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**The impact of consultancy services on the R&D and marketing relationship**

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# ***THE IMPACT OF CONSULTANCY SERVICES ON THE R&D AND MARKETING RELATIONSHIP***

## **ABSTRACT**

The growing complexity of products, rising development costs and continuous technological changes may prevent companies from developing all the technologies and products that they need. As a result, many firms are seeking to implement an open innovation strategy. However, frequently the implementation of this strategy is difficult. Innovation intermediaries can play a central role in helping firms address these open innovation implementation challenges. There are different kinds of intermediaries and each one has different role and impact on firms.

The objective of this research is to study how consultancy firms who are conducting “innovation management services” impact the relationship between R&D and marketing. In addition, this paper seeks to increase knowledge on the contribution of consultancy services to the firm.

The aim of this report is fourfold. First, it presents the way in which the focus of the research was determined, based on the literature review and exploratory interviews to consultants. Second, it shows a preliminary framework proposed to evaluate the impact of consultancy firms on the relationship between R&D and marketing. Third, it presents an overview of the methodology to be used to conduct the empirical phase of the research. Finally, it presents some of the most main challenges addressed during the development of this research.

## **INTRODUCTION**

Research shows that innovation has become more open or distributed over time, due to the establishment of more collaboration and outsourcing (Coombs, et al., 2003). Innovation intermediaries (hereafter referred to as simply ‘intermediaries’) have been recognized as nodes and links in this process (Howells, 2006).

Although the use of intermediaries in general has been recommended to help overcome the lack of certain managerial skills in companies, little information on their effectiveness can be found in academic studies. Those that do discuss the use of intermediaries are descriptive rather than performance analyses (Lichtenthaler & Ernst, 2008b). Some researchers have been working to determine the role and to measure the performance of intermediaries. However, several authors such as Dalziel (2010) and Woolthuis et al. (2010) have pointed out the lack of a theory that explains certain peculiarities of some intermediaries.

Therefore, given the fact that there is no theory that may explain holistically the role and impact of intermediaries on the R&D and marketing relationship, this research aims to explore this issue. There are different types of Innovation intermediaries<sup>1</sup>. In particular, we aim to focus on the role of consultancy services as a specific type of intermediary.

This overall research study follows an empirical approach and its design comprises three main phases. In the first phase the research definition and design were established through a literature review and exploratory interviews. This permitted the construction of a preliminary framework to explore the impact of consultancy services on the relationship between R&D and marketing. Variables were classified in three groups: inputs (variables related with the characteristics and resources of the participants); activities (variables related with the characteristics of the services conducted); and

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<sup>1</sup> Persons or organizations performing different activities within the innovation process. Intermediaries are involved in knowledge sharing, finding, development or implementation of new technologies and practices, or, problem solving at different levels (Dalziel, 2010).

outcomes (variables related with organizational learning and performance). The analysis of relevant literature and interviews focused the research on to the role and impact of consultants conducting innovation management activities on the R&D and marketing relationship. The second phase of this research will involve eight case studies, divided in two parts; preliminary case studies and in-depth case studies. The former will complement the initial framework while the latter will refine it. The third phase involves the design and testing of a survey, useful to verify the theory developed inductively in the second phase.

### **Innovation intermediaries**

Due to the uncertain environment, complexity of the products, rising development costs, as well as the continuous technological changes, companies have to innovate to survive (Trott, 2008). In addition, not all companies can develop all the technologies and products that they require (Chesbrough, 2007). Therefore, they need to look for external sources of innovation as a complement to their internal innovation activities (van de Vrande et al., 2010). This phenomenon has been labelled 'Open Innovation' (OI) (Chesbrough, 2006).

This approach can solve the lack of technological skills<sup>2</sup> and could bring other benefits like the creation of synergies, and the reduction of time to market and risks through the establishment of alliances (Chesbrough et al., 2006).

However, organizations involved in OI could find some risks and barriers<sup>3</sup>. Moreover, OI implementation and its effective management could demand a different mindset, managerial skills (Bessant & Rush, 1995), resources (Enkel, et al. 2009), organizational structural changes (van de Vrande et al., 2010) and participation of different levels and departments of the organization (Huizingh, 2010).

To overcome these problems, some researchers have proposed the establishment of catalytic agents, called 'Innovation intermediaries'. Such intermediaries have been defined by Howells (2006, pp. 720) as "An organization or body that acts as an agent or broker in any aspect of the innovation process between two or more parties". Their principal goal is to enable innovation.

There are multiple types of innovation intermediaries. Some examples are: third parties, change agents, information intermediaries, bridgers, brokers, IP agents, innovation or venture capitalists, virtual knowledge brokers and superstructure organizations (Howells, 2006; Mortara, 2010).

It was found that, in one period, intermediaries were involved in between 10-30% of all European technology transactions conducted (Morgan & Crawford, 1996). In a more recent study conducted, research showed that 50% of SMEs in The Netherlands had used innovation intermediaries (Kemp et al., 2003). Some of their benefits are enlisted in Table 1.

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<sup>2</sup> Through the acquisition of knowledge, competences and complementary assets

<sup>3</sup> They could experiment difficulties to find the ideal partner or technologies, or assimilate the external knowledge (Kirkels, 2010); loss of knowledge and control; higher complexity and coordination costs (Enkel, et al. 2009) and imbalance between OI activities and daily business.

**Table 1. Benefits of innovation intermediaries**

Benefits
<ul style="list-style-type: none"><li>- Provide external resources and competences that complement firms' resources and competencies<sup>[6, 5]</sup>.</li><li>- Hold additional market knowledge<sup>[10]</sup> and reduce transaction costs in technology markets<sup>[6,7,8]</sup>.</li><li>- Could help to formulate projects and evaluate external technology<sup>[4]</sup>.</li><li>- Could integrate and complement customer knowledge<sup>[10]</sup></li><li>- Can adapt existing solutions to new problems<sup>[3]</sup>.</li><li>- Could reduce the gap between business and research organizations<sup>[2]</sup> as well as the 'managerial gap'<sup>[1]</sup>.</li><li>- Have different contacts that could bring different technology sources and beneficiaries<sup>[9]</sup>.</li><li>- They can improve or diminish problems between parties, related with trust<sup>[2]</sup> and power<sup>[11]</sup>.</li></ul>

Source: The author. Based on [1] Bessant & Rush, 1995; [2] Dalziel, 2010; [3] Hargadon, 2002; [4] Howells, 2006; [5] Kirkels, 2010; [6] Lichtenthaler & Ernst, 2008a; [7] Lichtenthaler & Ernst, 2008b; [8] Morgan & Crawford, 1996; [9] Shohet & Prevezer, 1996; [10] Verona et al., 2006 and [11] Woolthuis, et al., 2010

Intermediaries could be involved in many different activities. Some of these activities are: foresight and diagnostics, scanning and information processing, knowledge processing and combination/recombination, gatekeeping and brokering, testing and validation, accreditation, regulation, intellectual property issues, commercialization, evaluation of outcomes, R&D services, training, networking among other activities (Howells, 2006; Mortara, 2010).

### **R&D and marketing relationship**

Research and development (R&D) and marketing coordination and integration<sup>4</sup> are a fundamental element of innovation success (Griffin & Hauser, 1996; Gupta et al., 1986; Souder, 1988 and Moenaert & Souder, 1990). Their relationship is important because they share responsibilities along all the innovation process (Griffin & Hauser, 1996). They are vital in identifying marketing opportunities, setting new product goals, understanding customer needs and resolving product-cost performance trade-offs (Souder, 1988). Cotterman (2009) has suggested that the relationship between R&D and marketing is particularly significant during the early stages of the innovation process, for example in the idea generation processes that consider market opportunity analysis and selection of innovation targets.

Unfortunately, the interface between R&D and marketing presents some problems (Souder, 1988; Gupta 1990, 1991). Different factors have been found that inhibit the collaboration and integration of those areas. These could be classified in two main areas: individual factors and organizational factors (Gupta et al. 1986). See Table 2.

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<sup>4</sup> The level of cross-functional cooperation is a critical determinant of New Product Development success (Calantone & Di Benedetto, 1988).

**Table 2. Problems that inhibit Integration or collaboration.**

Individual	Organizational
<ul style="list-style-type: none"> <li>- Sociocultural differences (thought worlds, types of products/projects preferred <sup>5</sup>)</li> <li>- Perceptions</li> <li>- Self-interest and goal orientations</li> <li>- Strong affiliation with their functional groups</li> <li>- Time orientation</li> <li>- Language</li> <li>- Background</li> <li>- Personality (stereotype)</li> <li>- Different priorities and responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>- Degree of influence of these areas over the process</li> <li>- Centralization (inequitable distribution of power)</li> <li>- Work norms</li> <li>- Success measures and rewarding system</li> <li>- Different priorities and responsibilities</li> <li>- Operational characteristics</li> <li>- Senior management's attitude toward risk-taking and about integration</li> <li>- Physical proximity (distance and isolation)</li> </ul>

*Source: Gupta et al., 1986; Griffin & Hauser, 1996; Jassawalla & Sashittal, 1998; Moenaert, et al., 1994; Olson et al., 2001; Song et al., 1997 and Souder, 1988*

Due to the importance of this relationship for the innovation process, and the problems and barriers that this faces, researchers have been attempting to better understand and hence improve the relationship<sup>6</sup>. Studies about R&D and marketing activities as well as the relationship between them have been extensively conducted in academic literature. However, so far, there are no studies exploring the possible influence of intermediaries on this relationship.

As part of these studies, different solutions to overcome the lack of collaboration and integration between R&D and marketing areas have been proposed. Some of them are shown in Table 3.

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<sup>5</sup> Marketing: short term projects or incremental- accept some ambiguity and bureaucracy: while R&D: long term and advanced projects, low tolerance to ambiguity and bureaucracy.

<sup>6</sup> Some studies extend the relationship beyond R&D and marketing to include other functional units (Olson, et. al., 2001).

**Table 3. Possible solutions recommended.**

Individual issues	Organizational issues
<ul style="list-style-type: none"> <li>- Cross-functional or common training of marketing and technology members in techniques and tools, to achieve a common language and methods.</li> <li>- Promotion of long-term relationships that foster trust and friendships</li> <li>- Job rotation</li> <li>- Informal social interaction<sup>7</sup></li> <li>- Foment harmonious<sup>8</sup> R&amp;D -marketing relationships</li> <li>- Similarity between the R&amp;D and marketing managers with respect to their professional/ bureaucratic orientation</li> <li>- Motivated teams</li> </ul>	<ul style="list-style-type: none"> <li>- New incentives and rewards</li> <li>- More-integrated task</li> <li>- Interdisciplinary project teams</li> <li>- Changes in organizational structures and culture</li> <li>- Formal integrative management processes (Stage gate, phase review process, QFD, PACE)</li> <li>- Structure decision making process across functional groups</li> <li>- Decentralization (Structure decision making process)</li> <li>- Continuous flow of information</li> <li>- Increase Top management support toward integration</li> <li>- Senior management encourages risk-taking</li> <li>- Facilities re- design or relocation</li> </ul>

Source: Atuahene & Evangelista, 2000; Cotterman, 2009; Griffin, & Hauser, 1996; Gupta, et al., 1986; Maltz & Kohli, 2000; Moenaert & Souder, 1990; Olson, et al., 2001; Song et al., 1997 and Song & Parry, 1992.

**Consultancy services as innovation intermediaries**

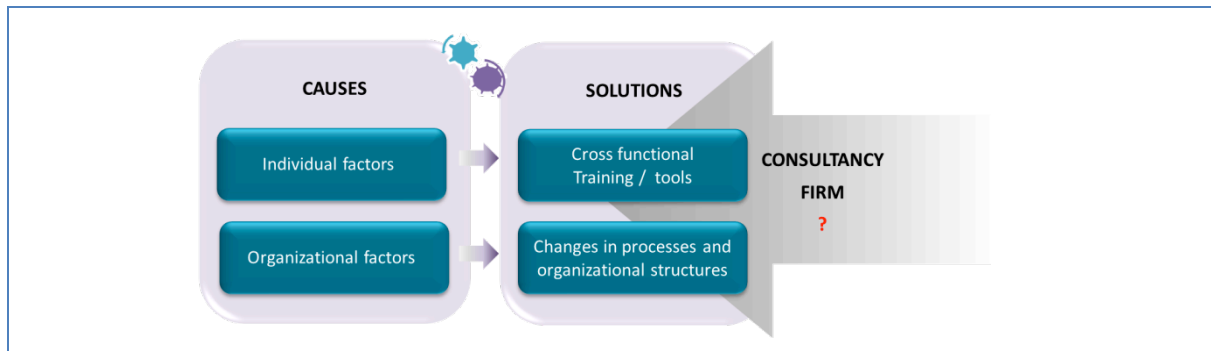
Consultants aim to help companies to achieve their objectives (Gable, 1996). They generally improve client understanding and learning (Gable, 1996) or solve clients’ problems (Buono, 2002). This may be possible because they are an impartial outside body, with intensive professional experience and special skills and knowledge (Chitakornkijasil, 2010). Consultants are experts bringing and transferring knowledge and experiences and acting as a point of contact to other specialist services (Bessant and Rush, 1995). Additionally, they can promote culture changes (Feldman & Boulton, 2005), generate changes in organizational relationships (Phillips, 2000; Tilles, 1961 and Gable, 1996) and give to their clients the ability to solve problems independently (Tilles, 1961). As a result, they can promote company transformation (Feldman & Boulton, 2005) as they can stimulate changes in client habits (Chitakornkijasil, 2010) as well as management systems and decisions (Fiol, 1985), and promote the implementing of new frameworks of reference (Dierkes et al., 2001).

As shown earlier, the relationship between R&D and marketing activities in a company has been studied in detail and different barriers have been identified. Analysing some of the solutions proposed by researchers to diminish such barriers (see Table 3) it could be logical to assume that consultancy firms could generate or promote some of these solutions (see Figure 1) and promote R&D and marketing integration. This points towards our research gap, i.e. to study whether consultancy firms, conducting innovation management services, could have any impact over the relationship between R&D and marketing areas.

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<sup>7</sup> Social interaction is defined as the extent to which R&D and marketing personnel have opportunities of private social contacts and activities outside their formal work settings (Maltz & Kohli, 2000).

<sup>8</sup> If they are involved from the early phases of the innovation and attempt to understand each other's point of view; if conflicts are resolved at the organizational lowest possible level and if they discuss issues rather than simply accept them.



**Figure 1. Problems between R&D and marketing areas.**

Based on Griffin & Hauser, 1996; Gupta, et al. 1986; Moenaert & Souder, 1990; Olson, et al., 2001 and Song et al., 1997.

### Exploratory interviews

A set of exploratory interviews was conducted to complement the literature findings and establish the scope of the research. Five consultancy firms providing innovation consultancy services were interviewed. Information obtained was classified in 6 areas.

*Clients.* For our sample, the majority of the consultancy services' clients were large companies, from a range of sectors (manufacturing companies from low tech to high tech companies). These firms included fast moving consumer goods (FMCG - in areas such as homecare, food, beverage), healthcare, medical and aerospace.

*Services.* Consultants noted that large companies generally hire their services to address specific problems or complex issues; to get specific capabilities or resources that their clients do not have; or to establish complete innovation management programmes.

*R&D and marketing relationship.* Consultants perceive stronger problems between R&D and marketing in large companies than in SMEs, due to their size and the existence of silos in their organizational structures. This problem appears to be less important in small companies, since they have a reduced number of employees, who often have to play different roles in the organisation.

*Services involving interaction with R&D and marketing people.* The interaction with both areas during the delivery of a consultancy service will depend on the type of industry and the business area of the client. However, services that generally demand direct work between R&D, marketing and consultants are management and strategy consultancy services, market opportunity analysis and, particularly, roadmapping.

*Impact of consultancy services.* Although there is much literature on the impact assessment process, it has been found that consultants usually do not determine the impact of their services due to the high complexity of assessing impact in a robust way. This is a result of four factors. First, it is difficult to establish a relationship between the service and the results; second, services sometimes are a small part of a complex process, therefore it is difficult to claim a specific contribution of the services in the final result; third, there are multiple variables affecting the implementation of the service and consultant do not have control over them; and finally, establishment of an impact assessment process is difficult, since each service is different.

As a consequence, the consultants interviewed only conduct feedback questionnaires (immediate and after six month or more<sup>9</sup> of the intervention), document success histories, and consider re-purchase as a measure of successful impact.

<sup>9</sup> This time interval varied by the sector.

*Impact on the R&D and Marketing relationship.* The consultants interviewed commented that they do not see a positive impact over the R&D and marketing relationship when they are providing short-term services to the company as it is difficult to observe changes during a short interaction. Only in long term projects or when they have developed a 'trust relationship' could they perceive some influence over the company.

However, consultants mentioned that some services (e.g. roadmapping workshops, which demand participation of R&D *and* marketing people) did they believe that they could have an impact on the relationship. This is likely to be a result of the way in which these workshops are conducted, i.e. looking not only for the generation of a roadmap, but also for integration and commitment of participants (drawn from marketing and R&D), the transference and implementation of the method, and the creation of capabilities.

### **Preliminary framework**

The literature review and exploratory interviews highlighted the importance of defining a specific type of intermediary as well as a specific type of activities conducted, since each type of intermediary and service could have completely different impacts. Consultancy firms conducting innovation management services were selected since prior research has proposed that consultancy firms could modify organizational relationships (Phillips, 2010; Gable, 1996). Hence, the objective of the research is to study specifically the impact of consultancy firms, conducting innovation management services, on the R&D and marketing relationship in large companies from different sectors.

A preliminary framework for understanding and analysing the impact of consultants over R&D and marketing areas integration is proposed. Different variables have been selected to study the impact of consultancy services on the R&D and marketing relationship. These have been classified following the model to determine impact proposed by Plantz et al., (1997) and the Intermediaries' impact model of Dalziel & Parjanen (2010). This includes purpose of the service. Inputs are variables related with the characteristics and resources of the consultancy firm as well as the client. Activities are related with the services conducted as well as the characteristics of such services. Outcomes are specific and generally quantitative and not the final objective. And finally, impacts, which are divided in two: immediate (referred as organizational learning) and intermediate (referred as performance). Such impacts could be either quantitative or qualitative (Phillips, 2000) and reflect the impact of the consultancy services. See Figure 2.





**Figure 2. Suggested variables to be consider in the study of the impact of consultancy services on the R&D and marketing relationship**<sup>10,11</sup>

Source: Author. Based on Phillips (2000), Lähteenmäki et al. (2001), Fiol (1985), Dalziel & Parjanen (2010), Gable (1996) and Robey et al. (2000)

## Methodology

The choice of methodology for further developing, refining and testing this framework was determined by the idea of expanding existing knowledge around intermediaries, and specifically about consultants' impact. Due to the novel nature of this phenomenon and the complexity associated in the establishment of impact, we have chosen a two stage methodology. The first stage involves case studies<sup>12</sup> while the second involves a survey.

Case selection will be conducted based on theoretical sampling. Four companies will be selected from different sectors in order to capture more information and establish an initial framework (exploratory case studies). After this, four further company cases studies will be conducted to refine the framework. Cases will be selected that involve the delivery of roadmapping services conducted at least 6 months ago<sup>13</sup>. This timeframe is necessary in order to see possible impacts, as it has been found that complete implementation in consulting projects demands considerable length of time (Phillips, 2000).

The main data source will be semi-structured in-depth interviews. Measurement of impact will be conducted considering hard and soft data (Phillips, 2000). Hard<sup>14</sup> data will be related primarily with measurements of improvement while soft<sup>15</sup> data will be used to evaluate behaviour and skill outcomes, among others. The interviewees will be conducted with at least four key informants from each case company (two from marketing and two from R&D), trying to obtain information about the situation pre and after the roadmapping workshop. The choice of informants will be made on the premise that information is best elicited from people who have knowledge of the phenomenon and in this case who have been involved in a roadmapping workshop conducted by the consultant. However, other

<sup>10</sup> Phillips (2000) has proposed that organizational learning is very important, particularly in consultancy services that develop expertise and new behaviours and generate significant changes in jobs and procedures, through the implementation of new tools, processes and technologies.

<sup>11</sup> Economic, strategic, technological.

<sup>12</sup> Since attention to the dynamics and context is important in this study, and the researcher does not have control over the events, a case study could be an appropriate method (Stake, 2000).

<sup>13</sup> But no more than two years ago to avoid participants forget details and information.

<sup>14</sup> Data are focused in key issues of output increase, quality improvement, cost saving and time saving.

<sup>15</sup> For example, attitude, motivation, satisfaction and skill usage.

respondents working in R&D and marketing areas of the same company could offer additional viewpoints and information about the impacts of roadmapping activities.

Interviews will be complemented with document analysis (e.g. consultancy contract, minutes or reports of the roadmapping workshop, company reports and processes, among others).

Variables highlighted in the framework will be analysed in the cases. A qualitative data analysis will be used. Within and cross-case analysis will be conducted. Within-case<sup>16</sup> will provide tentative ideas, concepts, and patterns from each case. Cross-case analysis will be conducted following three different strategies as proposed by Eisenhard (1989). The first implies the selection of some categories or dimensions and the identification of within-group similarities coupled with intergroup differences. The second consists in the selection of pairs of cases and the determination of similarities and differences between each pair, in order to generate a more sophisticated understanding. The third implies the division of data by data source, in order to exploit the unique insights possible from different types of data collection. Information collected will be triangulated in order to validate the observations and interpretations, as suggested in literature (Yin, 2009). Through this strategy data will be systematically reduced, organized and displayed in order to identify patterns, trends and draw conclusions

During the in-depth cases the emergent frame will be compared with the evidence from each case to assess its accuracy. Finally the built theory will be compared with the extant literature<sup>17</sup>.

The framework obtained will then be tested through a wide-scale survey. However, this will not be possible in the near-term due to the time constraints of this PhD research. As part of this research, only the design of a survey instrument will be done, in order to provide an instrument that could be used in a follow-up project. The initial survey design will be tested with 5 company participants.

At the time of writing of this working paper, the research is in the preliminary case study stage. We are working on the refining of the instrument to be used to guide the semi-structured in-depth interviews as well as trying to find potential case studies. So far, the most important challenge has been to get access to companies since these services are considered a strategic activity. Although this research does not require the review of technical, strategic or market information, it does require the analysis of the consultants' contracts, consultants' report and general details of the interaction. It also requires the review of organizational processes and structures and their changes, information that is frequently considered confidential. In addition, it has been noticed that it is important to identify clearly what is an innovation management service, since there are a wide diversity of services.

## **CONCLUSIONS**

In this research, the context that will help develop a better understanding of intermediaries and their impact on the marketing and R&D relationship has been determined. First, different types of intermediaries, their activities and benefits were identified. Second, the literature and exploratory interviews focused our research direction on the study of the impact of the consultancy services on the relationship between R&D and marketing areas in a company and offered a starting point for more in-depth analysis. Third, a preliminary framework that could be useful to study this phenomenon was proposed.

The design of a method for further analysing this topic and developing this initial framework in more detail has been proposed.

It is expected that this research will generate knowledge about the contribution of consultancy services to the firm and provides some insights about possible ways to measure the impact of consultancy firms

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<sup>16</sup> It typically involves detailed case study write-ups for each case (Eisenhard, 1989).

<sup>17</sup> As Eisenhard (1989) recommends.

on the R&D and marketing collaboration. Additionally, it is expected to identify the conditions under which consultancy firms could have an impact over the R&D – marketing relationship.

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