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## **Analysis of the Interface Systems as Mediating Agents in University/Industry Relations. Proposal of the “Relationship Promoter” as a Strategic Role in the R&D Transference**

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**Abstract:**

*A regional, national or international innovation system's capacity to be innovative requires a commitment to collaborate between universities and industry. To facilitate this commitment, public institutions have championed the creation of interface organisations to be responsible for developing a network of university/industry partnerships. What has scarcely been acknowledged, however, is the role that professionals within these organisations should play to ensure that relationships are as productive as possible. To address this shortfall, an analysis has been proposed, which, based on the findings of a panel of international experts in innovation transfer, identifies the professional profile of the “relationship promoter” as a catalyst for university/industry relations at transregional and transnational level, and examines the strengths and weaknesses of university/industry exchange, from this approach. Finally, and based on the above analysis, the design of a strategic framework has been proposed to facilitate the commitment to collaborate between the various actors in the innovation system. This examination has enabled us to consider the value of the “relationship promoter” in the strategic analysis of the innovation system, and their role in facilitating the commitment to collaborate between actors within the system, from a dynamic perspective.*

**Key Words:** *Relationship Promoter, Strategic Analysis, Relational Capital, Intellectual Capital, Innovation, Transfer, Knowledge Management.*

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**JEL Classification:** M12

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## 1. Introduction

A regional, national or international innovation system's capacity to be innovative not only depends on its quantitative efforts in R&D&I<sup>3</sup> and its technological infrastructure, but also, and crucially, on the creation of externalities through interaction between various actors within the system (companies, government, universities and liaison organisations), so much so that it would not be possible to speak of such an innovation system if relationships between its different elements did not exist. Furthermore, these interactions should flow freely and systematically (Freeman, 1995, 2002).

When a university or research institute takes a proactive stance in putting results to use as an input into the creation of academic knowledge, it can be described as an "entrepreneurial university" (Etzkowitz, 2004). There is, however, no linear correlation between the effort expended (financial and human resources) and the amount and quality of scientific and technological results achieved. A minimum critical mass of resources (R&D budgets, human resources and intellectual capital) is required to obtain appropriate results for the effort expended. The need for resources, the existence of increasing returns in the use of facilities and technological equipment, the long maturation period of innovation activities and the need for highly specialised staff lead to a concentration of innovative activities (APTE, 2005) and the hindering of their commercial exploitation.

This system implicitly involves a concept of innovation that not only includes the institutions that are directly linked to R&D activity, but also other actors in the system that indirectly influence innovative activities. These include financial and venture capital systems (environments) and, especially, regional intermediaries and interface organisations, the latter of which provide mechanisms to link universities to industry.

In companies, linkage mechanisms are organisational design elements that enable conflicting objectives of functional departments to be resolved and facilitate joint projects between professionals from different areas. These linkage mechanisms, established by multidisciplinary committees, integrating managers or working groups (Mintzberg, 1984), do not necessarily have to operate exclusively within companies. Procurement centres, business associations or chambers of commerce, among others, are institutions that are capable of bringing together the interests of different corporate actors, promoting partnerships and facilitating the achievement of common goals. In the field of R&D&I, companies have traditionally organised their research and development activities through strategic alliances in the form of joint ventures, which require new organisational design rules to facilitate flexible cooperation between companies (Ritter & Gemüden, 2003). If we extend this collaborative framework to government research institutes, the existence of

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<sup>3</sup> Research , Development and Innovation.

interface organisations, such as university foundations, science and technology parks and research transfer offices (RTOs), are institutional initiatives whose basic objective is to promote and manage university/industry economic partnerships.

The creation of an institutional framework, however, seems to be insufficient to ensure free-flowing university/industry relations and organisational flexibility based on projects ("virtual organisation") that has been imposed on business relationships (Ritter & Gemüden, 2003). The financial results of patent marketing, contract research and collaborative agreements between research groups and institutes as well as companies do not live up to the expectations of these institutions. This is particularly evident in transregional and transnational university/industry relations. These interface organisations (foundations, science parks, RTOs) have a tendency to focus their attention on promoting business development in their local areas of influence. Consequently, this prevents them from exploiting synergies from international agreements with other interface mechanisms aimed at facilitating the commercialisation of research results or building partnerships with other organisations, which, in turn, have agreements with companies in their fields, thus creating a network of partnerships that can promote university/industry cooperation effectively from a global perspective.

Although general agreement exists in the literature regarding the important role of interface organisations in liaising with universities and industry (Geisler, 1995; Mora-Valentin et al., 2004), an in-depth examination has yet to be carried out on the role that the professionals in these institutions should play to ensure productive relationships and the means by which the necessary competencies should be acquired in order for them to perform their functions.

To address this shortfall, an analysis has been proposed, which, based on the findings of a panel of international experts in innovation transfer, identifies the professional profile of the "relationship promoter" (Gemüden et al., 1999, 2007) as a catalyst for university/industry relations at transregional and transnational level, and examines the strengths and weaknesses of university/industry exchange, with particular attention paid to the role of the "relationship promoter". Finally, and based on the above analysis, the design of a dynamic framework has been proposed to facilitate the commitment to collaborate between the various actors in the innovation system.

This paper is divided into four sections. After having justified the need for the analysis, an initial assessment of the importance of the "relationship promoter" in university/industry relations is provided. Based on this initial assessment, the functions and competencies of this figure are defined with the help of the findings of the panel of 19 international experts in innovation transfer from SUDOE, the South-West European Territorial Cooperation Programme space (Spain, Portugal, France and the UK). This is followed by a proposed strategic assessment of the exchange system from the perspective of the "relationship promoter", which outlines a dynamic that can facilitate commitment between the various actors in the system.

Finally, the analysis is concluded and future lines of research in this area are proposed.

## **2. An analysis of the importance of the “Relationship promoter” in university/industry relations**

Innovation systems are based on free-flowing relationships between different environments and actors and, in particular, the relationship between public R&D systems, companies and government. If universities follow an interactive innovation model, they can quickly identify problems faced by industry and society and respond by seeking scientific solutions. If they operate with a linear innovation model, their starting point is theoretical research, which is later applied to solving business problems (Corti, E. & Riviezzo, A., 2008). The interactive innovation model requires an existing relationship with industry in order to identify needs. The linear model requires communicating and marketing work after the research has been carried out. The lack of efficiency of this process has resulted in linear models being replaced by spiral or triple helix models (Etzkowitz, 2003) and open innovation models (Chesbrough, 2003), in which coordination between actors in the system (researchers, companies, government, facilitators) becomes crucial.

In the innovation system as a whole, universities, which are predominantly funded by the state, supply the necessary human capital for research from innovation to end product through the know-how of researchers (professional services). Companies then identify the demand for innovation and facilitate its implementation, returning some of the government’s investment in these research activities.

Companies are aware that their competitive advantage can no longer be calculated in terms of tangible assets, but rather in the management of intangible assets (Hall, 1993; Kontoghiorghes et al., 2005, Martin de Castro & Navas Lopez, 2006; Claver Cortes & Zaragoza Saez, 2007). The effect is that intellectual capital is now considered to be fundamental to the survival and growth of a country’s industrial fabric.

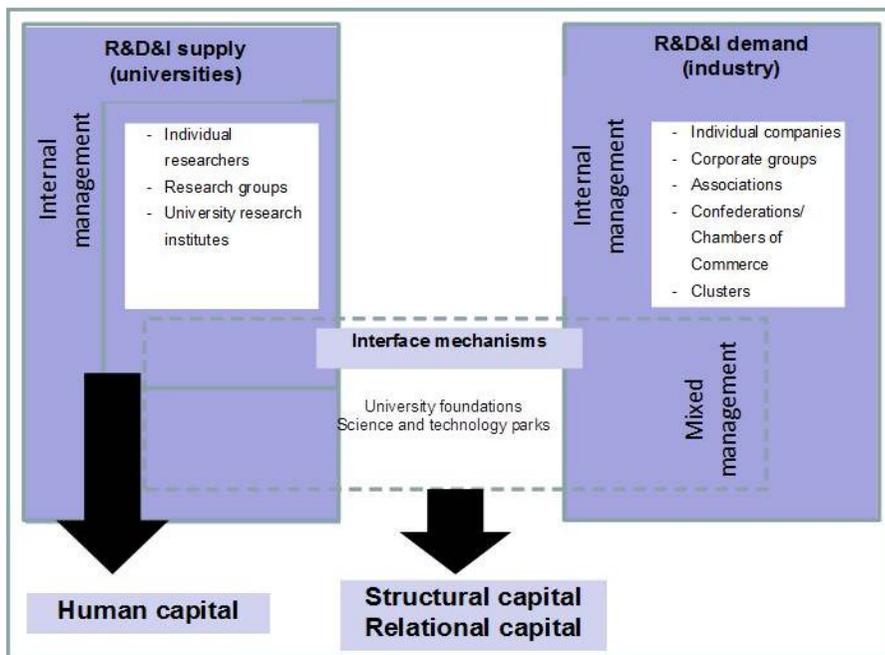
According to Bontis, Chong and Richardson (2000), there are three main components of intellectual capital: human capital, defined as “the stock of individual knowledge found in the employees of an organisation”; structural capital, which includes the organisation’s stored-up non-human knowledge, such as databases, concept maps, process manuals, strategies, routines and anything whose value to the company exceeds its material cost and, finally, relational capital, which encompasses the inherent knowledge of all of the organisation’s relationships with its clients, competitors, suppliers, external partnerships and government.

Within the above-mentioned theoretical framework, and as illustrated in Figure 1, the R&D&I exchange system is based on the performance of interface mechanisms, which enable the human capital generated by individual researchers,

research groups and university research institutes to be channelled towards the production sector (companies and corporate groups). These mechanisms can be managed by university governing bodies (which is the case with research transfer offices, RTOs) or mixed management systems, in which representatives from companies and public institutions, such as university foundations and science and technology parks, participate. It would be the responsibility of these interface mechanisms to provide the R&D&I exchange system with structural capital in the form of physical and technological infrastructures (matching systems), which enable research supply to be matched to industry demand, and relational capital in the form of collaborative networks (Ritter, Gemüden, 2003).

However, it requires to involve all of the actors (research groups, other universities, companies, government) at interregional and transnational level. In the context of large R&D&I networks, the continuous interaction of different actors/partners creates resources that help improve the overall system (Dan et al., 2005; Cabanelas Lorenzo et al., 2008). The aim of these relationship networks is to provide appropriate communication channels to convey the human capital generated by universities to the country's production sector in the search for the creation of value (Figure 1).

**Figure 1. R&D&I exchange system**

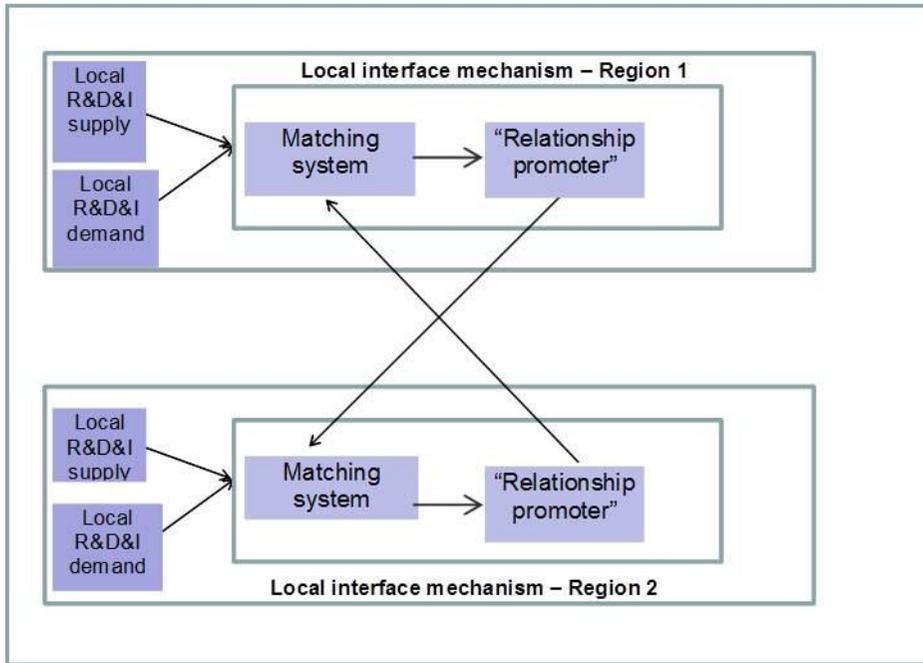


**Source:** On the premises

In order for relationship networks to form a stable system of cooperation by increasing the amount and value of research supply and industry demand exchanges, they need to fulfil the requirements that characterise inter-organisational relationships (Ritter, Gemünden, 2003): a) long-term in nature (Hakansson, 1982); b) be developed from a dynamic perspective, which enables them to change over time and according to the particular characteristics of each collaboration (Dwyer et al., 1987; Ford, 1980; Ford & Rosson, 1982); c) be able to request resources for their proper functioning (Walker, 1999); d) be based on internal relationships of authority and subordination and fulfilling the mutual expectations of the actors involved (Hakansson, 1982); e) maintained primarily for economic reasons to drive the relationships system (Hakansson & Turnbull, 1982); f) be able to identify the actors, activities and resources within the system (Hakansson & Johanson, 1993); and g) be based on a balanced relationship between organisations to preclude the need for one to dominate the others (Jarillo, 1988).

If the system that governs university/industry relations meets these criteria, the required relational capital will be created to enable the value of a region's intellectual capital to increase and, consequently, enhance its economic development. The key question here, though, is how this relationships system can be designed to assure it works. Our proposal centres on an analysis of relationships between individuals ("the dyad/individual relationship", Ritter & Gemünden, 2003), with particular attention given to the role of the "relationship promoter" (Walter, 1999; Gemünden et al., 2007). This professional will be a key player responsible for activating the resources of interface organisations in order to establish relationships that will sustain their relational capital. His/her main function will be also to get solid partnerships with other transregional and transnational organisations (Figure 2). Experience has shown that organisations do not generally seek collaboration on their own initiative, even though such relationships would be beneficial and the legal or social framework highly favourable. It is necessary to have professionals with competencies acquired through appropriate training and a clear definition of their role and responsibilities. They are the specific assets of interface organisations, who enhance the value and usefulness of these institutions through their work in bringing together universities and industry.

**Figure 2. The transregional relationship system through the function of the “relationship promoter”**



**Source:** On the premises

From the perspective of the resources and capabilities theory (Penrose, 1959; Barney 1991; Peteraf, 1993), for a specific asset to be considered a relevant resource in establishing an organisation’s competitive advantage, it is necessary for it to be rare, heterogeneous, imperfectly imitable, non-substitutable and difficult to transfer to market. With this theoretical framework in mind, the resources that are activated by the relational capital generated by the promoter in a region’s R&D&I system need to fulfil the following criteria. They need to be:

- a) Rare (Peteraf, 1993; Black and Boal, 1994): a limited supply of resources is necessary to increase their value and ensure that the organisation that possesses them stands out from the competition. In this respect, inherent knowledge of cooperation relations between universities and industry, as well as the ability to coordinate joint projects with other interface organisations at transregional and transnational level, constitutes a unique distinguishing feature of the R&D&I system and, therefore, scarce in the overall market. It is also necessary that the cost of acquiring resources is less than the profit they yield (Barney, 1985; Dierickx and Cool, 1989), which, in this case, would be determined by the difference between the cost of selecting and training

“relationship promoters” and the profit generated for the R&D&I system as a result of their work.

- b) Heterogeneous (Penrose 1959; Barney 1991; Peteraf, 1993): the existence of different knowledge bases, resulting from the heterogeneity of an organisation’s resources, determines the uniqueness of a company’s productive services. In the area currently under consideration, “relationship promoters”, who are able to facilitate collaboration agreements between research institutes and companies, as well as other interface organisations, have specific knowledge about the potential for partnership (matching) and place their organisations in a privileged position for collaboration (credibility gained from previous successful experiences), thus being a unique resource for the R&D&I system.
- c) Imperfectly imitable (Barney, 1991; Barzel, 1997): valuable and rare resources can only be a source of sustainable competitive advantage if firms that do not own them cannot obtain them. The amount of inherent knowledge (Nonaka and Takeuchi, 1995) required in the role of “relationship promoter” is difficult and expensive to acquire in the market for those organisations belonging to the R&D&I system that do not possess it. The lack of specific external training programmes for this role uses to force interface organisations to adopt a human resources “make” system (Miles and Show, 1984). This system proposes investment in development practices in order for “relationship promoters” to acquire the necessary skills to perform their functions, accumulate inherent knowledge and create a series of organisational learning systems that enable an organisation to maintain and enhance its relational capital. From the perspective of the resources and capabilities theory, human capital developed internally within an organisation can be more productive than that acquired externally (Kor and Mahoney, 2004, 2005; Penrose, 1958). In this regard, the interaction of selected human capital (“relationship promoter” candidates) with other internal resources of an organisation (matching systems for research supply and demand, considered structural capital) will enable joint development of new knowledge and skills that are difficult to imitate (Kor and Leblebici, 2005; Dolan, S.; Shuler, R.S.; Valle Cabrera, R., 1999: 307). As a result, proper management of human resource practices allows the creation and maintenance of intellectual capital to depend on unique historical conditions, is related to achieving a competitive advantage in an ambiguous way and is carried out through socially complex processes (Dierickx and Cool, 1989).
- d) Non-substitutable (Dierickx and Cool, 1989; Barney, 1991): a lack of strategically equivalent resources, which would allow other companies to obtain similar results by using the same or different resources. In this regard, investment in recruitment, development and retention practices of “relationship promoters”, as well as coherence between practices, facilitates

the creation of an organisational culture that can provide added value to cooperative relations in the field of R&D&I by enhancing the fluidity of the entire system.

- e) Not directly transferable (Grant, 1991; Peteraf, 1993): intellectual capital, considered a differential resource, should not be directly transferred to markets when identified as personal contributions of employees, therefore providing the organisation with the possibility of acquiring revenues through this resource. In the area under consideration, it is necessary for interface organisations to be able to select, train and retain their "relationship promoters" and, in doing so, be assured of returns from the relational capital generated and its products in the form of increased commercialisation and use of research activity.

From these requirements, one can conclude that "relationship promoters" could constitute a specific asset for interface organisations and provide the basis for the functioning of cooperative relations in the R&D&I system. To this end, however, it is important for them to have knowledge that is not only coded, but also fundamentally inherent and difficult to substitute and transfer, because it is based on their ability to create relational capital.

From this perspective, it is necessary to determine the role to be performed by these professionals and consider the design of a competency profile to enable this strategic role to be carried out. Below is a description of the process that was followed to carry out this design within the framework of the European REDOMIC project, which brings together the key players from SUDOE, the South-West European Territorial Cooperation Programme space (Spain, Portugal, France and the UK).

### **3. Defining the functional and competence profiles of the "Relationship promoter"**

#### ***3.1 Functional profile***

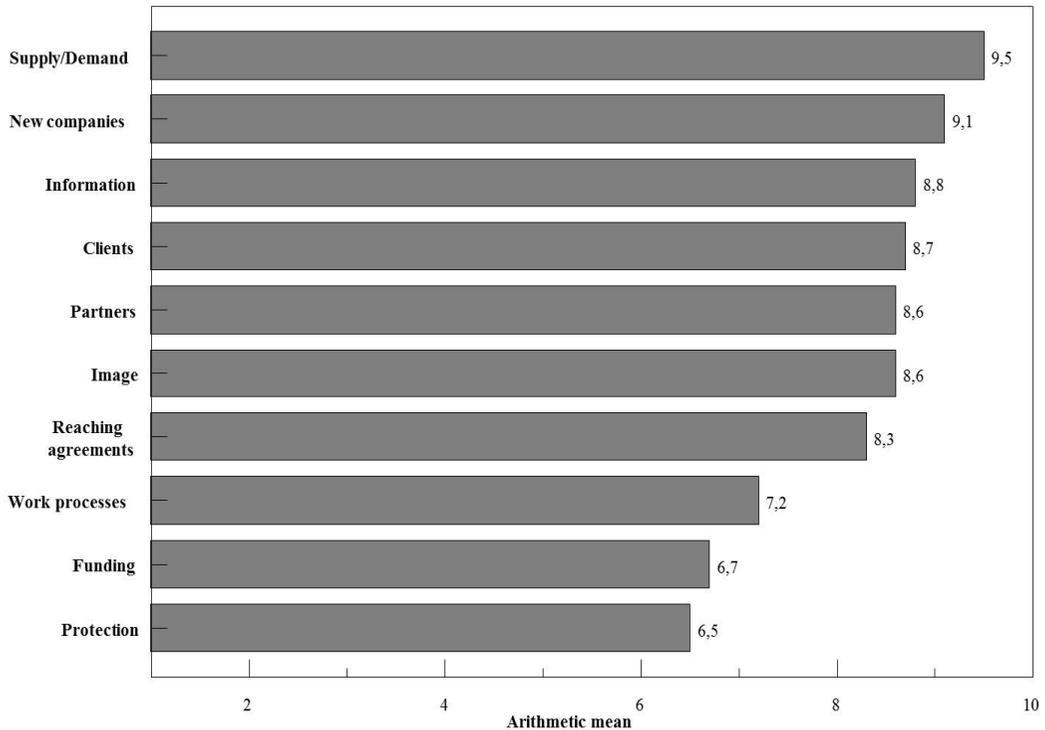
With the aim of assembling a panel of experts on innovation transfer from the SUDOE region, a meeting took place between interface organisations involved in university/industry relations from Spain, Portugal and France in 2009. Each of the participating institutions contributed experts in the field of innovation transfer to the panel. The final panel was composed of 19 experts (62.5% Spanish, 25% Portuguese, 12.5% French). From this meeting, the following task (Table 1) and prioritisation profiles (Figure 3) (1 = lowest priority, 10 = highest priority) were drawn up.

**Table 1. List of tasks and functions to be performed by the “relationship promoter”**

<b>TASKS</b>	<b>FUNCTIONS</b>
<b>PROTECTION</b>	Supporting the protection of university research results
<b>FUNDING</b>	Seeking external sources of funding to carry out the institution’s university/industry work
<b>INFORMATION</b>	Seeking and disseminating technological information at the university and in industry
<b>CLIENTS</b>	Attracting clients for the transfer of the university’s research results
<b>REACHING AGREEMENTS</b>	Reaching agreements between members of the same institution to improve the organisation’s coherence and synergy in the field of university/industry relations
<b>SUPPLY/DEMAND</b>	Linking university supply and industry demand for the procurement of services and the carrying out of projects
<b>IMAGE</b>	Creating and maintaining a positive public image of university/industry relations
<b>NEW COMPANIES</b>	Identifying business opportunities in universities with the possibility of creating new companies
<b>WORK PROCESSES</b>	Designing the institution’s work processes in the field of university/industry relations
<b>PARTNERS</b>	Identifying and contacting partners for joint action in promoting university/industry relations

**Source:** On the premises (REDOMIC project)

**Figure 3. Task prioritization**



**Source:** On the premises

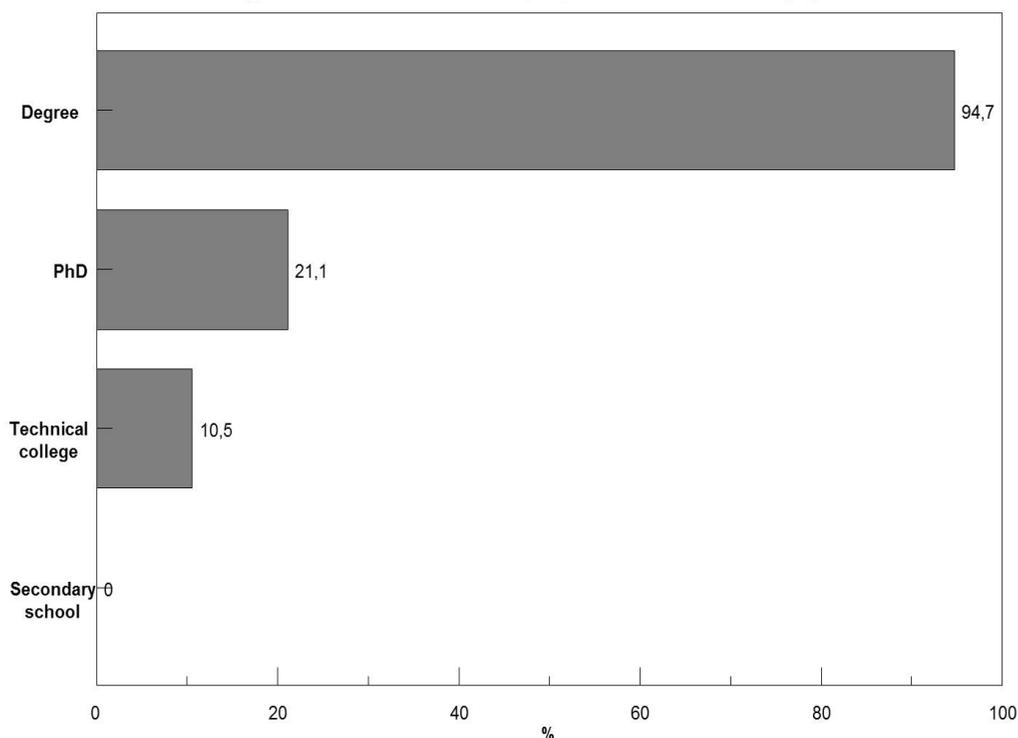
From the above list, it can be concluded that the nature of the tasks described is tied to the commercial management of intangible assets, organisational design and management of communication and interpersonal and institutional relations, which are tasks that are not usually associated with the role of university researchers, but are nevertheless essential in an R&D&I exchange system. Furthermore, they are complex and difficult to systematise through explicit procedures.

Therefore, if interface organisations are committed to carrying out these functions, it is necessary to define the competency profile of “relationship promoters”, who are responsible for carrying out the tasks described above.

### 3.2 Competency profile

In order to design the competency profile of the “relationship promoter”, focus groups, comprising the international experts present, were used, initially, to determine the educational level and academic disciplines necessary to provide an appropriate range of knowledge (Figures 4 and 5). In addition, special importance was given to the personal qualities that this group of professionals should possess (Figure 6).

**Figure 4. Level of education proposed for “relationship promoters”**

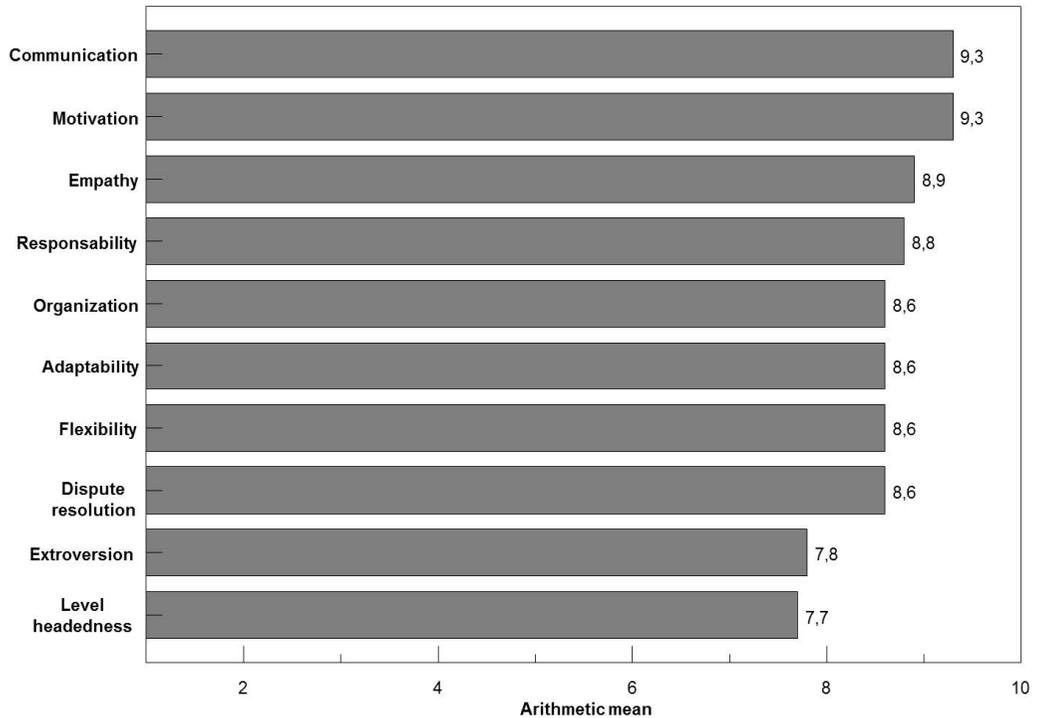


**Source:** REDOMIC PROJECT

The above graphs show that the “relationship promoter” should have a university education (degree & PhD), in which technical (engineering, 89.5%) and management (52.6%) knowledge should take precedence. This will ensure that the candidate has the necessary knowledge to understand the feasibility and commercialisation potential of university research, which is predominantly technological in nature.

In addition, special importance was given to the personal qualities that this group of professionals should possess (Figure 6).

**Figure 6. Personal qualities of “relationship promoters”**



**Source:** REDOMIC PROJECT

According to the information in Figure 6, the experts considered that it was particularly important for “relationship promoters” to have excellent communication skills, as well as the internal qualities that would not only enable them to self-manage their work (motivation, responsibility, organisation), but also adapt it to the needs of the groups they represent (adaptability, flexibility, dispute resolution, extroversion, level-headedness).

From this analysis, the competency and functional profiles were combined to illustrate how detailed correlation of the two could explain the way these professionals would perform differently in interface organisations (Table 2).

**Table 2. Correlating the functional and competency profiles**

Functional profile	Competency profile	
	Knowledge	Personal qualities
<b>Supply/Demand</b>	Technical/social sciences/ applied sciences/humanities	Responsibility Organisation Adaptability
<b>New companies</b>	Social sciences (business administration)	Motivation Responsibility Organisation
<b>Information</b>	Technical/social sciences/ applied sciences/humanities	Communication Motivation Empathy Extroversion
<b>Clients</b>	Social sciences (business administration)	Communication Motivation Empathy Adaptability Extroversion
<b>Partners</b>	Technical/social sciences/ applied sciences/humanities	Communication Motivation Empathy Adaptability Dispute resolution Extroversion
<b>Image</b>	Social sciences (communication sciences)	Communication Empathy Extroversion
<b>Reaching agreements</b>	Social sciences (law/business administration)	Communication Organisation Dispute resolution Level-headedness
<b>Work processes</b>	Social sciences (business administration)	Responsibility Organisation Flexibility Level-headedness
<b>Funding</b>	Social sciences (economics/business administration)	Communication Motivation Responsibility Organisation
<b>Protection</b>	Social sciences (law/business administration)	Communication Motivation Responsibility Organisation

**Source:** On the premises

As shown in Table 2, success in linking university supply and industry demand requires professionals who not only have adequate knowledge in matching supply and demand of research & innovation, but are also able to organise the exchange by adapting to the circumstances of each case.

Tasks related to identifying business opportunities (new companies), acquiring new clients, creating a positive image for university/industry relations and formalising agreements, designing work processes, searching for funding sources and advising on innovation protection systems require these professionals to have advanced management knowledge (business administration, law, communication, economics), as well as organisational, interpersonal communication and dispute resolution skills (social skills). Finally, the diffusion of innovation and the search for partners for joint promotion of university/industry relations require specialized knowledge, but also management and communication skills.

None of this, however, is sufficient, if there is a lack of motivation and responsibility to carry out these tasks. The very complexity of the functions described above and the importance of establishing a network of stable relationships to ensure their success make motivation, responsibility, empathy and extroversion vital personal qualities for these professionals, accompanied by their knowledge and management skills. This reflects the inherent nature of the professional profile of "relationship promoters", as well as their value in the creation of relational capital for the transfer of innovation in the field of university/industry relations.

#### **4. Internal strategic analysis of university/industry relations and the role of the "relationship promoter" within it.**

After defining the professional profile of the "relationship promoter", the panel of experts considered the strengths and weaknesses of university/industry relations, taking into consideration the professional involvement of the now defined "relationship promoter".

To do so, 35 variables were classified as strengths or weaknesses and assigned according to whether they applied to the innovation system's actors (government, universities, companies, liaison organisations) or the "relationship promoter" (tasks, personal qualities, social skills).

For the variables relating to the "relationship promoter" (PROM), the previously defined functional and competency profiles were used. The organisational variables (system of innovation, SINN) applied to each of the following actors in the system:

- Companies
- Universities
- Government
- Interface organizations: in this specific case, the variable was broken down to address the different aspects of their functions:
  - o Productivity (generating results in relation to available resources).
  - o Additionality (providing results that would not have existed without institutional intervention).
  - o Efficiency (set at a level that reflects best existing practice)

- Effectiveness (fulfilment of assigned tasks and objectives)

The variables were ordered according to the average value achieved by each of them. To avoid ambiguity and bias in defining the strengths and weaknesses of the system and to what extent, a quantitative assessment was used. The arithmetic average of the perceived value of all variables that are conducive to university/industry relations was set at 7.9. Variables of equal or greater value were considered strengths, and the remaining were considered weaknesses.

**Figure 9. Strengths and weaknesses in university/industry relations**

Strengths in relation University/Companies			Weaknesses in relation University/Companies		
Variable	Mean	Classification	Variable	Media	Classification
Supply/Demand	9,5	PROM: Tasks	Extroversion	7,8	PROM: Personal abilities
Communication	9,3	PROM: Social abilities	European Union	7,8	SINN: Public Institutions
Motivation	9,3	PROM: Social abilities	National Government	7,7	SINN: Public Institutionss
New companies	9,1	PROM: Tasks	Regional Government	7,7	SINN: Public Institutions
Empathy	8,9	PROM: Social abilities	Level headedness	7,7	PROM: Personal abilities
Information	8,8	PROM: Tasks	Proactiveness	7,3	SINN: Interface organizations
Responsability	8,8	PROM: Personal abilities	Effectiveness	7,3	SINN: Interface organizations
Clients	8,7	PROM: Tasks	Work processes	7,2	PROM: Tasks
Partners	8,6	PROM: Tasks	Productiveness	6,9	SINN: Interface organizations
Flexibility	8,6	PROM: Personal abilities	Efficiency	6,8	SINN: Interface organizations
Dispute resolution	8,6	PROM: Social abilities	Founding	6,7	PROM: Tasks
Organisation	8,6	PROM: Social abilities	University organization	6,7	SINN: Universities
Iniciative	8,6	PROM: Personal abilities	University government	6,6	SINN: Universities
Adaptability	8,6	PROM: Personal abilities	Protection	6,5	PROM: Tasks
Image	8,6	PROM: Tasks	Institutional framework	6,5	SINN: Public Institutions
Agreements	8,3	PROM: Tasks	Companies involvement	5,8	SINN: Companies
Management	8,1	SINN: Interface organizations	Companies coordination	5,6	SINN: Companies
Coordination	7,9	SINN: Interface organizations			

**Abbreviations:**

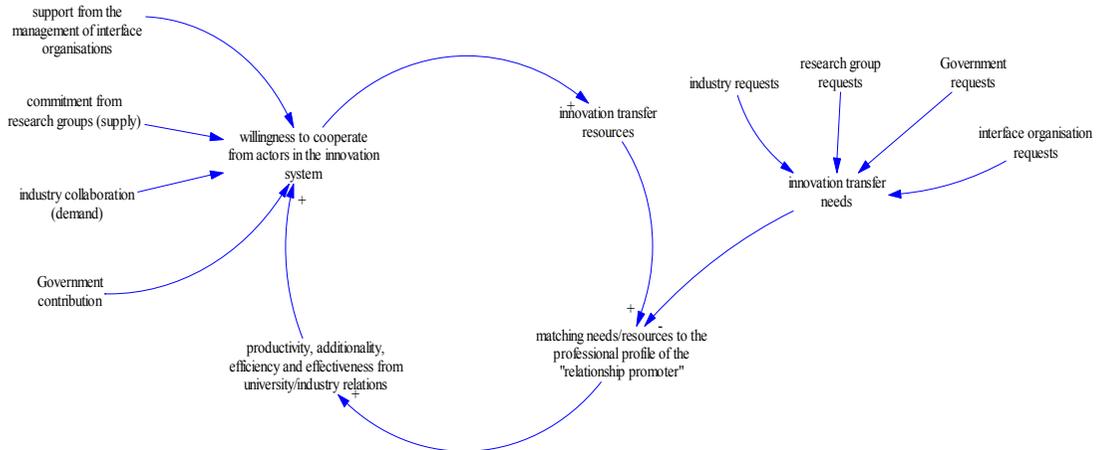
PROM: relationship promoter; SINN: system of innovation

**Source:** REDOMIC PROJECT

The analysis (Figure 9) shows that most of the variables relating to the functional and competency profiles of the “relationship promoter” were considered important strengths in university/industry relations and key to its success. By contrast, the organisational variables of the system, especially relating to company and university functions, were considered clear weaknesses in this relationship.

As a result of this initial assessment, a diagram was designed reflecting the dynamics of the actors in the innovation system, the work of the “relationship promoter” and its effect on university/industry relations (Figure 8).

**Figure 10. Innovation system dynamic**



**Source:** On the premises

The diagram (Figure 10) shows that the main actors' willingness to cooperate greatly stimulates the development of innovation transfer resources: the supply of innovative goods and services tailored to business requirements, as well as institutional and financial support from government and organisational support from interface organisation management. On the other hand, the needs expressed by the actors in terms of constancy in contracting and financial resources (research groups), deadlines for completing projects and meeting demand (companies), returning investment to society (government) and the existence of expert systems for matching innovation supply and demand (interface organisations) can help or hinder the success of university/industry relations. Therefore, the intermediate variable proposed to match resources to needs in the innovation system and the professional profile of the "relationship promoter" constitute key elements to facilitate increased productivity, additionality, efficiency and effectiveness of university/industry relations by improving the transfer process and enhancing credibility and the willingness to cooperate from the system's main actors.

## 5. Conclusions

In order for the innovation system to function correctly, it requires linkage mechanisms to facilitate the transfer of research results from universities to industry and the support of an institutional framework, especially at transregional and transnational level.

An interface organisation's effectiveness in achieving this objective, quantifiable through its ability to gain a greater number of commitments from university/industry collaboration, does, however, require professionals capable of

matching innovation supply and demand, identifying new business opportunities, seeking partners and clients and designing work processes to foster mutual understanding of needs and reaching collaboration agreements to satisfy innovation supply and demand.

This paper has examined the tasks to be performed by the “promoter of university/industry relations” and has identified the skills required to carry them out successfully. With the help of a panel of international experts in innovation transfer, a competency profile was designed and correlated with the functional profile of the position.

An in-depth analysis of the role of the “relationship promoter” enabled an assessment of the strengths and weaknesses of university/industry relations to be made, showing the importance of this figure.

This analysis serves as a starting point for understanding how a favourable dynamic can be generated between actors in the innovation system. If the matching of resources to innovation needs and the professional training of the “relationship promoter” can increase the productivity, additionality, efficiency and effectiveness of university/industry relations, the commitment between actors in the system will be greatly improved and, consequently, future collaboration will be strengthened.

From our point of view, this analysis contributes to the study of strategic and organisational determinants in the innovation transfer system from an unconventional approach and opens up this line of research to future developments related to the design of programmes for promoter training and competency assessment, as well as an analysis of the impact of their work on the results of university/industry collaboration.

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