AN ANALYIS OF RELATIONSHIP QUALITY IN UNIVERSITY-INDUSTRY LINKAGES

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Abstract

To build strong links between universities and industry bodies can be highly beneficial for both partners in the relationship as this will enrich and improve educational and research projects. Under this framework, the authors aim to analyse the relationships between a public University and companies or organizations that participate with the University in different training, research and educational programmes. Our study focuses on relationship quality, which is defined as the degree to which a relationship is able to meet the needs of the customers

Keywords: University-Industry relationship relationship quality

0. Introduction

The increasing competitiveness in virtually every marketplace makes it ever more difficult and costly getting new customers. Organisations are thus putting their marketing efforts in retaining existing customers, building relationships of value with them. This is the logic behind relationship marketing.

Relationship marketing research has developed in the last two decades building a vast amount of literature on this topic. Although the term relationship marketing was coined by Berry (1983), it is during the last decade where relationship marketing has achieved recognition as a dominant field in the marketing area. Not only relationship marketing focuses on building relationships with customers but also with other agents or stakeholders, such as

suppliers or distributors, which in the relationship marketing approach are considered as partners.

Numerous studies in relationship marketing have focused on interorganizational relationships, e.g. between manufacturer and supplier, or on service organizations such as banking, insurance, retailing, hospitals. In contrast there are only a few recent papers (Mora et al., 2004; Al-Alak, 2006; Plewa et al., 2005; Plewa y Quester, 2006) that study relationship marketing in the higher education sector, and emphasize the importance of linkages between universities and industry entities.

To build and maintain relationships between universities and industry bodies can be highly beneficial for both partners in the relationship as this will enrich and improve educational and research projects. In the case of public universities, the Government acts as a promoter of those relationships for the acknowledged benefits for research and development that will have an effect on the society as a whole.

Fortunately, there is a trend towards more and stronger relationships between Universities and industry bodies and this fact has open an interesting debate about the potential conflicts and benefits of those relationships (Manjarrés et al, 2009); most of the studies on this topic arrive to a similar conclusion: benefits of building University-industry relationships are evident for both partners. However most of the studies are focused on the transfer of technology and researcher or research centre productivity, thus leaving a gap regarding the study of other types of relationship.

Under this framework, we aim to analyse the relationships between a public University and companies or organizations that collaborate in different training, research and educational programmes with the University. Our study focuses on relationship quality, which is defined as the degree to which a relationship is able to meet the needs of the customers (Henning-Thurau and Klee, 1997).

In a service sector such as education, relationship marketing is considered particularly relevant because a strong relationship may help to overcome the uncertainty that the intangibility of the product provides (Al-Alak, 2006). In University-industry relationships, the study of relationship quality is a research interest as, according to Crosby (1990), analysing the quality of the relationship is of key importance when the service is complex, customized, and is produced through a number of transactions over time, as happens with University services. Al-Alak (2006) also points out this importance as the service is provided on a temporary or time-limited basis.

This paper is structured as follows. Firstly, we discuss the characteristics of the University as a service provider in a network of relationships. In the second part, from the approach of relationship marketing, we define the construct of relationship quality and propose the dimensions of trust, commitment, satisfaction, and functional conflict as its integrating dimensions. The third part

presents the measurement instrument of relationship quality and the items that integrate the scales. Finally we draw some conclusions and further research lines.

1 – THE CONTEXT OF UNIVERSITY-INDUSTRY RELATIONSHIPS

1.1 – The University as a service supplier

Higher Education Institutions, such as Universities, perform a role as service suppliers that contribute to social and economic development. The services provided are aimed at several agents that interact in a complex relationship network, which includes students, graduates, industry bodies, and mass media, among others. This study focuses on the relationships between Universities and industry bodies or organizations.

The study is based on the idea that the university is a service supply centre. Companies or other industry entities are key stakeholders of universities as employers of the graduates and demander of their services.

In 1999 an study on Spanish universities found that University-society relations were possibly one of the core problems facing Universities (Gines Mora, 1999). In 2004 the "2004 report on the contribution of Spanish universities to development" (Fundación Conocimiento y Desarrollo, 2005) corroborated the fact that university-industry relations continued to show little fruit. In general, those in charge of universities have been aware of the need to intensify and suitably organise these relationships (Fernandez et al, 2000). However, either due to lack of know-how and technical support or because of conditioning factors inside the universities themselves, they have not always been able to establish suitable strategies to enable them to develop these relations.

Another study was undertaken in 2009 by Foundation IKERTIA with the aim to identify the issues and obstacles in the relationships between University and industry in Spain. This study concluded that the main factors acting as barriers to those relationships are: the lack of entrepreneurial spirit among Universities, the limited promotion of University's activities that could appeal to the companies, the patents, the different languages spoken, the generational gap, the lack of time, and the relationship channels (Martínez, 2009). Moreover, respondents to this survey said that personal contact was the most usual initiator of a relationship between their organisation and the Universities. This fact leaves the Universities in a weak position as on the one hand it means the University is not seen as an innovation agent to take into account (the reference is the person and not the institution), and on the other hand the organisations that do not have that personal contact seem to be excluded from the possibility of establishing a relationship. .

Universities carry out their work in an increasingly unstable environment, conditioned by factors such as fast technological progress, changes in University funding systems, the evolution of companies in their sphere of

influence, etc. These changes force universities to make greater efforts to be as competitive as possible (Plewa and Quester, 2008). In the university sphere, competitiveness is generated towards two key customers, students and companies. In this regard it is increasingly important for universities to have information on the basis for these ties, their factors of influence, how they are perceived by companies, in order to adapt their policies for strengthening ties and building loyalty with the companies in their surrounding environment.

Relationships between a University and organizations involve a wide array of services that benefit both parties. It is a relationship that goes beyond the education and training from Universities to organizations, as it includes a wide portfolio of services of training, consultancy and research, such as:
- Training and retraining for practitioners
- Work placements for students in firms and institutions,
- organization of meetings, seminars and conferences;
- Help in job searching and entrepreneur projects
- Promotion of innovation and knowledge and technology transfer
- Management and participation in European projects

Managing relationships between Higher Education Institutions and organizations is evolving towards a deeper adaptation of University services supply to the demands of organizations and towards maintaining a relationship that provides value for both parties with the objective of building long-term loyal networks.

Many of the resources that the University has developed over time can be applied to help companies improve their management or solve specific problems. As Pessac et al. (2004) state, the University role, apart from teaching and researching, is to establish relationships with the industries and with the local communities with the aim to participate actively in the society to which it belongs.

1.2. University-industry relationships

The study of relationships between universities and their spheres of influence has been analysed for many years from different perspectives. The studies have focused mainly on the areas of transferring innovation and research from the University to the society. Due to the traditional importance of universities as research centres and sources of innovation, these studies have been based, mostly, on analysing the consequences of the relationships between the University and organisations, with in-depth examination of aspects such as the University's impact on local development, the transfer of results of its research to companies, relationships with governments, among some of the most developed subject areas (Azagra et al, 2006; Olaskoaga et al, 2000; Castro et al, 2005; Monasta, 1997; Ballart and Subirats, 1997, Gunasekara, 2006).

But for companies, the University is something more than a research centre. There are few studies on relations between companies and the persons who represent these companies and the universities. In fact, as Plewa et al. (2005) have pointed out, the relationship concept has not been sufficiently discussed in the University-industry context.

In this research, we initially had to establish what we mean by University-industry relationships. Plewa and Quester (2008) define University-industry relationships as trusting, committed and interactive relationships between University and industry bodies which enable the diffusion of creativity, ideas, skills and people with the aim of creating mutual value over time.

This relationship is characterised by frequent interaction between the parties before, during and after the research process. It does not focus solely on the transfer of technology between university and organisations (Mora et al, 2004). Universities should work on their relations with companies and the individuals representing them considering that there are many factors affecting those relations.

The specific university-industry relationships literature helps to identify the different dimensions affecting those relations. They include the duration of the relationship; the spatial dimension (proximity, geographical distribution); the degree of formalisation in the agreement; the intensity of cooperation; the driving force behind the agreement; the technology flow expected by the company and the flow expected by the university (Mora, 1999). The university's prestige is also established as an influential element in the relationships: the institutionalisation of university relations with the socioeconomic environment is more fruitful when the universities have prestige in their sphere of influence, either because of the qualifications of the professionals or because of the ability demonstrated by the members of the academic community to solve problems and situations raised in the scientific and technical spheres of that environment (Fernández de Lucio et al. 2000).

We can find a few studies that have empirically analysed the university industry linkages. For example, Metcalfe (2006) on the basis that universities are part of a complex economic and social network, analyses the relations in terms of inter-organisational relations. Other studies, such as the one by Plewa and Quester (2008) and other that we revise in the following epigraph, take an approach of relationship marketing.

2. RELATIONSHIP MARKETING AND RELATIONSHIP QUALITY

The growing interest of marketing scholars in relationship marketing has produced several attempts to identify the focal constructs of relationship marketing. According to Smith (1998:4), relationship quality "…is [now] emerging as a central construct in the relationship marketing literature".

Relationship quality is a key element of valued relationships (Lindgreen and Wynstra, 2005). It is certainly connected to the essence of marketing in relationships as it reflects the overall strength of a relationship and the extent to which it meets the needs and expectations of the parties (Smith, 1998). In this vein, Henning-Thurau and Klee (1997:750), define relationship quality as "the degree of appropriateness of a relationship to fulfil the needs of the customer associated with that relationship".

The revision of the literature on relationship quality shows that there is no real consensus regarding the conceptualization of relationship quality, although there is agreement among researchers such as Dorsch et al. (1998), Dwyer and Oh (1987) and Kumar et al. (1995) that relationship quality is a higher-order construct consisting of several distinct although related dimensions. However, the dimensions proposed by several authors are different. Crosby et al. (1990) argue that relationship quality is composed "at least" by two dimensions: trust and satisfaction. Dwyer and Oh (1987) cited satisfaction, trust, and minimal opportunism, whereas Kumar et al. (1995) saw relationship quality as encompassing conflict, trust, commitment, willingness to invest in the relationship and expectation of continuity. Roberts et al. (2003) and Van Bruggen et al. (2005) coincide in including satisfaction, trust, commitment and conflict. Lages et al. (2005) propose a relationship quality scale composed of satisfaction, information sharing, communication, and long-term orientation. To sum up, trust and commitment, following the seminal article by Morgan and Hunt (1994), are the dimensions most often included in the relationship quality construct.

In the higher education context, specifically in the University-industry relationships, relationship quality is particularly relevant. First, because it is a service context and according to Crosby et al. (1990) service contexts are characterized by uncertainty due to intangibility, complexity, lack of service familiarity, and long time horizon of delivery, and thus relationship quality becomes more important as it reduces perceived uncertainty. Second, because, the relationships between Universities and industry bodies bring together, in most cases, the public and private sector, and are affected by the varying research & development governments' budgets. Thus, building a strong relationship becomes a priority for Universities if they want their relationships with their industry partners to be committed and lasting ones.

Despite the growing importance of the University-industry relationships, there are only a few studies that have analysed them from a relationship marketing approach. The study of Henning-Thurau et al. (2001), analyses relationship quality (composed by trust, commitment and service quality) in the University context, but focuses on the relationship University-student. The study by Al-Alak (2006) also analyses the quality of the relationship (integrated by trust and satisfaction) between students and University staff. The papers by Plewa et al. (2005) and Plewa and Quester (2008) come closer to our research objective as they analyse the University-industry relationships, the first one from a qualitative approach and the second one from a quantitative approach. Plewa and Quester

(2008) examine a model of University-Industry relationships that places personal engagement and personal experience as antecedents of trust and commitment, which in turn affect satisfaction.

Our research proposal, based on the literature review of the construct relationship quality combined with the particularities of the University context, contemplates relationship quality as a multidimensional construct integrated by four dimensions: trust, commitment, satisfaction, and functional conflict. The following paragraphs define those four variables characterizing University-industry relationships.

Relationship marketing seeks to build long-term relationships (relational exchanges), trust being a "key mediating variable" (Morgan and Hunt, 1994), or a "necessary ingredient" (Ganesan, 1994) for developing successful relationships. Trust, according to Morgan and Hunt (1994:23), exists when *"one party has confidence in an exchange partner's reliability and integrity"*, it has also been defined as: *"the firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm"* (Anderson and Narus, 1990:45).

There appears to be sufficient consensus in the literature that trust is a crucial concept in relationships between organizations. The parties must be vulnerable to a certain extent for trust to become operational, and there is usually vulnerability in the relationships between business partners due to the high degree of interdependency needed to achieve the desired results.

Commitment is, together with trust, a key mediating variable for relationship marketing (Morgan and Hunt, 1994; Palmatier *et al.*, 2007). Organizational commitment is one of the oldest and most studied variables in the literature of organizational relationships. Commitment relates to the belief by a partner that the relationship is so important as to warrant maximum efforts at maintaining it. This idea of the relevance of the relationship and the willingness to continue in it is also present in the definition of Moorman *et al.* (1992:316): *"an enduring desire to maintain a valued relationship"*. Moreover, Anderson and Weitz (1992:191) understand that the essence of commitment in any type of relationships (interorganizational, intraorganizational and interpersonal) is stability and sacrifice, and on this base, they define commitment as *"the desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship"*.

Therefore, commitment goes beyond an evaluation of the current benefits and costs of a relationship; it implies a long-term orientation towards the relationship. The desire to maintain the relationship is based, according to Morgan and Hunt (1994) and Gilliland and Bello (2002) on the fact that members in the channel that are mutually committed identify commitment as key to achieving valuable outcomes.

A quality relationship has to be a satisfactory one. Satisfaction is a key marketing variable, originally studied in B2C (Business to Consumer) contexts but more recently also in B2B (Business to Business) contexts. There seems to

be a convergence towards understanding satisfaction as a phenomenon with both a cognitive and an afective component. Satisfaction can also be interpreted as a result of a specific transaction or from an accumulative perspective. In the B2B context, the second is the relevant approach, since according to Ganesan (1994) and Anderson and Narus (1990:45), satisfaction with the relationship is *"a positive affective state resulting from the appraisal of all aspects of a firm's working relationship with another firm"* or following Chumpitaz and Paparoidamis (2004:237) *"is an overall evaluation of the total purchase, use and relationships experience with a product or service over time, as expressed by members of the buying decision centre"*.

Conflict can be defined as any social situation or process in which two or more social entities are linked by at least one form of antagonistic interaction (Fink, 1968). Conflict refers to a state of opposition, or discord, among organizations; it is behaviour by one party that is in opposition to the other party (Coughlan et al. 2006).

Conflict per se is not a shortcoming in a relationship. Some forms of conflict actually strengthen and improve a relationship. This refers to functional conflict, also know as cognitive conflict, which is task oriented and generally focused on the debates between diverse perspectives over how best to accomplish the objectives of an organization (Amason, 1996; Amason and Mooney, 1999). On the contrary, affective conflict, which is emotional and focused on personal incompatibilities and disputes, is dysfunctional (Amason and Mooney, 1999). Functional conflict means resolving productively disagreements, in this way "clearing the air" of potentially harmful tensions and ill-will (Geyskens et al., 1999)

Several studies have analysed the consequences of functional conflict. Menon et al. (1996) found a positive relationship between functional conflict and the quality of strategy and market performance. Geyskens et al. (1999) found that functional conflict helps to reduce the overall level of dysfunctional conflict in a relationship. Skarmeas (2006) analyses not only the effect of functional conflict on purchase intentions. In a University context, Socci (2001) hypothesized a positive link between the amount of functional conflict experienced by faculty and administrators and the quality of their decision making, but that relationship was not confirmed.

3. MEASUREMENT OF RELATIONSHIP QUALITY IN THE UNIVERSITY CONTEXT

After having defined the dimensions of relationship quality, our research proposal goes on to propose a measurement instrument to capture the meaning of relationship quality in a University-Industry context. The process to generate the research instrument is as follows. First, we have captured the meaning of relationship quality and its underlying dimensions of trust, commitment, satisfaction, and functional conflict, as explained in the previous paragraph. Second, we have revised the scales proposed by different authors to measure

each of the dimensions. Third, we have adapted those scales to the context of university-industry relationship. Table 1 shows the final items proposed as well as the source of each scale. Thus, for the dimensions of trust and satisfaction we have chosen the scales proposed by Plewa and Quester (2008), as they are already adapted to the university-industry context and show good psychometric properties. To measure commitment we have chosen and adapted the scale of Kumar et al. (1995), which is integrated by three factors: affective commitment, expectation of continuity, and willingness to invest. Finally, for the dimension of functional conflict we have adapted the scale used by Skarmeas (2006).

Table 1. Measurement scales for relationship quality in the university-industry context

DIMENSION	ITEMS	SOURCE
TRUST	TRU1. We feel that we can trust this University completely	Plewa and Quester (2008)
	TRU2. This University can be counted on to act with integrity	
	TRU3. We feel this University has been on our side	
COMMITMENT	AFFECTIVE COMMITMENT	Adapted from Kumar et al. (1995)
	AC1. Even if we could, we would not drop the University because we like being associated with it.	
	AC2. We want to remain a member of the University's network because we genuinely enjoy our relationship with it.	
	AC3. Our positive feelings towards the University are a major reason we continue working with it.	
	EXPECTATION OF CONTINUITY	
	EC1. We expect our relationship with the University to continue for a long time	
	EC2. The renewal of our relationship with the University is virtually automatic	
	EC3. It is unlikely that our firm will still be collaborating with the University in two years.	
	WILLINGNESS TO INVEST	
	WI1. If the University requested it, we would be willing to make further investment to maintain the collaboration with the University.	
	WI2. We are willing to put more effort and investment in building our collaboration with the University.	
	WI3. In the future, we will work to link our firm with the University in the customer's mind.	
SATISFACTION	SAT1. The University carried out its responsibilities and commitments with respect to relationship so far, meeting expectations.	Plewa and Quester (2008)
	SAT2. Our relationship with the University has been productive.	
	SAT3. The time and effort we have spent in the relationship has been worthwhile	
FUNCTIONAL CONFLICT	FC1. Our discussions on areas of disagreement have increased the productivity of our relationship with the university.	Adapted from Skarmeas (2006)
	FC2. Our discussions on areas of disagreement stimulate us to find productive ideas for our problem.	

	FC3. Our discussions on areas of disagreement increase the strength and effectiveness of the relationship with the university	

4. CONCLUSIONS

This paper in grounded on the importance of studying the University-industry relationship from a relationship marketing perspective. We have highlighted the relevance for Universities of building quality relationship with key stakeholders such as industry bodies.

Our contribution focuses on the proposal of the key dimensions constituents of relationship quality: trust, commitment, satisfaction, and functional conflict. We have discussed the relevance of those dimensions for university-industry relationships and we have proposed a measurement instrument that can be applied to measure the quality of university-industry relationships[1].

As future research lines we contemplate the inclusion of the construct of relationship quality in a causal model of university-industry relationships. This model could include as antecedent communication or cooperation, and as result variable a measure of the intensity of the relationship, such as degree of participation of the organization in joint university programmes.

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[1] Although it could not be included in this paper due to lack of time to analyse the results, we expect to provide an overview of the results in the presentation of this paper during the Conference.

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