operate in a predictable direction of network openness (Kastelle, Potts, and Dodgson 2009). The innovation structure is evolving as a result of the slow change in these systems. At the moment, the environment is characterised by adaptive capability or having dynamic investments. This will allow the innovation structure to survive in this constantly changing environment. Furthermore, the innovation systems can be regarded as adaptive systems. Complete structures of complex populations (which are composed of different elements) form the complex adaptive systems, where innovation systems can be regarded as populations as they compete in a market and can be differently adopted.

Open innovation can be seen as: '… the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation' (Chesbrough 2006). Contrary to the closed innovation model that includes the remaining of the developed products and services in the company, open innovation initially was understood as the openness of internal processes of innovation in the collaboration between the two enterprises (Chesbrough 2012).

Scholars pinpoint that there are factors that contribute to the establishment of the open innovation paradigm.

(1) Understanding that innovative ideas can come from the outside of the enterprise;
(2) Accentuating the importance of firms' challenges while capturing returns from the innovative effort, which builds the open innovation framework; and
(3) The role of the business model is to mediate between economic benefits and technical inputs through structuring the way an enterprise has captured and created value from a specific market (West et al. 2014).

Being a new concept, open innovation has space for development, even if it considers the role of different stakeholders in the innovation process (Chesbrough 2012, 26). Furthermore, innovation communities are at the forefront in the open innovation paradigm. The new paradigm offers a lot possibilities for scholars for research. From theoretical to empirical developments, the enrichment of discoveries is in understanding the innovation process (West et al. 2014, 810).

1.2. Social fields

It is considered that fields are not static as they have the property to change through time. The notion of field is used across disciplines. Also, they have certain common features, as for example, within the field, there is a reciprocal influence of its components. Additionally, as in the case of innovation, fields are dynamic. The field can be seen as something possible that exists through time, as it is in a constant change of structure and process (Wilkinson 1970). Fields have the ability to realign themselves with one another and be emergent, making them the outcome of interactions with their own parts, a process that is not fully governed by their collective properties.

The Social Filed Theory aims to explain the social life of the meso-level social order. At the forefront, as Fligstein and McAdam (2012) highlight, are aspects of collective engagement, skills that people bring and maintain to understand political change, the production of a new product, or the creation of a hierarchical order in different cultural fields, are at the forefront. In other words, we can determine that the Social Field Theory has the following three characteristics:

– embeddedness in a broader environment (presence of distal and proximate fields),
– seeking fashion and maintaining order in any given field (meaning, interest and identity-shaping process) and
– strategic action fields (in the state or civil society, the meso-level orders are considered as the foundation for organisational life in the economy).

According to Fligstein and McAdam (2012, 3), when the focus is on a given field, it is important to highlight that it is embedded in a broader environment. Within this environment, there are present a large number of proximate and distal fields. Even more, the idea of social skill is at the forefront as it implies the agency of actors and focuses on the idea of emergence and constructivism. The latter are essential characteristics of the strategic action fields. As a result, the division of national spaces points towards a range of institutional and cultural features, which influence the innovation process in a strategic social field. Following this line of argument, we can put forth that states are frames for other strategic fields in a specific milieu and states are forms of collection actions, which can control and produce strategic action fields (Fligstein and McAdam 2012, 68). Thus, as Beckert (1999) highlights, embeddedness serves as a placeholder for explaining the gap between empirical observations and the rational actor model. Fields are understood as local social orders or social arenas, as they convey social structures in markets (Beckert 2010, 606). Even more, these fields shift the theoretical framework between structures and agency processes. Actors' actions vis-à-vis one another are framed in these orders or arenas (Fligstein and McAdam 2011). At the same time, one must understand that the economic model of action and embeddedness is positioned on different levels of conceptualisation. On one hand, the economic action refers to the way the structure of action is being considered. On the other hand, the social aspect refers to the external variables that influence the outcome process (Beckert 2003). At the beginning, embeddedness was considered as a remaining category that points to external influence on rational decision-making, which did not offer a theory of strategic intentionality or strategic agency. Following this line of argument, it allows us to address the gap between the rational actor model and empirical evidence (Beckert 1999).

In knowledge and ideas, there are three different levels of analytic structures: macro-, meso and micro levels. The core constitutes the meso level, where knowledge and ideas are present (Kastelle, Potts, and Dodgson 2009) and various groups are at the forefront as the action takes place within and between these groups (Fligstein and McAdam 2012, 7). At the same time, the knowledge is stored and shared by the agents that are part of the micro unit. Thus, in the process of interaction of the micro-meso levels, in the case of innovation, markets, industries, sectors, etc., are formed, which constitute the macro level (Kastelle, Potts, and Dodgson 2009).

As such, there is a discrepancy between the meso level (the main focus of the innovation systems) and the micro and macro levels, where on the one hand, the micro level focuses on how a system is shaped by its agents. At this stage, it is important to understand the coevolutionary processes, which change the innovation systems and the process of creating the premises for analysing how innovation systems interact. On the other hand, at the meso level, the focus is on the appearance and the spread to agents of certain rules (Fligstein and Dioun 2015).

Economic processes can be explained with the help of sociology, through the effect of social structures on individual actions. As Beckert (2010) highlights, there are three social forces that determine the economic outcome – cognitive frames, institutions and networks. These forces do not act autonomously, but on the contrary, they interact with each other. Following this line of argument, on one side, we have cognitive frames that shape the direction of imaginaries, e.g. cultural expectations of economic accomplishment. On the other side, we have institutional structure and networks that support specific fictions, where the institutional framework influences entrepreneurial ideas and the way new ideas take root (Beckert 2010, 23).

If we consider modern capitalist societies, innovation processes that are anchored in these societies encourage different imaginaries and associated actions and at the same

time the economic needs do not create the appearance of economic institutions (Granovetter 1992). Even more, these economic institutions are constructed by individuals whose actions limit or assist the structure of networks in which they are embedded and the availability of resources. Thus, economic institutions are similar to the development of groups or firms during the evolution of an industry as they both are built on patterns in personal networks (Granovetter 1992, 9).

In comparison to the arena and stage, a social field is more dynamic. Thus, even if innovation processes are critical for the arena and stage, these do not denote innovation processes. The development of the social field perspective offers the approach towards the study of community dynamics and through the frame of social forces, the understanding of innovation processes can be improved (Wilkinson 1970, 320). Innovations are part of the social actions' fundamental component as the social world is an accelerated complex entity. On one hand, innovations are about the successful adaption to a specific social context and on another hand, they cause the breaking point in the development of human society. New social areas are created as a result of the complexity of the social systems that are part of the contemporary social order. There are different techniques of adaptation and adjustment of the social context as a result of the changing and more fluid structural setting, which can be perceived in the relationship between actors and social environments. Individual and collective actors deliberate on the new social context, as the fluid structural setting supports actors that control the risks of the contemporary era and the volatile social areas in general (Cepoi and Golob 2017).

1.3. Institutions

Organisational fields is one of the cores of sociological institutionalism (Beckert 2010). Thus, coercion is one of the mechanisms of institutional change (DiMaggio and Powell 1983). With the help of access to resources that are dependent on compliance, coercion can be either indirect or direct. Additionally, regulations can be imposed with the help of power. Although, mediation through professional networks or socialisation are also mechanisms that trigger institutional change. We understand 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 maximizing the wealth or utility of principals' (North 1991). In other words, institutions are the rules of the game (Fuentelsaz et al. 2015). Even more, they have the possibility to adjust the social, economic and political relationships within a society. Human interaction is determined by the rules that provide order exchange and structure, which in the end reduces the risks. Overall, the political, legal, social and cultural rules are linked to formal institutions. Furthermore, these have to facilitate exchange, but also at the same time to limit the individual behaviour. On the other hand, behaviours, values and beliefs relate to informal institutions. Thus, as Gnyawali and Fogel (1994) point out that entrepreneurial and business skills, financial and non-financial assistance, government policies and procedures and socioeconomic conditions are important for entrepreneurship. At the same time, the efficient work of the market mechanisms should be guaranteed by governmental policies. This can be achieved through the elimination of administrative rigidities and failures. Altogether, this must create a favourable context for enterprises to take some risks to run businesses. On the other side, the government through policies should stimulate entrepreneurial activities, e.g. to motivate individuals to start new businesses (Fuentelsaz et al. 2015, 248). Lastly, fiscal freedom is also at the forefront. Thus, the non-financial assistance and final assistance are vital for entrepreneurship; meanwhile, entrepreneurial skills start from technical and business education, entrepreneurial training programmes or availability of information.

It is considered that social and cultural environments are the backbones of the institutional approach, as both the cultural and social environments determine the decision to start or not a business (Bruton, Ahlstrom, and Li 2010).

Regional institutions have different roles in innovation processes. For example, there can be mentioned the role to formulate innovation policy or conduct basic and applied research, create opportunities for innovation or even help technology diffusion and encourage technology entrepreneurship (OECD 2010). Additionally, scholars point out that institutions contribute to the creation of the appropriate context for knowledge transfer. At the same time, creation relies on regional stakeholders and on regional innovation policies for science and technology (Huggins and Kitagawa 2012).

Depending on the domestic economic environment, different institutions have diverse impacts. Thus, the discussion is about whether institutions are contributing to the country's development of performance is not necessary as every country has different institutions that differ in quality. Even more, every country has different tools for investing in physical and human capital, but also every country has different incentive structures for innovations and technological advancements (Nawaz 2015).

Networks aim to boost the interaction between different actors, even if at present, there is a growing insecurity generated by the use of technologies and development. Even more, at the moment different stakeholders are linked, they contribute to the generation of profit-sharing and knowledge (Bullinger et al. 2004) among the SMEs in the globalisation market. This is possible due their abilities to innovate new processes and products. Thus, SMEs are considered the engine of economic growth and technological progress (Zeng et al. 2010). At the same time, the firm size is important as it influences the behaviour,

networking and performance within the SME networks. Even more, innovation is at the forefront in the strategic networks (Wincert 2005). SME culture already encompasses the culture of innovation interaction and cooperation for SMEs that wish to promote innovation capabilities in the era of open innovation (Zeng et al. 2010, 181).

1.4. Networks

According to Adam (2011), some studies suggest that even social networks have small but positive impacts on innovation. Meanwhile, other studies highlight a strong influence of associational involvement. Nevertheless, innovation is stimulated by the combination and diffusion of knowledge through networks (Granovetter 1973). Thus, networks are being considered as one of the main factors that influence development and regional development.

The flow of different ideas is an important process in the early stages of the innovation process. Nevertheless, at a later stage, regardless of the radicality of the innovation, the support from the firm or team is important, although at the early stages, at the forefront is the flow of different ideas (Adam 2011, 417).

The advantage of a dense network of trustful relations and social contacts for innovation performance pinpoints the intertwining of the theoretical framework of social capital and innovative environment. Even if it is considered advantageous, there is a difference in the character of the particular network. Thus, on one hand, social capital focuses on the idea of homogeneity, which is supported by the institutionalised and closed nature of networks. On the other hand, the environment approach is based on the idea of heterogenous actors (Adam 2011, 417).

As Beckert (2010, 611) stresses, networks have the aim to influence institutional rules, although it should not be taken for granted that all actors will be able to do so, as some of them are disadvantaged in the market field. This aspect highlights the individual positioning of each of the firm and the presence of status hierarchies. Additionally, within the social relations, there is present information that is important for the basis of action (Coleman 1988). When it comes to factors that lead to the adaption or not of new ideas, this is related to the diffusion studies (Valente 2005, 98). In these studies, scholars try to explain actors' behaviour, especially when it comes to starting to process or wait before accepting the new practices. Thus, at the forefront are the chronological development network-diffusion models. These models measure the rates of innovation and imitation and the speed of diffusion. For example, as in the case of macro models or spatial autocorrelation (Valente 2005). A good opportunity for understanding networks' influence behaviour change is the network-based interventions. It relies on the idea of using networks as intervention points (Valente 2005, 112). Although, even if there were lot of efforts made to understand the innovation diffusion process, it still remains a problem. The new progress put at the forefront new perspectives and ideas about the role of networks in the context of developmental processes, where the link between micro- and macro levels can represent an opportunity (Valente 2005, 112–113).

At the same time, it is interesting to see the digital innovation, which has its origins from the ICT sector that is a complex environment. As a result, due to the interactions between the ICT sector and other economic sectors, digital innovation is formed. Thus, it highlights the collaboration between different actors that operate in the digital innovation ecosystem, which is part of digital innovation (Nepelski 2019). It relies not only on the way information is used, but also on its exchange.

1.5. Cognitive Frames

With the help of institutions, social movements and networks, culture's role is to select, diffuse and activate amongst available plans (DiMaggio 1997, 263). Even more, the idea of culture must be at the forefront and its understanding and development as an interaction of shared cognitive structure and supra-individual cultural phenomena. As the author points out, it is about the material cultural, media messages or conversations. This aspect has the role to activate supra-individual cultural and the cognitive structures (DiMaggio 1997, 264).

Values of the society have an influence on the intensity of business creation within a given milieu (Bruton, Ahlstrom, and Li 2010), thus creating discrepancies between societies where some societies are more prone to innovation and entrepreneurial activity (Turró, Urbano, and Peris-Ortiz 2014). Following this line of argument, entrepreneurial activity is impacted by cultural differences. Even more, an innovation process within a company is helped by values and behaviours that are embedded in this particular company (Mumford et al. 2002). As a result, there is an emphasis of the management's role of values. Furthermore, the role is to exert the influence through the mechanisms that certain values provide. Innovation in the company is determined by several factors such as organisational rituals, physical configurations or language and stories. When we speak about the standards for the working environment, the values in an organisation help distinguish between 'wrong' and 'right', which in the end help guide specific norms of behaviour (Dose 1997). At the same time, once there is a discrepancy between what is represented as normal and society's norms, culture fails its role and is considered as inconsistent. Thus, as DiMaggio (1997, 265) highlights at this stage that it is important to identify the units of cultural analysis and on a later stage to shift the focus on the relationships that these units have. Following this line of argument, culture stands upfront alongside other variables such as income, place of residence and social stratification as it is not anymore a latent variable.

In previous studies, it was shown that innovation processes are linked to the encouragement of teamwork and risk-taking within companies (Caldwell and O'Reilly 2003). Thus, it makes them creative, as they are considered as individual characteristics feature, which lead to the creation of solutions to existing problems.

It is considered that the political system and government's quality and openness are linked with a country's possibility to innovate and the national innovation system itself (Hofstede 2001). At the same time, civic rights, level of corruption, education and trust influence innovation. Even more, all these aspects interact with the cultural dimension. Between culture and cognitive frameworks, there is mutual influence, e.g. cognitive framework determines the competitive landscape as to how it is seen by the staff members of a firm. Simultaneously, it helps to accommodate and facilitate the firm's entrepreneurial activities and to determine the engagement in entrepreneurial ventures (Johnson and Medcof 2002).

2. Methodology, data and operationalisation

To analyse what are the sufficient and necessary conditions for innovation in the groups, at forefront will be QCA, as it is well suited for small-N comparative studies. Also, it allows using and combining the empirical data and the theoretical framework. Following this line of argument, the scholar determines the research problem and continues with the specification of conditions (independent variables) for the desired outcome (dependent variable).

As Schneider and Wagemann (2012) point out, for each case, QCA operates with membership or non-membership with the help of the process of calibration. Thus, each case will have a degree of membership for either the conditions or outcome, with a value between 0 (full non-membership) and 1 (full membership). As an example, a value of 0.85 would indicate that the sets are more 'in' than 'out' in the membership. Meanwhile, a value of 0.10 indicates that the set is more 'out' than 'in'. Another characteristic of QCA is that it also deals with the absence of certain conditions, e.g. if there is corruption, it hinders democracy, but in the case of absence of corruption, democracy can flourish. In this paper, it is also important to see if the absence of certain conditions can determine the presence of innovation.

In order to interpret the results, QCA deals with necessity and sufficiency for any particular outcome. Following this line of argument, in the proposed model, innovation is considered as the outcome; meanwhile, the three social forces (institutions, networks and cognitive frames) constitute the conditions. In order to be able to do so, QCA relies on consistency and coverage, which are the two parameters of fit. Coverage determines the empirical relevance or importance of an outcome by a condition or combination of conditions. At the same time, consistency shows how closely a subset relation is approximated to the outcome (Ragin 2008). Nevertheless, among QCA scholars, there is no common agreement about the threshold for these parameters of fit. As Schneider and Wagemann (2012), the threshold always depends on several factors as: quality of data, research design or the number and knowledge of cases. Nevertheless, in order for a condition to be considered as necessary or sufficient, the threshold for consistency will be set at 0.75 and for coverage at 0.5, as these anchors can be considered dynamic, without losing from the casualty from the perspective of the closeness of approximation. Nonetheless, the empirical relevance of conditions is also secured. As a result, for a condition to be considered either sufficient or necessary, the threshold for consistency is set at 0.75, meanwhile for coverage 0.5. These anchors can be considered dynamic, thus securing the the data, which comprises questions that assess the level of innovation, networks, cognitive frames and institutions (each indicator is measured through a set of four questions with labels), which were collected through focus groups in the targeted case studies. The interviewees were representatives of academia, business sector and state institutions. For each question, the participants had to agree on a single label (score) from 1 to 4, which was used for further analysis:

- **Innovation:** innovation level; information circulation; enterprises' R&D involvement; open innovation
- **Institutions:** institutional support for innovation; attraction of talented people; retention of talented people; innovation policy status
- **Networks:** network contribution to innovation; regional actor's cooperation; cooperation with outsiders; trust
- **Cognitive frames:** entrepreneurship and creativity; importance of education and learning; competition; globalisation.

Data were collected within the framework of the project Jean Monnet Center of Excellence, Technology and Innovations in the Regional Development for Europe 2020 (TIR2020). For the analysis in this paper, we have selected 17 regions from 17 different countries in Europe. According to the European Innovation Scoreboard, these countries fall into four performance groups: innovation leaders, strong innovators, moderate innovators and emerging innovators (EIS 2022). Thus, following the purpose of this research, these countries were grouped in two groups:

- Innovation leaders and Strong innovators: Denmark, Finland, the Netherlands, Austria, Ireland, France and Norway

- Moderate innovators and Emerging innovators: Estonia, Slovenia, Czechia, Portugal, Lithuania, Croatia, Slovakia, Latvia, Bulgaria, Romania and Ukraine.

3. Results

As it was mentioned earlier, the aim of this paper is to see what are sufficient and necessary conditions for innovation in the case of the two groups: innovation leaders/strong innovators and moderate innovators/emerging innovators.

The result pinpoints several interesting results (see Table 1). Thus, when it comes to sufficient conditions, institutions and cognitive frames are at the forefront for both groups. Meanwhile, networks are sufficient for innovation only in the case of the moderate innovators/emerging innovators. Although in the case of the innovation leaders/strong innovators group, the consistency coefficient for network was on the limit on the selected threshold of 0.75. One of the possible explanations would be that in these regions, the presence of networks functions as catalysts for innovation, even if the other two social forces do not manage to do their 'job' for innovation processes. Lastly, the absence of these social forces is not relevant for Innovation for the two groups.

On the other hand, when it comes to necessary conditions, we notice that all three social forces (institutions, networks and cognitive frames) are relevant for the regions that constitute the Innovation Leaders/Strong Innovators group. At the same time, as in the case of sufficient conditions, the absence of these social forces do not explain the presence of innovation. Thus, Institutions and Cognitive Frames are both sufficient and necessary conditions to have Innovation, meanwhile Cognitive Frames is only a necessary condition.

Meanwhile, a more interesting result referred to the Moderate Innovators/Emerging Innovators group, as one of the social forces were highlighted as necessary for innovation. Even more, the absence of institutions, cognitive frames or networks is not a necessary condition for innovation.

Nevertheless, in order to have a better understanding of these results, there was performed a superSubset analysis, which has the aim to find all disjunctive and conjunctive combinations of conditions in relation to the outcome (see Tables 2 and 3).

As we can see in the case of Innovation Leaders/Strong Innovators, when it comes to necessary conditions to have Innovation, the results highlighted several important combinations. Firstly, at the forefront is a combination between Institutions and Networks, followed by Institutions and Cognitive Frames. Additionally, we see strong scores for consistency and coverage not only in the case of the presence of Networks and Cognitive frames, but also the combination of all three social forces – Institutions, Networks and Cognitive Frames. For sufficiency, even if the scores are on the threshold, it is important to highlight that the absence of Networks and the absence of Cognitive Frames are sufficient to have Innovation. At the same time, even if Networks are present, but there is the absence of Cognitive Frames, we can still have innovation.

Also, the results for the Moderate Innovators/Emerging Innovators are intriguing, especially in the case of sufficiency. As necessary conditions, the combination between Networks and Cognitive Frames is at the forefront, as this is the only combination that meets the threshold criteria. In the case

Table 1. Sufficient and necessary conditions for innovations

	Innovation leaders/strong innovators		Moderate innovators/emerging innovators	
	Consistency sufficient	**Coverage sufficient**	**Consistency sufficient**	**Coverage sufficient**
Institutions	**0.9388**	**0.7797**	**0.763**	**0.607**
Networks	0.7483	0.9492	**0.866**	**0.616**
Cog. frames	**0.7901**	**0.8079**	**0.876**	**0.672**
~ Institutions	0.5862	0.6723	0.855	0.376
~ Networks	0.7131	0.5056	0.76	0.357
~ Cog. frames	0.6095	0.5819	0.76	0.341
	Consistency necessary	**Coverage necessary**	**Consistency necessary**	**Coverage necessary**
Institutions	**0.78**	**0.939**	0.6067	0.7633
Networks	**0.949**	**0.748**	0.6156	0.8657
Cog. frames	**0.808**	**0.79**	0.6721	0.8763
~ Institutions	0.672	0.586	0.3758	0.8551
~ Networks	0.506	0.713	0.3571	0.7597
~ Cog. frames	0.582	0.609	0.3407	0.7597

Note: Calculations made from the data collected within the framework of the project Jean Monnet Centre of Excellence, Technology and Innovations in Regional Development for Europe 2020 (TIR2020).
Significant results are bolded.

Table 2. superSubset for innovation leaders/strong innovators

Conditions	Necessity		
	inclN	**RoN**	**covN**
Institutions * Networks	0.780	0.958	0.939
Institutions * Cognitive frames	0.757	0.958	0.937
Networks * Cognitive frames	0.808	0.860	0.831
Institutions * Networks * Cognitive frames	0.757	0.958	0.937
	Sufficiency		
	inclS	**PRI**	**covS**
~ Networks *~ Cognitive frames	0.768	0.000	0.506
Networks *~ Cognitive frames	0.790	0.138	0.531

Note: Calculations made from the data collected within the framework of the project Jean Monnet Centre of Excellence, Technology and Innovations in Regional Development for Europe 2020 (TIR2020).

Table 3. superSubset for moderate innovators/emerging innovators

Conditions	Necessity		
	inclN	**RoN**	**covN**
Networks * Cognitive frames	0.770	0.909	0.754
	Sufficiency		
	inclS	**PRI**	**covS**
~ Institutions * Cognitive frames	0.796	0.254	0.731
Networks * Cognitive frames	0.754	0.336	0.770
Institutions * Networks *~ Cognitive frames	0.763	0.000	0.558

Note: Calculations made from the data collected within the framework of the project Jean Monnet Centre of Excellence, Technology and Innovations in Regional Development for Europe 2020 (TIR2020).

of sufficiency, we notice that at the forefront in order to have Innovation is the combination between the absence of Institutions and presence of Cognitive Frames. Additionally, we notice that the presence of Networks and Cognitive Frames also leads to Innovation. Lastly, if there are present Institutions and Networks, but Cognitive Frames, it is still a sufficient combination to have Innovation.

4. Discussion and Further Implications

Undoubtedly, innovation processes represent important aspects of modern societies. Especially, these processes are at the forefront as the realities surrounding us is becoming more and more complex. Following this line of argument, it is necessary to focus and find new explanations of the interested phenomena that interests us. Within this paper, we looked at Innovation through the lenses of the Social Field Theory, namely relying on the three social forces – Institutions, Networks and Cognitive Frames.

Previous research has pointed out the effects that the social forces have on innovation, but nevertheless in this paper, we were interested to compare these effects on two groups of innovators: Innovation Leaders/Strong Innovators and Moderate Innovators/Emerging Innovators. Additionally, it was interesting to see if there are any differences between these groups and how do these discrepancies unfold.

Thus, on the biggest difference between the groups is that only in the case of Innovation Leaders/Strong Innovators, all three social forces are necessary conditions for innovation. Meanwhile, for Moderate Innovators/Emerging Innovators, institutions, networks and cognitive frames are only sufficient. A possible explanation of these results lies in the difference that is between these two groups. On one hand, we have the Moderate Innovators/Emerging Innovators group characterised by less-developed institutions, lower level of entrepreneurship, etc. Thus, in the moments these aspects exist in a certain place and are oriented toward innovation, they become sufficient for actors to innovate within the region. On the other, for the Innovation Leaders/Strong Innovators, these social forces being part of the innovation process for a longer period constitute a backbone without which it is hard to innovate.

Additionally, by looking at the combinations of conditions, the most intriguing results were those of sufficiency. Thus, in both groups, there were highlighted several combinations where one or more conditions are absent in order to have Innovation. As such, for example in the case of Innovation Leaders/Strong Innovators, in the moment we have a combination between the absence of Networks and absence of Cognitive Frames, it leads to Innovation. At the same time by having Networks and absence of Cognitive Frames also leads to Innovation. Moreover, for Moderate Innovators/ Emerging Innovators, there can be highlighted combinations that have conditions that must be absent, e.g. absence of Institutions, but in combination with Cognitive Frames. Another interesting combination being the presence of Institutions and Networks combined with the absence of Cognitive Frames.

Although the initial expectation was that the results would be rather straightforward, the more in-depth analysis highlighted the above-mentioned results proved us wrong. At the same time, these results represent interesting assets for further research of the studied phenomenon, especially in the pursuit for a better understanding of the highlighted combinations and the absence of conditions when it comes to explaining Innovation in a certain millieu.

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Technology and Innovations in Regional Development for Europe 2020 (TIR2020), Jean Monnet Centre of Excellence at the Faculty of Information Studies, Slovenia, https://www.tir2020.net/.