

# **Diverse perspectives on drivers and hampering factors for the creation of knowledge in organizations: an approach to the Spanish Innovation System.**

*Cristian Matti and Rodrigo Martínez Novo<sup>1,2</sup>*

## ***Abstract***

The study looks to contribute to the identification of drivers and hampering factors from a different empirical approach and, by doing so, highlights the confronting perspectives of actors involved in innovation process in Spain. A set of rationales on the creation of knowledge is an expected output which can contribute to further research on the elements to be considered for the design and implementation of innovation policies.

***Keywords:*** *innovation, knowledge, policies, drivers, barriers*

## **1. INTRODUCTION**

This paper will analyze diverse perspectives on elements embedded in the Spanish Innovation System (SIS) that may play as drivers and hampering factors for the policy initiatives supporting the creation of knowledge and innovation processes in organizations.

The objective is the exploration of the different valorization of actors committed with innovation activities on the logic and nature of the set of initiatives designed to encourage innovation during the last years. Thus, SIS is analyzed by focusing on key elements that limits or favors the implementation of innovation initiatives. By doing so, the study seeks to complement the evidence presented in quantitative studies (Cañibano and Castro Martínez, 2010, Castro-Martínez et al., 2009) and, thereby, contribute to a better understanding of the necessary deep cultural change among all the economic agents in the innovation system required to design and implement effective Science and Technology policies.

To do so, the paper takes concepts and systemic relations as a toolbox from the two analytical models the National System of Innovation and the Triple helix. By doing so, the study has the aims to include a wide view by integrating confronting arguments and explanations on the mechanism for the creation and transference of knowledge (Etzkowitz and Leydesdorff, 2000, Leydesdorff and Meyer, 2003). At the same time, concepts taken from studies on university industry collaboration are used to set a series of barriers and drivers underlying in those mechanism of knowledge creation (Bruneel et al., 2010). By following these arguments, the study will then focus on the debate on the rationales of government policies oriented to create conditions for adopting

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<sup>1</sup> All the authors are affiliated to Institute of Knowledge and Innovation Management Institute INGENIO (CSIC-UPV). [www.ingenio.upv.es](http://www.ingenio.upv.es)

<sup>2</sup> Contact information: Cristian Matti: [crimat@ingenio.upv.es](mailto:crimat@ingenio.upv.es) ; Rodrigo Martínez Novo: [rodmarno@ingenio.upv.es](mailto:rodmarno@ingenio.upv.es); Tel: +34 963877007 ext 74431

technologies and break rigidities related to the system complexity, the lack of knowledge, the hard process of learning by doing as well as different lock-in coming from the a set of values, principles and norms of behaviors conceived with a social system. (Salmenkaita and Salo, 2002)(Fernandez-Ribas, 2009,Laranja et al., 2008)

In order to reveal the set of concepts and relations at empirical level, we explore the perceptions of different actors involved in the Spanish innovation system. To do so, we focus on the use of methodological techniques for content analysis and discourse analysis (Krippendorff, 2004,Neuendorf, 2002). The main empirical material we left for this analysis comes from workshop held in June 2011 where a Panel of Experts debate on the Spanish Innovation System.

## **2. KEY THEORETICAL CONCEPTS**

The literature about Innovation economics has largely discussed about two possible drivers for technology innovation: technological development (technology push) or by demand factors (Market pull). Regarding explanations on the innovation process, the National System of Innovation approach put emphasis in the role of the firm as having the leading role while the alternatives model of Triple Helix emphasis the role of state as well as highlight the network operation by considering alignments and cooperation among university, industry and governmental agencies (Etzkowitz and Leydesdorff, 2000). However, the possibilities of developing alignments and cooperation can be constrained by barriers and hampering factors related with different perception and practices

First, university and industry keep different system of knowledge production. University may run activities to solve practical economic and social problems but their approach and priorities can be far from market perspective. In the other hand, the profit making behavior of private sector drive the process of knowledge creation by selecting areas and problems which may allow the development of high value products and services (Bruneel et al., 2010).

On the other hand, cooperation among differ actors is conditioned by the level of trust in sharing knowledge and other resources. Trust allow actors to take activities in the long term and guaranteed proportional distribution of benefits and, even more, to assign properly intellectual property right resultant form R& activities. The lack of trust can induce fear which can become a significant barrier for collaboration among different agents (Bruneel et al., 2010,Williamson, 1993)

In that sense, the rationales of government interventions are addressed in order to overcome those barriers. First, support R&D can help to not only cut the costs innovation, especially in the phases of invention and market introduction but also to avoid underinvestment caused by imperfections in the market and moral hazard. Second, the provision of a regulatory framework establishes approaches to drive the activities of both firms and consumers. Third, interactions and transfers between different actors must be coordinated to take advantage of any action develops by firms, technology developers and other public organization. At last, government can help to break rigidities caused by path dependence as well as mitigate anticipatory myopia in order to reveal potential opportunities of innovations (Salmenkaita and Salo, 2002) but specially when the agents should operate in a complex system in term of political levels and multiple overlapping policy settings (Fernandez-Ribas, 2009,Laranja et al., 2008). Rigidities may be described as the main values and perceptions shaping behavioral and organizational barriers.

Regarding those values, they have to do with cultural dynamics that are constituted by the wealth of experiences, beliefs and representations of the environment in which an agent operates. While the term culture refers generally to a shared symbolic system, the concept of "innovation culture" in the incurred informants concerns related symbols values and habits very close to the "corporate culture" or "cultural economy"(Amin and Thrift, 2004). The values also frame the ways and mechanisms through which the content of the wealth is transmitted to the agent (Muñoz Pérez and Encinar del Pozo, 2005,Rubio de Urquía, 2005). In the latter sense (Cañibano et al., 2006b) while referring to skilled human capital ,notes that the objectives, intentions, have qualified personnel, to the extent not responding to complex targets, "innovative intentions," low impact on labor market and a failure to create innovative market dynamics.

On the basis of these concepts, this study will explore the different perspectives of actors involved in knowledge creation and innovation process. Barriers and hampering factors as different priorities and values trust and cultural issues will be use to analyze their arguments under the methodology that is described as follow.

### **3. METHODOLOGY**

This paper follows a qualitative approach by applying techniques on content (Mayring, 2000) and discourse analysis (Conde, 2009). The empirical study will be based on the narratives arising in the interaction of several actors participating in a workshop<sup>3</sup>. This workshop includes eleven (11) participants which were selected to provide insight from different background such as government, academic, industry, and consultancy<sup>4</sup>.

The object of study determines the choice of the group representative<sup>5</sup> who will watch from their direct experience to interact and produce topical discourses of the social group they belong<sup>6</sup>. From this, confronted positions and agreements will be searched to determine "patterns of relationships", then, we will be able to explore perspectives on processes of creation of knowledge and innovation policies applying. These perspectives take the form of topical representations.

To generate this conversational dynamic we conducted a mediation workshop with two activities:

- 1) First, each participant expresses individual positions regarding a statement (previously delivered) supporting joint implementation of innovation policies between government, private sector and academics institutions.
- 2) Second, a Discussion group is framed to the debate on the topic "change, drivers and barriers for the creation of knowledge" is stimulated and reoriented by

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<sup>3</sup> The workshop was held as part of the European research project "policy incentives for the creation of Knowledge: Methods and Evidence – PICK- ME"

<sup>4</sup> The participants were categorized in: a) Senior government officials who deal with R&D policy (2 participants), b) Entrepreneurs (2 participants), c) Senior business managers (3 participants), d) Academics (3 participants) e) Consultant (1 participant)

<sup>5</sup> The representativeness of the groups (like a focus groups) is therefore not quantitative or statistical or probabilistic but significant and structural (Ibáñez, 1979,Alonso and Benito, 1998).

<sup>6</sup> The discussion group applied in social sciences seeks to obtain representations to the extent that the topics found in its repetition saturate the significant potential of the communicative situation(Glaser and Strauss, 1967,Bertaux, 1993)

questions formulated by the moderator based on arguments highlighted in the first stage.

Workshop discussion were collected and transcribed to facilitate further discourse analysis based on the identification of so-called "interpretative repertoires" as a way to approach argumentative variations (Barker, 2006, Esbjerg, 2008). The repertoires are a resource that participants use to circumscribe, characterize and evaluate actions, events and other phenomena (Potter and Wetherell, 1987, Potter, 1997) which are associated with a framing verbal set of elements concepts and meanings<sup>7</sup>.

In order to facilitate analysis of the speeches included in the discussion group, we will use the software Atlas.ti (v 6.2) to identify codes and related quotations to build repertoires at an early stage. In the following stages, the software will facilitate the conceptual analysis to discern the relationships between discourses and the web of representations that shape different perspectives.

By applying that approach, preliminary, two interpretative repertoires and their functions are identified: 1) Cultural deficit, 2) Logics of innovation mechanisms

- **Cultural deficit.** The repertoire comes from the crossing participants' perspectives regarding the type and level of intervention in the processes of creation and knowledge transfer. Describe values, beliefs, routines and other cultural settings used to introduce reflections on alternative models where innovative knowledge is the engine of change but differs in its origin contradictory options: a free business interaction or intervention and mediation context you published to guide or encourage the context
- **Logic of innovation mechanisms.** The repertoire recognizes the existence of an innovation system which distinguished roles, processes and products. In this sense, the system is defined from the sources and recipients of the resources and initiatives that facilitate the creation of knowledge and therefore, different and possible "ways" in which these elements should be managed and implemented. This logic includes the very definition of innovation and the identification of change agents within the system.

#### **4. EMPIRICAL ANALYSIS**

In this section results on the analysis of the debate held in the workshop will be presented. The analysis of speeches will be divided in two sections by the following the two activities which are strongly related in the design and implementation with the nature of the two repertoires. At the same time, each section is divided in topic according to the content analysis applied to the speeches.

##### **1.1. Policies and mechanism for innovation**

Different perspectives on the process, mechanism and instrument involved in the design and implementation of innovation policies were discussed during the first stage of the workshop. The participants were asked to express their opinion on the following statement:

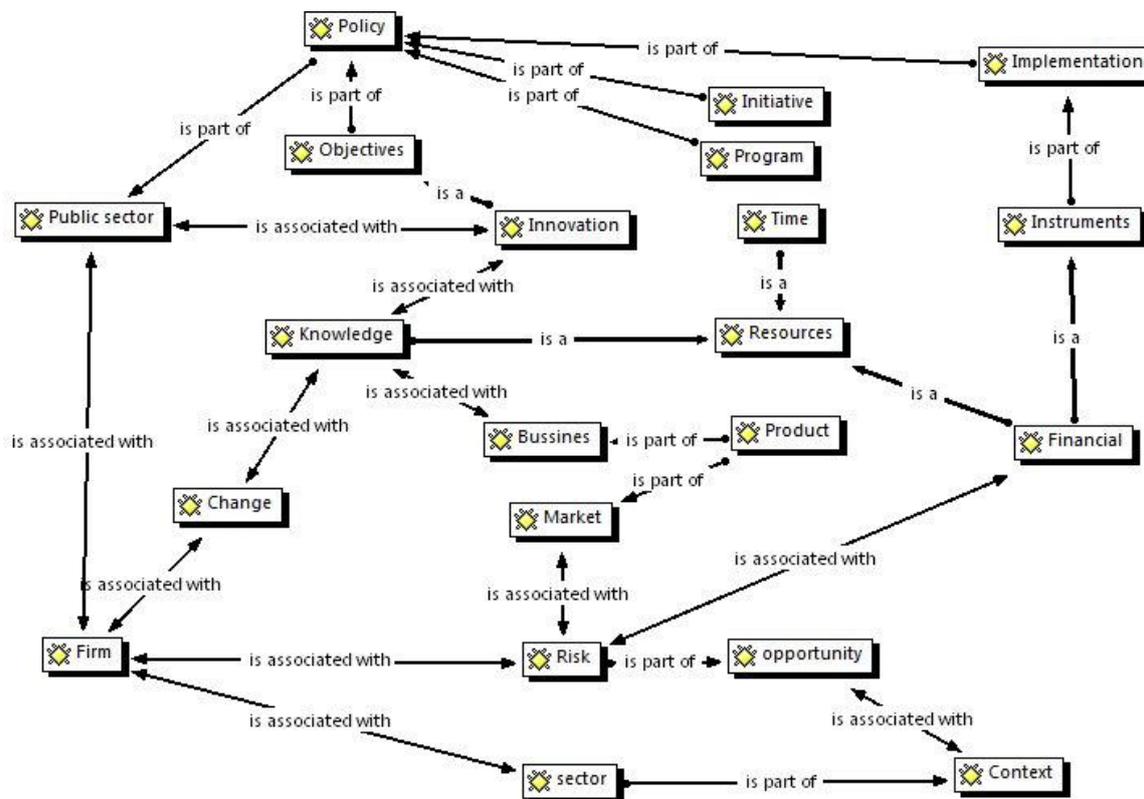
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<sup>7</sup>As noted by various authors at last, the repertoires are conceived as a tool to facilitate the analysis of participant arguments (Tatli, 2011, Ostendorp and Steyaert, 2009, Bonifacio and Molani, 2003)

*Policies to support innovation that work are those whose design and implementation are conducted in close collaboration with the private sector and civil partnerships*

The participant relied mostly on the interpretative repertory “Logic of innovation mechanism” to discuss this statement and, by doing so two sets of critical elements are highlighted: 1) the objective of innovation policies, and 2) the actors involved in the processes and the characteristic of mechanism of interaction. A brief analysis of these three topics is presented as follow. The Fig 1. below shows the concepts, codes and pattern of relationship that guide this analysis of this section.

**Fig. 1 Relations of codes based on the repertory Logic of innovation mechanisms**



Objectives and nature of innovation policies

The statement provides a general idea to create their arguments from very basic ideas on the creation of knowledge and innovation process to the critical issues of policies supporting innovation. Regarding the first idea, theoretical and practical aspects of the process of knowledge creation and the innovation concept were reviewed.

*“The second issue is sometimes the natural tendency to look for a concept of excellence in innovation even longer in scientific research. Sometimes this concept is sublimated and not talking about excellence in performance and excellence in the conversion business, ie not only have to be excellent patenting and publishing, but you have to be making excellent business knowledge” (Academic 1)*

*“Private agents are going to turn ideas into products and this is just innovation” (Consultant)*

These insights on knowledge and innovation activities reveal a clear idea on the expected result as well as notion of competitive markets and institutional background. However, these concepts are less clear when objectives of innovation policy are discussed and, even more, the context in which they are applied. The logic of the innovation policies are then redefined from confronting perspective on the core target and expected results.

*“Do not ask to innovation policy to solve everything ..... it seems to be that policies to support innovation has to resolve regional problems, problems of small and medium enterprises, which means that everything seems to have to gravitate to innovation policy. Innovation policy can have points of contact with other policies but it cannot resolve territorial imbalances or the fact that small businesses need to grow up to be entrepreneurs” (Government official 2)*

*“So from my point of view, I do not seem right to talk about innovation system, I prefer to talk about innovation strategies rather innovation policy, and when I talk about strategy for innovation is because I do not think that innovation as a concept must be deconstructed. Then, we could talk about a strategy of innovation for each sector in particular and here in this strategy are the actors that are” (Academic 3)*

The discussion turns into the multiple objectives of policy portfolio and the logic of complementarities and resource management. More specifically, sectoral and spatial aspects are also included as part of design of innovation policies. But these arguments are confronted by the business perspective based on the confronted and more practical interest of companies behind the use and implementation of innovation policies.

*I wonder why still nobody says anything about the success of the company...when another participant said "innovation policies have to devote to his own land despite the system ..... in this way, we are proposing a system that does not strongly supports the success of companies” (Entrepreneur 1)*

*“The direction of innovation policy should be the company, the company as an agent creator of wealth. But that goal all sectors must work together whatever they are, in any way we define them” (Entrepreneur 2)*

*“what is perceived is that if any policy is far from the reality of companies, if any incentive policy is late, bad and can hardly reach the industry itself, then, policies can hardly improve the competitiveness of enterprises and context so that companies can reverse the situation of society” (Business manager 3)*

As part of the different understandings on the operation and functioning of the SIS, arguments are framed in the logic of innovation process by considering the diagnostic, priorities and expected outcomes from confronted viewpoints: business oriented vs. society oriented approach. Business representatives consider the companies as the core and main beneficiary of the innovation policies while academics and government officers claim the importance of higher objectives in social terms. More specifically, the lack of focus in issues as competitiveness and change emphasized by on sector is balanced by the need of a more inclusive and reflexive long term strategy to manage the resources and interventions in the society.

### Actors and mechanism of interaction

The confronted perspectives of the nature and processes of innovation policies are part of on the understanding of the configuration and operation of SIS and then, the processes of creation of knowledge. Thus, the routines, role of different agents as well as the interaction and articulation between are thought by following those perspectives and, thereby, emphasizing the market oriented vs. society oriented policy portfolio. These elements, deeply embedded in the context where they operate, are revealed to be determinant of the final performance of innovation policies.

Regarding the role of different agents, the positions became more defined in terms of the relative relevance of companies in the discourse of participants. Arguments about whether or not politics may work are again supporting two positions. First, there is an argument supporting a wider spectrum of actors selected by their potential for the creation of knowledge as a key issue on the success of the policy.

*“Innovation policies works when two issues are considered, first the public sector itself is a major player in term of potential demand for innovation (i.e. public procurement) and second, all the sectors capable of creating knowledge should be incorporated whether or not being included within the private sector or civil associations” (Government official 2)*

*“I think it also important to choose the actors, those representative or worthwhile to see what they can contribute in the design and implementation of public” (Business manager 1)*

On the other hand, the entrepreneurs are more critical on the nature of relationships between actor rather than the level of representation. The type of interaction and the expected result are more relevant to identify the role and functions of each sector. Even more, they are critical about the assignment of specific roles and activities to public or private actors

*There are companies that are going well despite the system because the knowledge transfer does not work, the university- industry relation does not work, and the government- industry relation does not work” (Entrepreneur 1)*

*the problem is the understanding of what labels mean, where are the boundaries between public and private sector, including the innovative scientist and entrepreneur, these boundaries are increasingly blurred ....we need to rethink the meaning of the labels, what sense does the public sector and private sector in the future, where the company as an agent creator of wealth is the ultimate goal. We relocate all these definitions to finally make an innovation policy (Entrepreneur 2)*

In spite of the lack of common viewpoints on the role of the actors, there is a clear consensus on the relevance of procedures and mechanism of interaction between them. In that sense, different participant in the workshop reoriented the debate toward the need to improve implementation procedures and the availability of instruments.

*“The problem is not the design of collaboration between the private sector, civil society organizations and public managers, but the way this relationship is managed or implemented” (Government official 1)*

*“We need to emphasize the "how" is articulated, which methods in order to get that interaction between the private and public sectors” (Business manager 1)*

*“How to do this (implement innovation policies) is something else, then there is vast scope for innovation depending on who is targeted ... emerging industries, traditional sectors, large companies .... how to interact with management from all these sectors would have to approach the issue of governance of the university to make it easier for the knowledge of the university to generate contributions to the emerging sectors” (Consultant)*

*“In Spain, if the innovative entrepreneurs were supported with funding from business angels, the system would make sense” (Entrepreneur 1)*

Finally, the academic participants have put some light on the relevance of the context of application. Sectors, territorial disparities and other specificities of the environment where the actors are embedded are considered relevant for the design and implementation of innovation policies.

*“Basically what has characterized the Spanish? A lack of stability over time has. Valencian innovation system has worked when it has had a period of time long enough in which the initiatives have had feedback from all elements through the medium and long term” (Academic 1)*

*“Specificity is in the innovations and less on the concept of innovation, for example, in a more sectoral or micro where we can act. Today, innovations originate in many places, of course companies, but the public sector is an agent of innovation or could be very powerful, through public services or through policies. Therefore, we must consider the heterogeneity and specificity of what we call innovation” (Academic 3)*

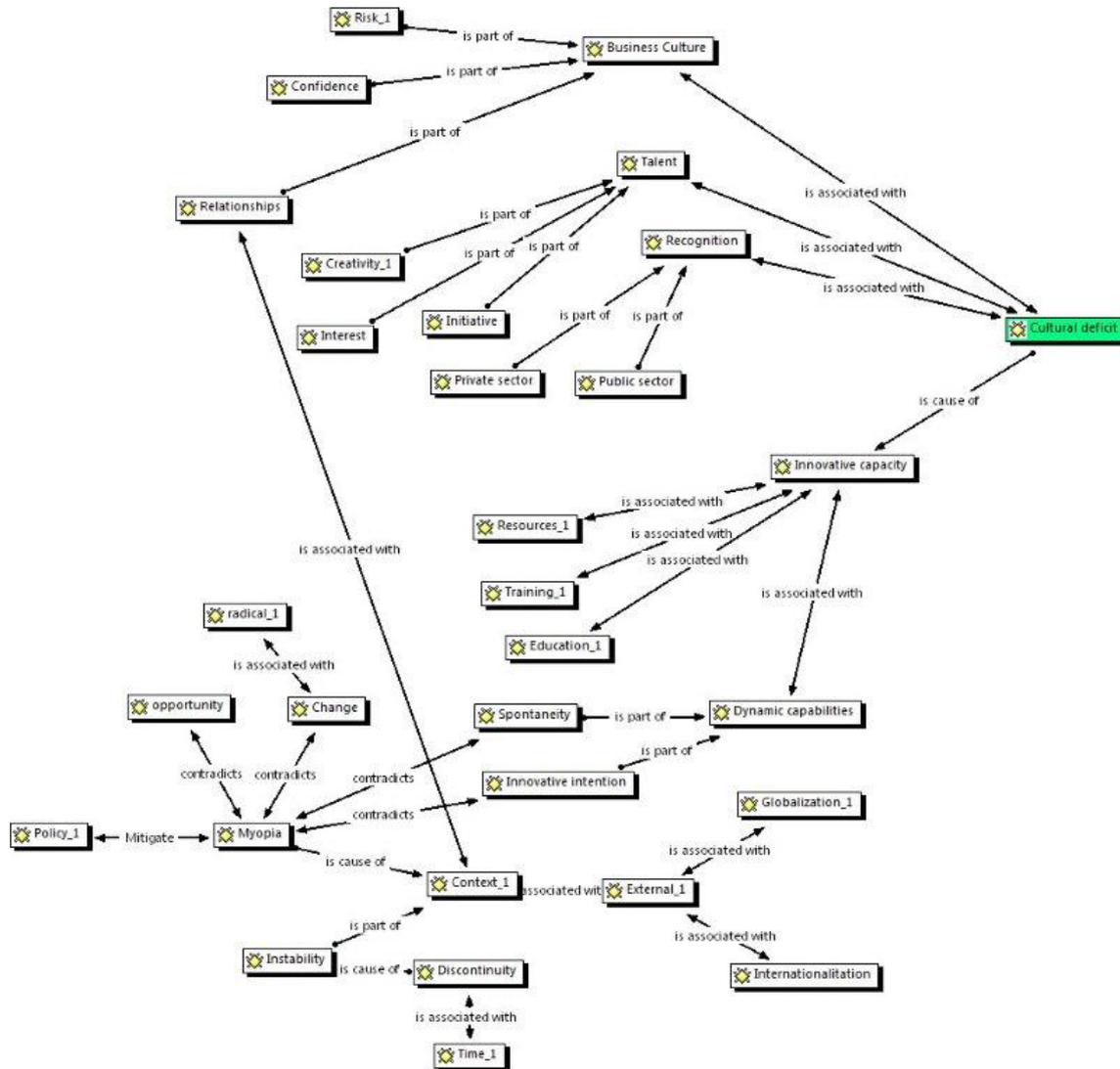
## **1.2. Cultural deficit**

Different perspectives on the deficits associated to innovation process are analysed in this stage. The participants relies on features of culture in Spain to describe problems, suggest solutions as well as shared visions on barriers and drivers embedded in knowledge and innovation related processes.

The mediator has facilitated the debate by requesting reflections on the difficulties to innovate in Spain by taking into account the cultural based persistence on keeping mayor economic activities within traditional sectors.

The contribution of the participants has been framed in two topics: 1) “Innovative culture and its different representations” as the variety of viewpoints about the deficits of innovative culture in Spain and, 2) “Innovation capacity and anticipatory myopia” that’s includes the difficulties to improve the innovation capacity, the influence of anticipatory myopia as well as the lack of initiatives to this last. The Fig 2. below shows the concepts, codes and pattern of relationship that guide this analysis of this section.

**Fig. 2 Relations of codes based on the repertory Cultural deficit**



*Innovative culture and its different representations*

The participants in the Focus group has relied on the interpretative repertory Cultural deficit to highlight the deficiencies in the innovation processes which goes beyond individual and collective responsibilities. Therefore, this repertory -applied to describe wider aspects influencing innovation- can be also defined as a deficit in the “innovative culture”(Amin and Thrift, 2004). The participants identify different deficiencies within the Spanish innovation culture under two representations and by doing that, barriers and hampering factors in the innovation process emerge as part of the system in which the actors are embedded.

First, from the entrepreneur’s viewpoint, the cultural deficit is referred as a deficit in the “business culture” by emphasising the lack of knowledge to support a more competitive and courageous business which may allow decision to generate significant changes. In that respect, the entrepreneurs indicate a problem of “fear or lack of confidence” in alliances and relationships needed to inn0vate from the business sector

*“Another issue is the lack of entrepreneurial culture... there is much fear of alliances and is a key to innovate if you do not think alliances rare, rarely going to get a more or less radical innovation” (Entrepreneur 1)*

*“I do not know if it's a cultural problem but it probably is but I apart from the inferiority complex I would say is trust .... Valencian businessmen think that if we share with another, unlike an American, I will not make much more. Here we only work with someone if we do a joint venture, if we carry out an investigation with him, I will tease him is to do with all the business.(Senior Business Manager 3)*

In the other hand, the viewpoints of government officials and academics put emphasis in the lack of innovation culture but highlighting the lack of talent, the lack of support and the lack of recognition as determinant factor.

*“As someone has said, I am a citizen and the final decision makers and those who do, are the citizens and in this country at the end so there is a culture of innovation” (Academic 1)*

*“...the field of creativity is the ability to generate initiatives, potentially innovative initiatives ..... There are complaints that the entrepreneurial spirit is not very encouraged.... This is not within the Spanish culture” (Government official 2)*

*“The combination that you have lately given **time plus money** is not enough. So, we have to take the initiative to have the interest, (i.e. have the creativity to generate a project idea), and perhaps that is what paralyzes us.....then the question would better identify the cultural factor“. (Academic 3)*

The lack of entrepreneurship becomes important in these fragments of academics and government officials as well as the role of interest, initiative and creativity as drivers to make changes. At the same time, there is a significant emphasis on the lack of support and recognition from the private sector. For example:

*“There is a lot of underground innovation that has not been formalized ..... just that, traditional sectors are not the ugly dance” (Academic 1)*

*“The key point is not the financial resources but the culture of financial markets to support innovation projects because the risk assessment is different, and there we have a deficit compared to other countries like the U.S., clearly important” (Government official/academic 1)*

In the latter fragment our reporter focuses on the lack of support given by the financial markets to innovative activities in which the risk factor is inherent. But beyond the markets or the company, the public sector also displays a lack of innovative culture by the inability to recognize as a source of innovation. More specifically:

*“Overcome the cultural difficulties means that we break and we fight with ourselves in many cases. Because we have assumed that there is some inertia to fight, for example the public sector is not considered an innovative sector, which I think is quite wrong*

*given the nature of the goods and services being provided and required. " (Government official/academic 2)*

### *Innovation capacity and anticipatory myopia*

Despite the different representations we have shown, informants have common ties in addressing the various solutions. Their interventions exhibit the complexity of finding solutions to address deficits that seem only to be approached from the cultural question. On the one hand, barriers such as lack of trust in relationships, fear, risk, and the other drivers such as creativity and recognition are all attributes that are not directly dependent on a capacity-building, training, or injection of resources.

In this sense, a business manager identifies the difficulty in finding solutions by noting that the contexts where there is a culture of innovation depends not just from the amount of resources to do interventions, but also from spontaneous impulses that seem to follow a rooted dynamic where innovative process take place.

*"California has not been planning to grow. There has been no state intervention; there was a spontaneous outpouring of resource capacity that has made it possible for this to happen " (Business manager 2)*

Another entrepreneur also shows the difficulty of attacking the cultural deficit, pointing out that this dynamic of spontaneity depends on the context in which previously there is a good quality of life, from which sprout business and generates a capacity for innovation.

*There was not only capacity to innovate in Silicon Valley but also an impressive quality of life obviously (e.g. health, education). It was obviously a good place to germinate a good seed, and where the company gave its fruit that turn back again to encourage" (Business manager 3)*

With regard to the limits of training as a solution, despite acknowledging its importance, an academic says his helplessness and distress in relation to the lack of innovation culture in the context of the classroom:

*"This year, after a lot of years in college, I went to my home disappointed when industrial second-year students showed no interest in the content of the class .... I left class after I asked: What are you interested in? I do not know why you want to be engineers; I have no idea who has deceived you, why do people come here? "(Academic 1)*

This passage expresses clearly the shortcomings that all participants try to define and that are associated with cultural deficit. In this last example the deficit is not like the place or context of training but is related to dynamic and inertia of the subjects that are in it: with the "best interests, the initiative" (which one of our informants noted above, Academic 3), or perhaps with the "intentionality" of individuals and groups. The latter clearly responds to the statement of the literature (Muñoz Pérez and Encinar del Pozo, 2005, Cañibano et al., 2006a) on the effect of the lack of complex targets in the labor market and in creating innovative market dynamics.

Despite their differences, the participants agree that any solution must ultimately be directed to break the current inertia, routine organizational or individual to enter these dynamic capabilities in which the intention plays a key role (Dosi et al., 2000). At the same time, it is necessary to consider the "intent innovative" as an engine of change in the "inertia assumed" to generate the dynamics of "innovative capabilities" "spontaneous".

However, we need something more solid approach to break with something as diffuse as the deeply rooted Spanish cultural dynamics. For this, we can use the barriers identified by our informants, which can be related to the lack of recognition at two levels. On the one hand, at the level of **potential agents of innovation**, which in a volatile political economic context suffer an anticipatory myopia that prevents them from seeing the possibilities that exist continuous innovation and therefore its own capabilities. And on the other, in terms of a **lack of recognition from the external context** (i.e policies and markets) and who do not value the innovative intentionality or, in other words, the presence of innovation in the private sector and public sector as a source of innovation.

Regarding the potential agents of innovation, anticipatory myopia is related not so much with the kinds of contexts (regional differences) as their spatiotemporal characteristics. An unstable context - in terms of temporal discontinuity and relationship- reinforce this myopia to potentialities, and thereby, it can be translated as "fear" and "lack of confidence."

*What is the necessary critical mass in terms of provision of financial resources, but also in terms of continuity of the policy?. A policy can have resources at any given time but erratically resources 2 years, 3 years out of resources and, therefore, the discontinuity does not contribute to the achievement of effective result. (Government official/ Academic 2)*

*We have identified a number of deficiencies in work that is being done. The first is a lack of stability over time. In this regard, experience shows (mainly in the Valencian system of innovation) policies only work when there has been a period of time long enough for these guidance on medium and long term may have been going on all feeding back elements(Academic 1)*

The idea of discontinuity makes special mention of innovation policies and its stability for long enough to see effective results. But, also referred to a spatial discontinuity, ie, in the absence of relationships between sectors, which means a "little systemic innovation system." In such a context is difficult to view the opportunities arising in other sectors or elsewhere. Hence, especially those who are entrepreneurs do notice the resistance to change in Spain.

*"In traditional sectors I see very far. Since in 2005 (the first Chinese tsunami) traditional Valencian sectors at least have had time to change the chip and not persist "(Entrepreneur 1).*

*"What we require is confidence, calm this will have a foundation before, you'll see how it will evolve and you will be major actor in it, and is fundamental to*

*internationalization" and "I will not sell in an e-mail a candy bar and I forget. No, I have to go there to offer it, producing it, to make them together with someone "* (Business manager 3)

*In other words, do you want out or not from where are you?. Entrepreneur 1).*

The need for employers to "see how it evolves" corresponds to the inability to see the opportunities. The debate also the perception that opportunities do not always appear in the same sector or in one place: they are on other sites and (as indicated by respondents) they have to go "there" and "out" to develop them. The lack of "chip change" referred to by our participant's own myopia cannot see the opportunities that change brings. This argument suggests that when the intensity of innovation (such as renewable energies in Spain) achieves high intensity, the opportunities created in other fields go unnoticed or become blurred in a volatile context.

This instability of the context is bound to the second case, the failure to recognize the external environment. As we have seen, participants in the particular emphasis inability of the public sector, not only recognized as an innovator but to generate policies that compensate other agents for anticipatory myopia. That is, there is no consensus on policies to create stability and solidify the systemic characteristics of innovation (temporal continuity and relationships) that allow the existence of innovative dynamic and spontaneous.

The myopia of innovators is therefore proportional to the widespread political blindness. This assumes no historical significance except in relation to the implementation and regulation of collective innovative dynamics. Our informant put it in this way:

*"I would revisit the issue of culture as a reminder that the culture of a territory is a collective and social phenomenon that has to do also with the story .." "to change the culture in a short time it takes public policies are needed actions to be focused on changing that culture, and individual solutions when one is in deep water can resolve specific issues. In short, to change the culture of a country really needed political courage "(Business Manager 1).*

Participants represent the barrier of myopia (and the lack of policemen to compensate) with direct links to internationalization activities. The continuous external comparison is introduced to highlight a lack of "vision" (myopia) outwards.

*"... I not only speak of internationalization of firms but internationalization of programs, ie even if you go to apply it on a particular local environment you consider external visions " ( Government official/academic 1)*

*"It makes sense then the help of government agencies that take you by the hand as long as you have a wide vision. But we also need to have a broad view of the public administration, the manager of the joint venture next door to your house ....., in other words, it is a matter of culture "(Entrepreneur 1).*

The inability to see the potential for global innovation and being competitive is not just an issue of internationalization from the company. This related to a "broad view" relation back to the cultural in all areas and the lack of programs: the lack of political compensation of myopia, which in this era of globalization, it must also address the lack of external vision.

## **5. CONCLUSIONS**

This paper analyze diverse perspectives on elements embedded in the Spanish Innovation System (SIS) and seek to explore the different valorization of actors committed with innovation activities on the logic and nature of the set of initiatives designed to encourage innovation.

By applying techniques for content analysis and discourse analysis the study explore the insights of diverse actors committed with innovation activities. The analysis is based in the application of two interpretative repertoires "Logics of innovation mechanism" and "Cultural deficit" from which on the possible barriers and hampering factor for the creation of knowledge in organizations.

From the "Logics of innovation mechanism" the participants look for define the critical factors of the innovation system by emphasizing the idea of knowledge as main resource but considering confronting roles of private and public sector. Regarding the objective of innovation policies, arguments based on different understandings on the operation and functioning of the SIS create confronted viewpoints: business oriented vs. society oriented approach. The core and main beneficiary of the innovation policies, the importance of higher objectives in social terms and the lack of focus in issues as competitiveness and change are critical elements.

With respect to the role of different actors and the characteristics of mechanism of interaction, the confronted perspectives of the nature and processes of innovation policies, arguments about whether or not politics may work are divided in supporting a wider spectrum of actors selected by their potential and amore critical view on the nature of relationships between public and private actors. However, in spite of the lack of common viewpoints on the role of the actors, there is a clear consensus on the relevance of procedures and mechanism of interaction between them. Finally, the relevance of the context of application such as sectors, territorial disparities and other specificities of the environment were highlighted as key elements for the implementation of innovation policies.

In that sense, very broad and diverse representations on the deficits that have the Spanish innovation system emerge through the use made by participants of the "Cultural repertoire". The different positions agree in indicating a general lack of innovative culture. But especially for entrepreneurs gap is linked to the lack of risk and relations between different actors. For those respondents who are more academic, deficiencies related are linked to issues of creativity and a lack of training and skills recognition in the public sector and private too.

Despite these differences the insistent reference to the cultural in the broad sense denotes matches beyond the specific faults detected from each position. For all the "ability to innovate" is linked to understanding this culture as a dynamic that has inertia and routines attached. So the solutions are not 'only depend on resources, training and solid capabilities. By contrast also depends on dynamic capabilities, of intent, spontaneity, rupture and readiness for change, which creates difficulties in the attempt of our informants to find solutions.

Despite these similarities and the complexity of the solutions analyzed speeches point to even more barriers to break with individual and organizational inertia. The short-sightedness or myopia with those who are embroiled in innovation processes to look at opportunities in other sectors with high innovation potential is a barrier that is exacerbated by another, the lack of vision that has the administration to correct this myopia with effective policies. A disability that currently moves also external contexts, international, generate opportunities for preventing the Spanish sectors in the era of globalization.

Further quantitative research may be developed in order to improve the connections between concepts obtained from theoretical framework and the ones obtained from the empirical analysis. Second, more sophisticated techniques can be intruded to contribute to the better understating of the logic of each repertory. At the same time, complementary information can be used to contextualize the set of policy initiatives identify by the participants.

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