

# Do R&D and Marketing departments perceive innovation fundamentals through the same lenses?

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## 0. Abstract

Today's competitive world, no matter what industry we are considering, has innovation as a key element for the survival and growth of firms. The product development process tends to be central to the sustainability of firms, emerging the need of top management and the different departments to focus on innovation and to perceive this same objective as a common path which has to be taken together.

The literature stresses that Marketing and R&D, the leading departments on the innovation process within firms, have to work jointly to achieve the market success of the innovative product. Usually, this stream of the literature discusses the integration issue focusing essentially on the outcomes - failure/success factors of the innovation process - derived from the (lack of) integration between these departments. In the present paper we advance with a new perspective on Marketing and R&D departments' integration issue. We assess how close are the perceptions of these departments on the innovation process and performance of the firm through the use of an innovation audit. In general, studies concerning innovation audit are interested in the comparative evaluation of different firms in the same industry, or similar firms in different industries. To our knowledge, no study has used the innovation audit to assess the integration of

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Marketing and R&D departments. The results of this study, applied to a set of key actors within the Marketing and R&D departments of a Portuguese beverage firm, evidence an actual divergence of global perceptions regarding to the firm's innovation process and performance. These results stress the need for departments' integration not only on the outcomes but on the fundamentals of the innovation process.

*Keywords:* Innovation audit; R&D; Marketing; Departments Integration

## **1. Introduction**

The importance of communication flows between R&D and Marketing was recurrently stressed as a key factor for the firm's success as earlier as in the 1970s. Authors such as Rubenstein et al. (1976) and Souder (1977; 1987; 1988) pioneered research in this area. This theme has also resurged with the works of Souder and Sherman (1993), and Griffin and Hauser (1996), linked it specifically with innovation. It became clearer that communication flows, cooperation, and integration of the Marketing and R&D functions would positively impact on the new product development process (Griffin and Hauser, 1996). These authors further add that personality, cultural thought words, language, and organizational responsibility might constitute important barriers to communication and cooperation and point to several mechanisms that contribute for promoting integration between R&D and Marketing (e.g., relocation and physical facilities design, personnel movement, informal social systems, organizational structure, incentives and rewards, and formal integrative management processes).

Thus, the bulk of the literature stresses that Marketing and R&D, key players of the innovation process, have to combine forces to achieve the market success of the innovative product (Souder, 1977, 1987, 1988; Griffin and Hauser, 1996; Gupta and Wilemon, 1996; Tidd et al., 2005; Lin et al., 2006). Usually, the integration issue is discussed with a focus on the outcomes – the failure / success factors of the innovation process – that the (lack of) integration between these departments set out.

In the present paper we advance with a new perspective on Marketing and R&D departments' integration issue. We target the perceptions of these departments on the innovation process and performance of the firm through the use of an innovation audit. We didn't find in the literature the use of the innovation audit as a tool to assess the integration of Marketing and R&D

departments, to study the effective internal interactions that may occur, as a means of emphasising the real compatibility (or not) of the two departments vision, no matter the degree of communication and proximity.

We will begin by developing the core conceptual discussions different authors present on the integration, collaboration and interaction between R&D and Marketing issue, in order to contextualize and fundament our research. Following this, we characterize our study in terms of methodology implemented, that is, in terms of the innovation audit developed in a Portuguese beverage firm, presenting a detailed analysis of the results subsequently. In the end, we will conclude by presenting a discussion of the main findings and its implications.

## **2. R&D and Marketing departments' perceptions on innovation auditing. An uncovered issue on R&D-Marketing interaction literature**

It is commonly known that innovation researchers are mainly worried about matters such as R&D intensity (Lin et al., 2006), new product development (Souder, 1977, 1987, 1988; Griffin and Hauser, 1996), and discontinuous technology breakthrough (O'Brien, 2003; Lin et al., 2006), whereas customer or market orientation research generally deals with issues such as customer communication, advertising orientation, and customer focus (Griffin and Hauser, 1993; Gupta and Wilemon, 1996; Tidd et al., 2005; Lin et al., 2006). In a business world where product life cycles are more and more shortened and technological innovations have become routine (Tidd et al., 2005; Lin et al., 2006), it is of great importance for a firm to know how to be different and maximize its resources and core competences (Prahalad and Hamel, 1990).

In their study how R&D increases shareholder value, Lin et al. (2006) underlined that there is a commercialization orientation guiding the firm and effectively allocating its complementary resources. This is a matter which of course differs from industry to industry because it is clear that each firm has to have its own commercialization strategy. Zahra and Nielsen (2002) proved that technology commercialization is essential to a firm, and it is dependent on the integration of manufacturing with other firm's resources, namely Marketing and Human Resources, making the technology commercialization a multidimensional construct.

In fact, product innovations may be defined as the result of the interaction and interdependence between Research and Development (R&D) and the Marketing department, though the common

conflicts that arise among them (Souder, 1988). Indeed, research work on this field shows how frequent there is a lack of interaction and of communication in firms between those departments, undermining many projects. The usual way to overcome these problems is through joint meetings, joint involvements and increased sharing of information, as Souder (1988) points out. Specialized on their work, none of them worries about knowing a little of the other department's job, expecting only that R&D may create useful products, and Marketing will promote them (Souder, 1988), strictly doing their tasks. The lack of communication, on the other hand, is seen on the verbal, attitudinal and physical distance, when, for instance, the R&D deliberately does not inform Marketing of a new breakthrough until a later stage in the development cycle, or the Marketing does not inform about the market needs. Neglecting the contribution of the other part to the subject, minimizing the effect of their know-how, it produces undoubtedly, according to Souder (1988), a negative effect on the innovation project.

Several other studies (Hise et al., 1990; Song and Thieme, 2006) point to the fact that the interaction R&D/Marketing affects the degree of success of new product development efforts. Swink and Song (2007) refers to integrating manufacturing and Marketing in every phase of the product development, so that the product competitive advantage could be maximized, and consequently the return on investment (ROI) could become higher. Vollerthun (2002) also discusses the integration of conceptual design and Marketing through a systems engineering approach; the explicit aim is to target product design more on markets. Earlier, Griffin and Hauser (1996) studied the functional integration of R&D and Marketing, proposing a causal map framework, after doing a state-of-the-art analysis. They recall how Marketing and R&D personnel became specialized on their functions throughout the firm's growing, diminishing the capability of combining skills which would better develop and explore successful products. Though working back to back, Griffin and Hauser (1996: 192) consider that "Marketing and R&D share responsibilities for setting new product goals, identifying opportunities for the next generation of product improvement, resolving engineering design and customer-need tradeoffs, and understanding customer needs". Being so, there is no reason for specialization blindness, since these responsibilities require cooperation through the innovation process instead, even if each department may have a central or dominant responsibility in some stage, and then the other part may be called for consultation. It is also emphasized how this is a dynamic process, which enables continuous change or adaptation to internal or external environmental, shift – adaptation

to new corporate strategies, new resources requirements, new customer needs, new competition environment, new profitability goals (Griffin and Hauser, 1996).

It becomes clear then that communication flows, cooperation, and integration of the Marketing and R&D functions would positively impact on the new product development process. Hise et al. (1990: 142) assertively point that “collaborative efforts between Marketing and R&D during the actual designing of new products appear to be a key factor in explaining the success levels of new products”. Management has then an important role, centering the focus on the design stage of the new product development process, and promoting the continuous contributions of each department on the work of one another. The importance of this interface is justified by the value of the new product development’s process for the firm’s future growth (Booz et al., 1981), both due to the weight of the expenditures on that same process, and because of the high rate of new product failure (Booz et al., 1968, 1981; Crawford, 1979; Hise, 1986). When Marketing allies with R&D as earlier as possible, and throughout the product development process, success probabilities are increased. Hise et al. (1990) suggest that the joint work may be fostered in the design and evaluative stages and then on the input stage, which is more technical. It is also revealed that the involvement of the two departments is higher for consumer products than for industrial ones, determining higher levels of commercial success. Nevertheless, Hise et al. (1990: 154) conclude that “(...) efforts to integrate Marketing and R&D need to be selective rather than global and that R&D’s contributions to the success of new products cannot be ignored as these integration strategies are instituted and implemented”.

Griffin and Hauser (1996), and more recently, Leenders and Wierenga (2002), distinguish several mechanisms that contribute to promote integration between R&D and Marketing: relocation and physical facilities design, personnel movement, informal social systems, organizational structure, incentives and rewards, and formal integrative management processes. Leenders and Wierenga (2002: 306) define integration “as the degree to which there is communication, collaboration, and a cooperative relationship between Marketing and R&D”. The authors recognize the benefits of promoting R&D and Marketing integration, as for the quickness and bettering of new products, lower costs, and achieving higher profits.

In a complementary perspective, Maltz et al. (2001) explain how inter-functional rivalry damages the flow and usage of information between R&D and Marketing personnel, how rivalry

harms even the quality of the information transferred. Souder (1988) refers about the “Equal Partner culture”, which is an effective contribution to understand that when R&D and Marketing are engaged in joint missions, projects, meetings, product strategy and customer follow-ups, then each department has a technical knowledge of one another. In this case, as mentioned earlier, personnel rotation through R&D and Marketing tasks facilitates a sense of joint partnership which will foster cooperation.

The role of R&D managers is particularly stressed by Gupta and Wilemon (1996: 497) as an individual who is capable of “understanding customer needs, monitoring market developments, commercializing new technologies, building cross-functional teams”, triggering also the integration line. Quick response to market needs, within the well-known particular global business environment, urges the demand for innovation on the part of the R&D manager, and this link with the market only can be promoted within that alliance, that joint cooperation with the Marketing. R&D managers treat information with an instrumental use, to formulate immediate decisions, and with a conceptual use, to adjust the R&D manager's mental model of the marketplace (Maltz et al., 2001). The knowledge about customers, markets, and commercialization processes can also be acquired by closely working with Marketing as well as co-developing products with customers (Gupta and Wilemon, 1996), exploring new opportunities' windows that the vision angle of the R&D may open, when adding it to the “interpretation” Sales or Marketing departments do.

It is also apparent that the sources of knowledge for the innovation process are frequently multiple and dispersed (Chiesa, 2000), emphasizing the need for allying R&D and Marketing departments in order to satisfy better the market. This ‘obliges’ R&D to have a close connection to the market. This interactive communication between R&D and Marketing departments is explicitly accounted for in the seminal work of Prahalad and Hamel (1990: 82):

“If core competence is about harmonizing streams of technologies, it is also about the organization of work and the delivery of value. (...) Core competence is communication, involvement and a deep commitment to working across organizational boundaries.”

Sherman et al. (2005) investigated the importance of past information of product development projects, the so called knowledge management, an intricate form of organizational learning, in the cross-functional integration between R&D and Marketing, which is said to reduce

uncertainty. In fact, the authors demonstrated that the integration of information from past related projects would contribute to better new product performance. Yang (2005) also defended on his work knowledge integration as a determining factor which contributes to new product performance, namely through knowledge acquisition and dissemination. Knowledge integration is defined by this latter author as a crucial process with which organizations can create competitive advantage.

Specifically concerning cross-functional communication, Moenaert et al. (1994) highlight the importance of four variables towards the innovation success: *formalization* (rules and procedures one follows throughout the innovation project path, which is expected to increase the communication flow); *centralization* (the extent to which project-related communication, decision making and power is concentrated in the hands of a relatively few individuals, which will predictably have a negative effect on the quantity and quality of information shared by the R&D and Marketing); *role flexibility* (degree of extra-functional tasks a project member assumes in the course of the project, which have a positive effect on the communication level); and *inter-functional climate* (the positive degree of interest, trust, awareness, and support between the R&D and Marketing function which tends to positively promote the frequency of communication between the two departments).

Moenaert et al. (1994) believe that the exchange of data, knowledge and skills may carry out even new and creative insights, enabling technology solutions to fit better to market requirements. Song and Thieme (2006), and in a different perspective Garrett et al. (2006), stress the need of R&D and Marketing integration in order to facilitate the likelihood of new product development success.

A common point of the literature regarding the integration of R&D and Marketing departments is the emphasis on the *outcomes* of that (lack of) integration. It assumes implicitly that new product development and/or innovation problems tend essentially to derive from communication problems between these two departments and not on their (potential) distinct views on the innovation management process and capabilities.

Tidd et al. (2005: 559) refer to innovation management as “the search for effective routines”, stressing that “[i]nnovation is about interaction of technology, market and organization”. In this context, innovation management is not a matter of doing one or two things well, but about good

all-round performance. There is not a simple check list leading to success in innovation but a set of learned behaviors.<sup>2</sup> Accordingly, sustainable innovation management in time is only achieved when the organization is able to accumulate competencies, through the persecution and analysis of previous projects, and to maintain actualized in what concerns technological and market novelties. Above all, the requirement is to create the conditions within a learning organization to be able to capture and accumulate learning through shared problem identification and solving. The organization also needs to learn about innovation management itself (Tidd et al., 2005).

A comprehensive approach to auditing a firm's innovation capability should encompass a means for assessing the current innovation practice and performance, identifying the gaps between current and target practice and performance and the reasons for gaps and defining the action plans needed to close these gaps (Chiesa, 1996).<sup>3</sup> In this paper we argue that the (lack of)

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<sup>2</sup> Tidd et al. (2005) divide it into five clusters that represent particularly important routines (1) Successful innovation is strategy-based. In the strategy domain the capacity to learn from experience and analysis is vital. Defining a specific strategy as the results of the analysis of important issues related to: *firm's positioning* concerning products portfolio, processes and technologies, and the innovation system in which it is embedded. This last item is important to technology strategy but not determinant; *technological paths* followed by the firm have distinct sources and directions of technological change and defines key tasks for strategy. These paths results of accumulated experience and competencies; *organizational processes* of the firm set in order to integrate strategic learning across functional and divisional boundaries; 2) Successful innovation depends on effective internal and external linkages. Developing close linkages to suppliers, clients or users, universities and other entities is critical to enable success (Laursen, 1996). These interactions offer opportunities for learning from costumers and lead users, from competitors, from strategic alliances and from alternative perspectives, like universities or others (Tidd et al., 2005); 3) Successful innovation requires enabling mechanisms for promote change. In order to succeed, organizations also need effective implementation mechanisms to move from an idea or opportunity to reality. It requires skills in project management, control under uncertainty and parallel development of market and technological streams (Tidd et al., 2005). A clear decision making framework with decision gates to help the organization to stop or to progress development is seen as a good tool to manage innovation processes (Cooper, 1999). Management needs also to pay attention to the change process itself, including anticipating and addressing the concerns of those who might be influenced and affected by change (Tidd et al., 2005); 4) Successful innovation only happens within a supporting organization context. Supporting organizational context promote creative ideas to emerge and to be effectively developed. Building and improving such conditions is critical to innovation management and involves working with structures to assemble work organization arrangements, training and development, reward and recognition systems and communication arrangements (Tidd et al., 2005); 5) Sustainable successful innovation depends on the ability to learn.

<sup>3</sup> According to Chiesa (1996), one might identify two types of innovation audits: process and performance. The process audits focuses in individual processes necessary for innovation, in order to measure the degree of use of best practice and to assess if the implementation is effective, whereas the performance audits propose is to measure the outcomes of each individual core and the overall firm's success, namely its impact on competitiveness. A wide range of success measures has been reported. The Product Development and Management Association has identified five categories of success assessment (Griffin, 1996): customer measures (e.g. market share, customer satisfaction), financial measures (e.g. profit goals, margins), process measures (e.g. technical performance, on-time delivery), firm-level measures (e.g. success/failure rate, % of sales in new products), and program measures (e.g. new-product



integration between R&D and Marketing departments might be assessed in a new brand perspective. It involves the implementation of the innovation audit not at the level of the whole organization but rather to gather information from key actors from the R&D and Marketing departments. We argue that in order to have a complete picture on the integration of these departments we need to assess how close (far) are their views on the fundamentals of the innovation process, that is, on the innovation audit.

In the next section we detail further such procedure.

### 3. Methodology

In order to assess how close Marketing and R&D departments perceive innovation process and performance of the organization, we performed an innovation audit within these departments to several key actors. The study was conducted in a Portuguese beverage firm.

The Portuguese beverage industry, in the last years, due to a macroeconomic recession and stagnation in the consumption of fast moving consumer goods, has seen its internal market stabilizing (INE, 2006). Therefore, the means of gaining competitive advantage found by the two main operating firms was a strong investment in product innovation. Namely, in the last three years, innovative products achieved a relevant role in firms' results, increasing its contribution to the total sales every year<sup>4</sup> (AC Nielsen, 2007).

The selected firm is a large organization which has presented a rather innovative dynamic behaviour, launching in the last four years a growing number of product and packaging innovations targeted to new market segments of consumers and consumption moments<sup>5</sup>. In 2006, the investment in R&D activities corresponded to 5% of the operating profits of the firm, being 45% of the total Marketing department budget used up for new product launches (Firm's Forthcoming Annual Report 2006).

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programs achieved its objectives). This type of audit produces quantitative results to perform benchmarking, however its information is insufficient to be the basis of learning and improvement of the organization. Although it indicates the current needs and problems and the extent of the gap between existing and required performance, it is unable to explain the reasons for the gaps and to suggest an action plan to reduce them. For this propose a process audit is required (Chiesa, 1996).

<sup>4</sup> RY DJ05 - 4%, RY DJ06 - 7% and RY DJ07 - 11% – being RY DJ0n, *Rolling Year* that begins in February 200'n-1', and ends in January 200'n'.

<sup>5</sup> The number of new launches reported *per year*: 2003 – 7; 2004 – 13, 2005 – 16, and 2006 – 19.

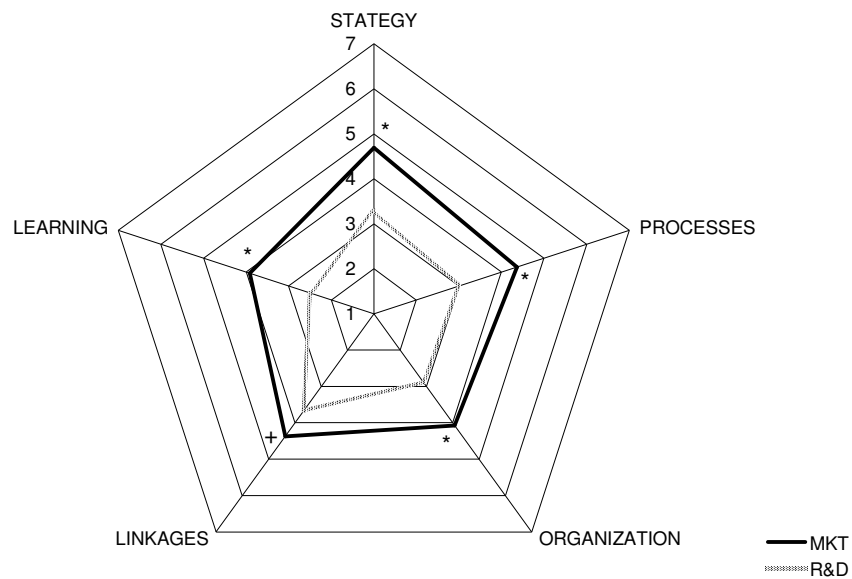
We resorted to the innovation audit questionnaire available in Tidd et al. (2005) (Cf. Appendix 1). The respondents were invited to confirm their level of agreement (according to a 1-7 Likert scale) to each of the forty innovation related sentences detailed in the questionnaire. Further on, the questionnaires' output can be grouped in five main clusters which aim to success in innovation, specifically: strategy, linkages, processes, learning, and organization.

The survey, translated into Portuguese, was applied to 17 key individuals, collaborators in R&D (5) and Marketing (12), to be exact, from product and package development and process optimization in the R&D department, and from brand management, which is considered to be more implicated in the product development area of the Marketing department. After ensuring confidentiality and an aggregated treatment of the results, the respondents received the questionnaire by e-mail. We may say that the feedback on the questions comprehension was very positive. The rate of response in Marketing and R&D departments was, correspondingly, 83 and 60 per cent, being collected 10 and 3 filled forms, respectively.

#### **4. Results and Discussion**

The results are presented in an aggregated form and are divided into the five clusters considered to be the key factors for achieving success in innovation process and performance of firms. Although the use of a discrete scale in the questionnaire, we employed the t-student tests for evaluating the statistical significance of the differences between the averages of the R&D and Marketing departments.

Figure 1 shows the global results of the innovation audit in Marketing and R&D departments concerning the learning, linkages, processes, organization and strategy.



**Figure 1: Marketing and R&D department perception on the groups of the innovation audit**

*Note: \* - statistically significant difference (95%) and + - statistically indicative difference (90%)*

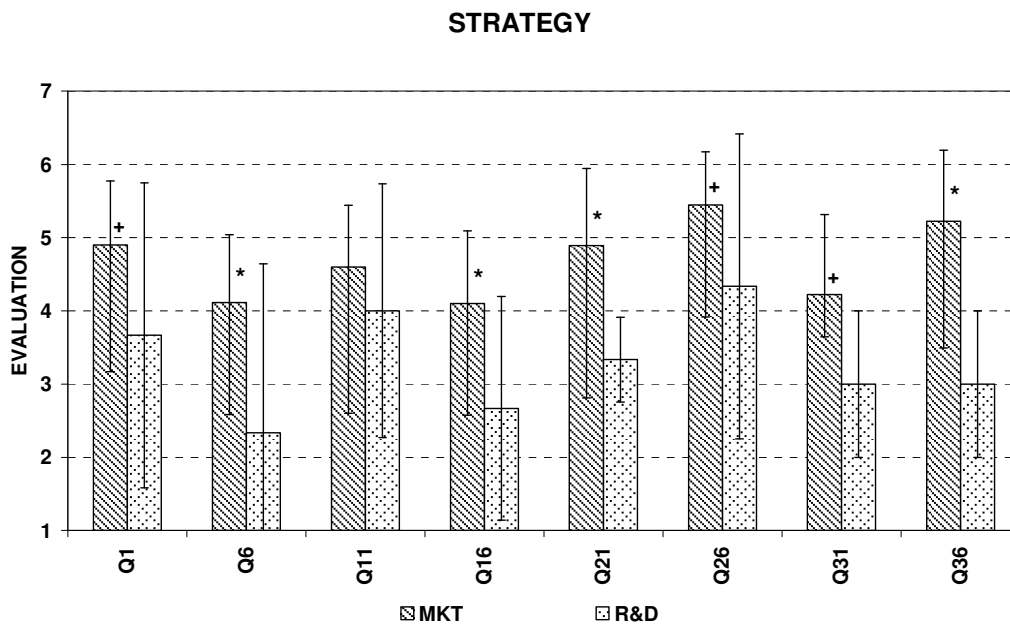
In a global point of view, we observe that marketers have a more optimistic perception of innovation implementation and effectiveness at the level of the firm than researchers and developers. In fact, it is important to emphasize how the R&D department globally gives a negative classification on the different issues, while the Marketing is significantly more positive, though not enthusiastic, having a quite down-to-earth perspective. Further, differences between the departments are statistically significant (with a 95% level of significance) in all dimensions, excluding the linkages dimension – here the difference is only indicative (with a 90% level of significance). The shorter relative distance of results between Marketing and R&D in the linkages' cluster may be explained as the result of R&D being, in one hand, the area with more responsibilities in establishing and maintaining connections with other institutions, such as universities, and, on the other, the area where the raw materials and technology suppliers (specifically related to this industry) are considered to have a more pro-active attitude.

One relevant result is related with the fact that both departments considered strategy as the cluster with better implementation within the firm. This theme is a hot issue in the studied beverage firm because in the last few years it has undergone several changes and alignments

concerning strategy, and a big effort has been made to communicate it internally and to help collaborators to assimilate these new orientations.

The clusters that have the worst results are learning and organization. This may be seen as a warning of the key actors in the innovation field, namely that the firm should reinforce its bet in education and increase the supporting platform to entrepreneurship, paying it worthy recognition.

Figure 2 reflects the results of the audit concerning the perceptions of the implementation of the firm’s strategy by the studied departments. As far as strategy communication, overall future goals and innovative paths are concerned, more significantly, how innovation and business strategy are linked and are perceived to develop (*cf.* Q6, Q16, and Q36), it is important to denote that R&D is more apart from these questions, having the Marketing personnel, on their hand, a more aligned perception with the firm’s commitments. Here the top management has a relevant role to play, sharing and supporting the firm’s innovative strategy, like it is supported by Booz et al. studies (1981), essentially on the R&D department which presents lower results on this aspect (*cf.* Q21 and Q26).



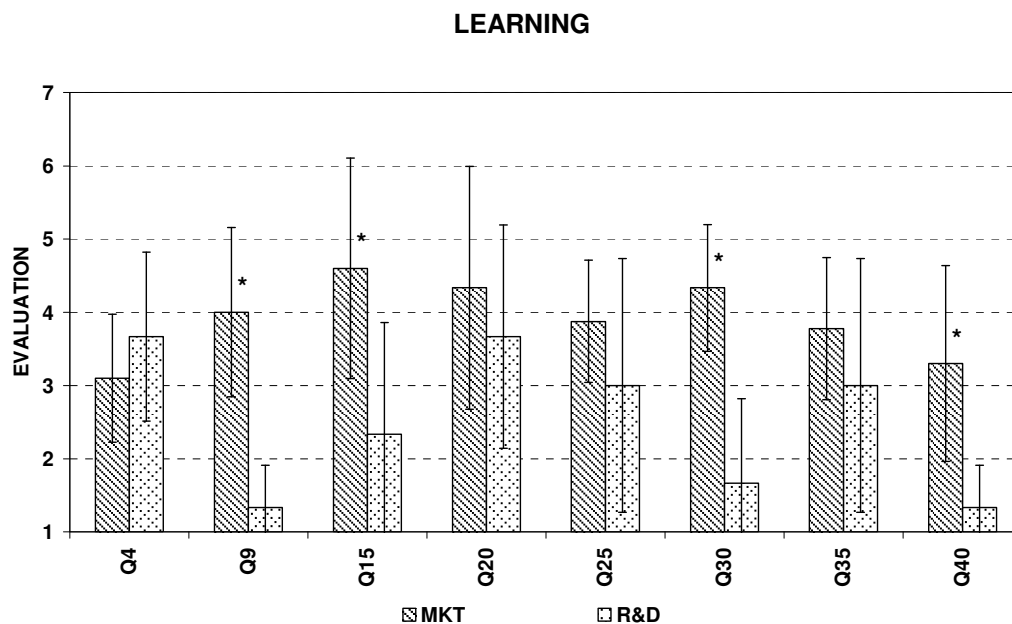
**Figure 2 – Marketing and R&D results for Strategy**

*Notes: Qn – Questions number n in the audit’s questionnaire (cf. Appendix 1)*

*\* - statistically significant difference (95%); + - statistically indicative difference (90%) and vertical intervals - standard deviation*

Nevertheless, Marketing and R&D are not so back to back on the issue of the firm's core competences (*cf.* Q11). Literature evidences how core competences have a crucial importance for competitive advantage in the innovation strategy application (Prahalad and Hamel, 1990; Tidd et al., 2005).

Figure 3 shows the audit results for the learning cluster. Though the learning path is imperative to improve future performance, the answers show a quite negative evaluation, minimizing it; having R&D an even more pessimistic perception than Marketing on this issue. The attention and time dedicated to learn with experience, namely with the mistakes from the past, and the ability to share these learnings with the rest of the organization (*cf.* Q9, Q15, and Q30) are considered very insufficient. Literature advises that quantitative analysis is important to help identify the areas for future improvement (Tidd et al., 2005), but here and once again Marketing and R&D have different views about the effective implementation of these mechanisms (*cf.* Q40). It is also of interest to refer that both department have similar perceptions about collaborators training and development, and about product and process benchmarking practices, though with a low relevance (*cf.* Q4 and Q20). Consequently, we may discuss that the less emphasis on the learning process is a worrying sign for the firm, which may jeopardize the future implementation of its strategy and at most its future self (Yang, 2005; Tidd et al., 2005).

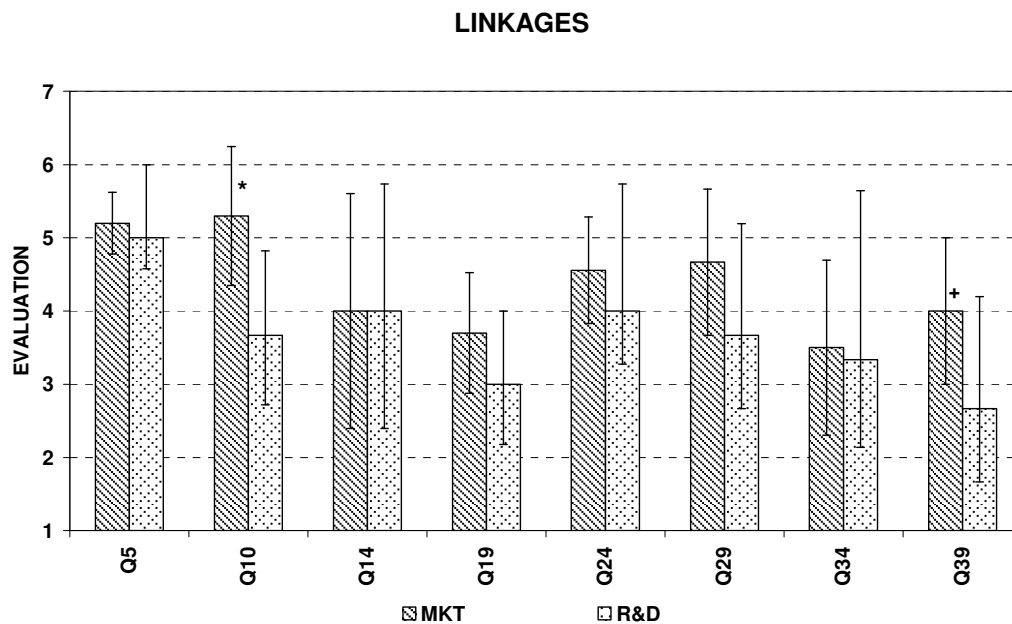


**Figure 3 – Marketing and R&D results for Learning**

Notes: Qn – Questions number n in the audit's questionnaire (cf. Appendix 1)

\* - statistically significant difference (95%); + - statistically indicative difference (90%) and vertical intervals - standard deviation

It is positive to evidence, like Figure 4 shows, that the linkages cluster is perceived in a similar way by the two departments. There are only two questions with statistical differences (cf. Q10 and Q39), concerning the relationship between the firm and the consumer, namely Marketing gives higher classifications than R&D, since this is the area with more responsibilities on the consumers' quantitative and qualitative research (product & packaging, concept and brand image). As far as external institutions are concerned, both departments share roughly the same perception about the essence of connections. Here we may underline the high evaluation given by both departments to the win-win relationship with the suppliers and the consensus showed in the responses. This is actually an aspect that Pavitt (1984) emphasizes on his taxonomy, since the beverage firm in study is in the boundary between supplier dominated and scale intensive.



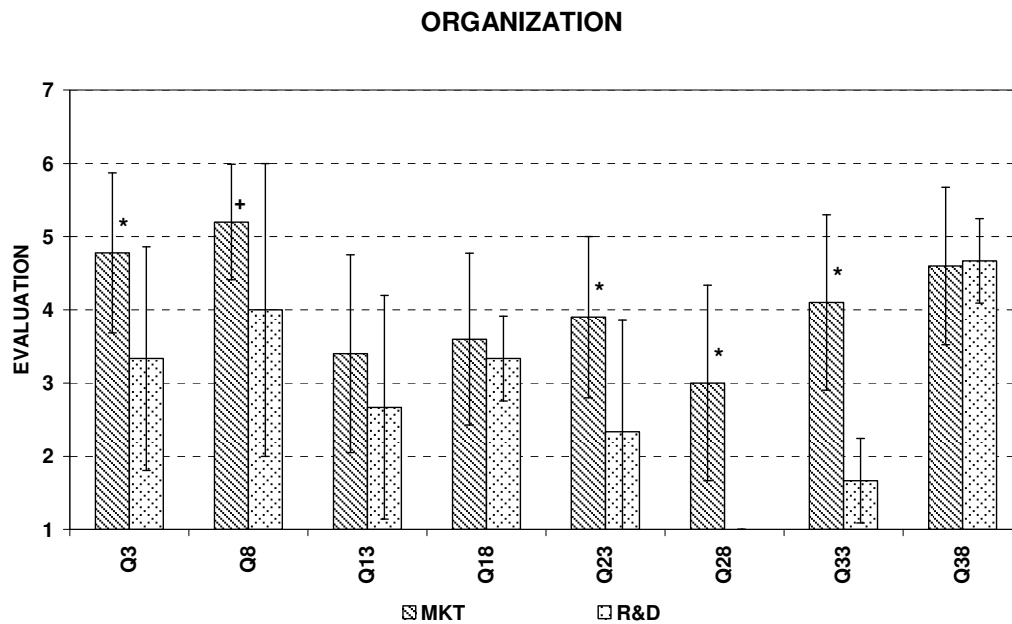
**Figure 4 – Marketing and R&D results for Linkages**

Notes: Qn – Questions number n in the audit's questionnaire (cf. Appendix 1)

\* - statistically significant difference (95%); + - statistically indicative difference (90%) and vertical intervals - standard deviation

Figure 5 reveals the overall low evaluation given to the organizational support of the innovative course. Moreover, we can observe significant differences as far as the real organizational contribution for the innovation is perceived by both departments, namely in terms of supporting structures and environment, effective communication, and reward and recognition system (cf.

Q3, Q23, Q28, and Q33). We must also highlight how on this last item is granted the worst grades from the two departments, giving R&D a consensual 1 in the Likert scale. These divergences contrast with the levelled results for teamwork (*cf.* Q38), because both parts consider that they work well in group, which is not the same as saying that they value the interdisciplinary work. In fact, this issue was encouraged on the work of Souder (1988) for triggering innovative performances.



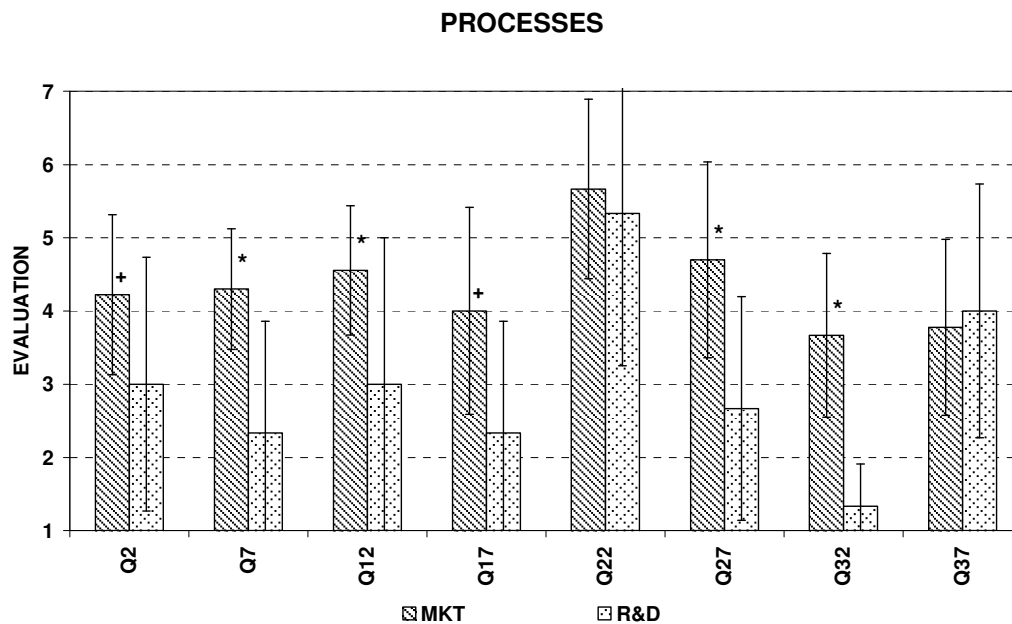
**Figure 5 – Marketing and R&D results for Organization**

*Notes: Qn – Questions number n in the audit's questionnaire (cf. Appendix 1)*

*\* - statistically significant difference (95%); + - statistically indicative difference (90%) and vertical intervals - standard deviation*

Figure 6 deals with the processes' cluster, revealing varied answers, though with a negative overall appreciation, which we may find quite worrying, since it is not consistent with Tidd's et al. (2005) conclusions on the importance of gathering and enhancing routines as a form to manage firm's core abilities. The mechanisms implemented by the organization in order to make everyone understands consumer needs, to early involve all departments in the development of the new products / processes, and to effective manage the successful implementation of the new ideas are questions differently perceived by Marketing and R&D (*cf.* Q2, Q12, Q17, and Q27). A divergence in opinions is also manifested about successful completion timing of innovation projects, budget compliance, and in clearness to select which innovation project to foster (*cf.* Q7 and Q32). However, the routines by which the organization systematically search for new

product ideas and allow small ‘fast-track’ projects to take place are equally assumed within the two departments (*cf.* Q22 and Q37).



**Figure 6 – Marketing and R&D results for Processes**

*Notes: Qn – Questions number n in the audit’s questionnaire (cf. Appendix 1)*

*\* - statistically significant difference (95%); + - statistically indicative difference (90%) and vertical intervals - standard deviation*

The results reveal, hence, how there is, within the organization under study, a lack of internal commitment to innovation strategy and of giving a central role to acquiring learning, in an integrative perspective, since it would develop collaborative relationships throughout the innovative path, not wasting synergies of vital significance.

## 5. Conclusions

In the present study we proposed to evaluate the perceptions Marketing and R&D have about the key aspects of the innovation performance, and if they were actually aligned. We conducted an innovation audit within these departments in a beverage firm, leader in its market, and which is considered to have a high degree of communication and proximity between those functions. Our study confirms that these conditions didn’t influence positively the perceptions of strategy, learning, linkages, organization and processes, which in fact are divergent, revealing statistical differences in several aspects.



The purpose when applying an innovation audit is to have a present picture of innovation performance, identifying the gaps, and its extension, which emerge from the comparison to the ideal. Globally, results indicate that a big effort has to be employed in order to close the gaps. Moreover, when we focus on the gaps between the two departments, we notice that, in general, R&D presents lower evaluations than Marketing towards the key innovation aspects discussed. It is our belief that the departments gaps should be worked primarily intra-department, because synergies can come about and an overall enhancement of innovation performance can be achieved, helping to solve the global organizational gaps, regarding the ideals. Further attention to these issues can be placed when recovering the work of Souder (1988), who stated the guidelines for improving the relationships between R&D and Marketing.

Conscious of the limitations a unique firm study represents, we suggest that this research should be extended to other firms of the same industry, and even to other industries, to confirm if the results point in the same direction. Another matter of interest to perceive its implications would be the geographic distance's impact in the relationships between Marketing and R&D, since in this case the two departments were geographically concentrated.

## 6. References

- AC Nielsen, Beverages Market Retail Panel Database, On and Off-trade, December-January 07.
- Booz, Allen, and Hamilton, Inc. (1968), A Program for New Product Evaluation - Management of New Products, *Corporate Document*.
- Booz, Allen, and Hamilton, Inc. (1981), New Products Management for the 1980s, *Corporate Document*.
- Chiesa, Vittorio (2000), Global R&D Project Management and Organization: A Taxonomy, *The Journal of Product Innovation Management*, Elsevier Science Inc., 17:341-359.
- Chiesa, Vittorio, Coughlan, Paul, and Voss, Chris A. (1996), Development of a Technical Innovation Audit, *The Journal of Product Innovation Management*, Elsevier Science Inc., 13:105-136.
- Cooper, Robert G. (1999), "The invisible success factors in product innovation", *Journal of Product Innovation Management*, 16 (2): 115-133.

Crawford, C. Merle (1979), New Product Failure Rates – Facts and Fallacies, *Research Management*, 22:9-13.

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Garrett, Tony C., Buisson, David H., and Yap, Chee Meng (2006), National Culture and R&D and Marketing Integration Mechanisms in New Product Development: A Cross-Cultural Study Between Singapore and New Zealand, *Industrial Marketing Management*, Elsevier Science Publishing Co., Inc, 35, pp. 293–307.

Griffin, Abbie, and Hauser, John R. (1996), Integrating R&D and Marketing: A Review and Analysis of the Literature, *The Journal of Product Innovation Management*, Elsevier Science Inc., 13:191-215.

Griffin, Abbie, and Hauser, John R. (1993), The Voice of the Customer, *Marketing Science*, 12(1), 1–27.

Gupta, Ashok K., and Wilemon, David (1996), Changing Patterns in Industrial R&D Management, *The Journal of Product Innovation Management*, Elsevier Science Inc., 13:497-511.

Hise, Richard T., Gillett, Peter L., Bushman, F. Anthony, and Caballero, Marjorie (1986), How Effective are Companies' New Products as a Strategic Weapon?, *Handbook of Business Strategy*, Boston: Warren, Gorham & Lamont, Ch. 8, pp. 1-14.

Hise, Richard T., O' Neal, Larry, Parasuraman, A., and McNeal, James U. (1990), Marketing/R&D Interaction in New Product Development: Implications for New Product Success Rates, Elsevier Science Publishing Co., Inc, pp. 142-55.

Instituto Nacional de Estatística (2006), Main Aggregates of General Government – Preliminary Estimates 2006, [www.ine.pt](http://www.ine.pt).

Laursen, Keld, (1997), “Horizontal diversification in the Danish National System of innovation: the case of pharmaceuticals”, *Research Policy*, 25: 1121.

Leenders, Mark A. A. M., and Wierenga, Berenda (2002), The Effectiveness of Different Mechanisms for Integrating Marketing and R&D, *The Journal of Product Innovation Management*, Elsevier Science Inc., 19:305-317.

- Lin, Bou-Wen, Lee, Yikuan, and Hung, Shih-Chang (2006), R&D Intensity and Commercialization Orientation Effects on Financial Performance, *Journal of Business Research*, Elsevier Science Publishing Co., Inc, 59: 679-685.
- Maltza, Elliot, Souderb, William E., and Kumar, Ajith (2001), Influencing R&D/Marketing Integration and the Use of Market Information by R&D Managers: Intended and Unintended Effects of Managerial Actions, *Journal of Business Research*, Elsevier Science Publishing Co., Inc, 52: 69-82.
- Moenaert, Rudy K., Souder, William E., De Meyer, Arnoud, and Deschoolmeester, Dirk (1994), R&D-Marketing Integration Mechanisms, Communication Flows, and Innovation Success, *The Journal of Product Innovation Management*, Elsevier Science Inc., 11:31-45.
- O'Brien, Jonathan P. (2003), The Capital Structure Implications of Pursuing a Strategy of Innovation, *Strategic Management Journal*, John Wiley & Sons, Ltd., 24(5):415-31.
- Pavitt, Keith (1984), Sectoral Patterns of Technical Change: Towards a Taxonomy and a Theory, *Research Policy*, 13: 343-373.
- Prahalad, C. K., and Hamel, G. (1990), The Core Competence of the Corporation, *Harvard Business Review*, 68:79-91.
- Rogers, E. M. (1983), *Diffusion of Innovations*, New York: Free Press, 3<sup>rd</sup> Edition.
- Rubenstein, A. H., Chakrabarti, A. K., O'Keefe, R. D., Souder, W. E., and Young, H. C. (1976), Factors Influencing Innovation Success at the Project Level, *Research Management*, 19(3):15-20.
- Sherman, J. Daniel, Berkowitz, David, and Souder, William E. (2005), New Product Development Performance and the Interaction of Cross-Functional Integration and Knowledge Management, *The Journal of Product Innovation Management*, Product Development & Management Association, 22: 399-411.
- Song, Michael, and Thieme, R. Jeffrey (2006), A Cross-National Investigation of the R&D-Marketing Interface in the Product Innovation Process, *Industrial Marketing Management*, Elsevier Science Publishing Co., Inc, 35: 308-322.

- Souder, William E. (1977), An Exploratory Study of the Coordinating Mechanisms Between R&D and Marketing as an Influence on the Innovation Process, National Science Foundation Final Report # 75-17195, Washington D.C.
- Souder, William E. (1987), *Managing New Product Innovations*, Lexington, MA: Lexington Books.
- Souder, William E. (1988), Managing Relations Between R&D and Marketing in New Product Development Projects, Elsevier Science Publishing Co., Inc, pp. 6-29.
- Souder, William E., and Sherman, J. Daniel (1993), Organizational Design and Organizational Development Solutions to the Problem of R&D – Marketing Integration, *Research in Organizational Change and Development*, 7:181-215.
- Swink, Morgan, and Song, Michael (2007), Effects of Marketing-Manufacturing Integration on New Product Development Time and Competitive Advantage, *Journal of Operations Management*, Elsevier Science Publishing Co., Inc, 25: 203-217.
- Tidd, Joe, Bessant, John, and Pavitt, Keith (2005), *Managing Innovation. Integrating Technological, Market and Organizational Change*, Wiley, 3<sup>rd</sup> Edition.
- Vollerthun, Andreas (2002), Design-to-Market: Integrating Conceptual Design and Marketing, *Systems Engineering*, Wiley Periodicals, Inc., Vol. 5, No. 4, pp. 315-326.
- Wind, Yoram (Jerry) (2005), Marketing as an Engine of Business Growth: a Cross-Functional Perspective, *Journal of Business Research*, Elsevier Science Publishing Co., Inc, 58: 863-873.
- Yang, Jie (2005), Knowledge Integration and Innovation: Securing New Product Advantage in High Technology Industry, *Journal of High Technology Management Research*, Elsevier Science Publishing Co., Inc, 16: 121–135.
- Zahra, Shaker A., and Nielsen, Anders P. (2002), Sources of Capabilities, Integration and Technology Commercialization, *Strategic Management Journal*, John Wiley & Sons, Ltd., 23: 377-398.

## Appendix 1 – Questionnaire form applied

### INNOVATION AUDIT

#### Statement

Score: 1 = Not true at all to 7 = Very true

- Q1. People have a clear idea of how innovation can help us compete
- Q2. We have processes in place to help us manage new product development effectively from idea to launch
- Q3. Our organization structure does not stifle innovation but helps it to happen
- Q4. There is a strong commitment to training and development of people
- Q5. We have good 'win-win' relationships with our suppliers
- Q6. Our innovation strategy is clearly communicated so everyone knows the targets for improvement
- Q7. Our innovation projects are usually completed on time and within budget
- Q8. People work well together across departmental boundaries
- Q9. We take time to review our projects to improve our performance next time
- Q10. We are good at understanding the needs of our customers/ end-users
- Q11. People know what our distinctive competence is - what gives us a competitive edge
- Q12. We have effective mechanisms to make sure everyone (not just marketing) understands customer needs
- Q13. People are involved in suggesting ideas for improvements to products or processes
- Q14. We work well with universities and other research centres to help us develop our knowledge
- Q15. We learn from our mistakes
- Q16. We look ahead in a structured way (using forecasting tools and techniques) to try and imagine future threats and opportunities
- Q17. We have effective mechanisms for managing process change from idea through to successful implementation
- Q18. Our structure helps us to take decisions rapidly
- Q19. We work closely with our customers in exploring and developing new concepts
- Q20. We systematically compare our products and processes with other firms
- Q21. Our top team have a shared vision of how the company will develop through innovation
- Q22. We systematically search for new product ideas
- Q23. Communication is effective and works top-down, bottom-up and across the organization
- Q24. We collaborate with other firms to develop new products or processes
- Q25. We meet and share experiences with other firms to help us learn
- Q26. There is top management commitment and support for innovation
- Q27. We have mechanisms in place to ensure early involvement of all departments in developing new products/processes
- Q28. Our reward and recognition system supports innovation
- Q29. We try to develop external networks of people who can help us - for example, with specialist knowledge
- Q30. We are good at capturing what we have learned so that others in the organization can make use of it
- Q31. We have processes in place to review new technological or market developments and what they mean for our firms strategy
- Q32. We have a clear system for choosing innovation projects
- Q33. We have a supportive climate for new ideas - people don't have to leave the organization to make them happen
- Q34. We work closely with the local and national education system to communicate our needs for skills
- Q35. We are good at learning from other organizations
- Q36. There is a clear link between the innovation projects we carry out and the overall strategy of the business
- Q37. There is sufficient flexibility in our system for product development to allow small 'fast-track' projects to happen
- Q38. We work well in teams
- Q39. We work closely with 'lead users' to develop innovative new products and services
- Q40. We use measurement to help identify where and when we can improve our innovation management