



## **CHALLENGES FACING THE MARKETING OF SCIENTIFIC AND RESEARCH INSTITUTES**



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### Summary

This article presents the challenges that scientific research institutions face in terms of their marketing, which have been divided into two groups of those associated with internal marketing and those linked to external marketing. The most significant and important determinants that constitute challenges to both internal and external marketing were described. The key aspects of each of the identified challenges were indicated, as was their impact on the implementation of the marketing policy at institutions.

**Keywords:** marketing scientific institution, scientific and research market, product, SAVE

## Preliminary considerations

The marketing of a scientific and research institute in Poland poses an immense challenge for the institute and its staff due to the growing globalisation of markets, the nature and dynamics of socio-economic transformations and challenges on an international and local level, as well as behavioural changes of market participants. What with the still emerging scientific research market in Poland over the last few decades, the relatively limited marketing experience of its participants and distrust towards the tools that it harnesses which are being accentuated by scientists and researchers, the adoption of a suitable marketing policy on the market leaves a lot to be desired. On the other hand, however, the realities of the functioning of any contemporary market and the resulting experience leave no doubt as to the fact that without marketing a market participant on the supply side has no chance of survival, and particularly development. In the case of scientific research institutes, there is another even more specific, complex and often requiring lengthy education of potential buyers/users/clients matter of solutions entailed in the offered products, which directs attention to the market potential that tools supported by information technology has. The outlined circumstances make it necessary to employ pro-active and diverse marketing actions that are supported by the systematically developed palette of available marketing tools mentioned earlier. They open up new prospects in the process of selecting the strategic solutions by the participants of this market and offer comprehensive set of instruments necessary for their implementation. Another fact that should be taken into account is that the rules of functioning of this market are focused on and highlight new and often unprecedented market values (value for the customer) that result from the implemented innovative, re-innovative and revitalisation processes. Thus, they require a different, non-standard approach due to the generation and satisfaction of unspecified and often difficult to understand needs by clients, which require very precise formulation, identification of their utility and their comprehensive explanation; in order to avoid misunderstandings and redundant discussions.

Marketing of scientific research institutes is a very broad and broad spectrum of tools and solutions enabling specific results to be achieved,

like: segmentation of the market and selection of target segments, preparation of a marketing strategy that will allow the shaping of the market position of the institution and its products, selection of the rules and strategies for the positioning of its products, selection of tools and forms of communication with its participants and many others<sup>1</sup>. It should be treated in categories of the institution assuming a new orientation whose guiding principle will be the systematic development of formed relationships between stakeholders (mainly participants) of the target market.

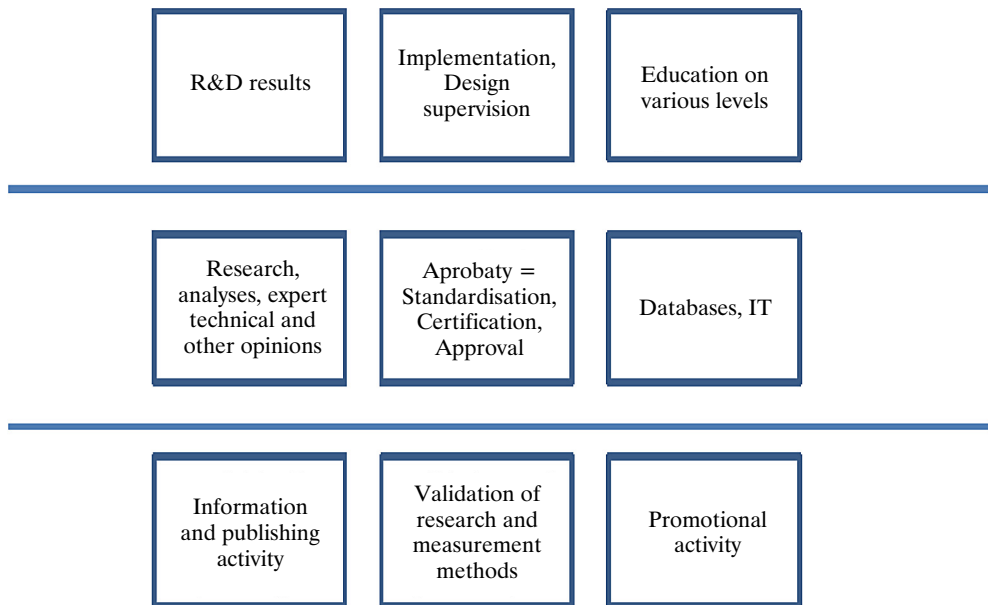
### **R&D institute portfolio as a reference point**

The starting point to designate and assess the role, time and significance of scientific research institutes in the near and more distant environment; thus, mainly among sector institutions and the whole market is its product portfolio. Hence, this is an offer of goods and services that may be supplied and rendered to potential customers whose multi-criterial evaluation is made through the prism of (Fig.1):

- Their competitive position in the context of the "product architecture" and its determinants;
- The identification and sale of the value of individual, specific elements of the architecture;
- The adjustment of portfolio elements to given client and market trend segments;
- The establishment of key values for the "client/user/agent" as the determinant of market communication and purchase (what I have, and how to deliver and sell it);
- The development of business solutions (business models) enabling their use.

The reality of the scientific research market in Poland that started to form its structures in this way over the last decade and is in the phase of permanent development has led to the vast majority of market participants on the supply side having a very broad portfolio<sup>2</sup>. It is usually characterised by diversity and a clearly very different shape of product characteristics

Figure 1. Scientific research institute product portfolio



Source: Own study based on: A. Slotorsz, W. Cichoń, *Marketing instytutów naukowo-badawczych w świetle obecnych uwarunkowań organizacyjno — prawnych*, Marketing instytucji naukowych i badawczych, Institute of Aviation, Warsaw 2014; Act on Research Institutes of 30 April 2010; Higher Education Law Act with amendments of 27 September 2005.

comprising the scientific research institute market offer. Despite an identical and common core in the form of knowledge being present in both of them, it lacks a clear and transparent outline of the "product architecture." Knowledge undoubtedly is a fundamental competitive and market success factor, and bolstered by the resources and skills held and their corresponding utilisation, it potentially becomes the source of creating the values sought by the client. Nevertheless, without a clear and transparent architecture flowing from the market (business) strategy, it will be difficult to implement the market strategy addressed to different segments of the market. The focus in the implemented marketing strategy of every scientific research institute should be to constitute a clear exposition of key values for the "client/user/agent" as the determinant of market communication and purchase (what I have, and how to deliver and sell it).

In order for this to happen, the individual values of specific elements of the architecture have to be identified and verified earlier in terms of their potential purchasers. This makes it possible to designate a collection of key values for the "client/user/agent" as elements of the market communication mentioned earlier, where the main task should be to broadcast market messages explaining the source of the benefits, the technology of the proposed solution and the resulting utility (definite precedence of the meaning of the message content over the communication process) in order to educate all the participants involved in this process. The second issue of importance requiring taking into account in the marketing strategy which is connected with the portfolio is a clear diversification of the offer according to the specifics of the offered goods and services and the conditions for its commercialisation or sale. In this fragment of the strategy, great flexibility and the freedom to move to the presented body of the offer are required, illustrating what I have and in what form am I to provide and potentially sell/make available/grant them. The offer itself may, in certain circumstances, also constitute a component of an expanded model as the prepared business solution. The business model proposed by the scientific research institute itself may also be a form addressed to a specific group of stakeholders, not necessarily directly interested in the use of a specific solution. One of its elements may be an offer to enter into a financial investment, use of the infrastructure possessed thereby or the temporary use of staff and equipment resources.

### **Internal and external marketing challenges faced by R&D institutions**

There are many challenges that were initially mentioned in the introduction and in the discussion of the portfolio that are approached mainly as problems arising in the commercialisation of solutions, forging of relationships with selected market participants, formation and development of the communication strategy and finally the structure and implementation of the marketing strategy that appear in connection with their implementation by the scientific research institute. Their number, scope and significance for the strategy largely depends on the specifics of

the given sector market, the width, length and depth of the product portfolio held by the institution, its organisational and marketing culture and experience in placing new goods and services on the market. In general, the challenges that their clear presentation faces can be divided into two groups: the first associated with internal marketing, and the second concentrating on "classic" marketing actions undertaken in relation to stakeholders (external marketing). In the case of internal marketing, they result from its substance, according to which company employees are internal clients. Meeting their needs is intended to strengthen motivation and focus on customer orientation, the internal market and sales awareness<sup>3</sup>. This is of particular importance for scientific research institutes since the number of stakeholders is, in essence, potentially numerous and diverse. If the category of scientific research institution employees and the tasks performed by them is additionally taken into account, this issue must be approached in two dimensions: understanding the market economy philosophy and the market competencies held. For scientific research institutes, the market economy philosophy should be reflected in actions leading to greater knowledge of the market mechanisms on the scientific research institute and target markets (client/buyer/end customer is the most important), establishing partnership-based relationships and relationships with the environment as well as a strategic perspective on the competitive position of the institution and the products offered by it. Staff competencies, on the other hand, mainly include knowledge and skills and abilities associated with the preparation of an information base for marketing decision-making, familiarity with marketing tools, building a marketing strategy based on the resources of the institution and its implementation programme (marketing plan) as well as the verification and evaluation of the outcomes of its implementation. Internal marketing also encompasses systematic training, meetings and employee integration in order to efficiently and consistently pursue the institute's strategy, as well as undertake actions facilitating internal communication, organisational culture and internal image<sup>4</sup>.

External marketing challenges are different in nature and primarily are directed at harnessing the available set of marketing tools (systematically developed thanks to advances in information technology) for the implementation of market objectives. It should be borne in mind, however,

that use of marketing tools should be preceded by a good reconnaissance of the institutional, communication and distribution infrastructure of the serviced markets, their operational environment, purchasing decision making processes in relation to specific product categories included in the portfolio, values sought after by clients (key customer values) or ultimately potential threats and advantages stemming from the use of available marketing instruments, the necessity of integrating them and the effects of the synergies. Hence, the basic path of action of scientific research institutes should be focused on the systematic creation of information resources describing potential customers, competition and the conditions for use of the marketing mix tools, as well as continuous training of marketing staff.

Turning to discuss the resulting challenges, it will be difficult to present all of them particularly that many of them are of a sectorial (market, entity) and temporary nature (variability in occurrence). Thus, special attention has been paid to those that should be considered in the opinion of the author of the article as of particular importance and significant for ensuring an effective and efficient marketing policy is adopted by scientific research institutes. In line with the convention adopted earlier, the challenges for internal marketing and external marketing shall be discussed separately; however, it is difficult to separate them off in true market operations of any entity. This is the case because they are interlinked and integrally determine the process of creating and executing a set of marketing tasks undertaken by a scientific research institute, which means that an interdependence between their occurrence and interaction can be seen in many deciding situations, but the coincidence of challenges also takes place. The categories of challenges mentioned in Table 1 should be treated as the most significant for achievement of success in the marketing policy of a given institution. The first in the group of internal challenges that should be noted is the issue of the institute's identity and it should be viewed through the prism of new elements which should complement the present identity that has been formed and perceived. Hence, the "refreshment" of the present identity with elements possessing the potential generated by information technology, mostly by the virtual environment functioning on the basis of Internet-based solutions is absolutely vital.



Table 1. Internal and external marketing challenges

Internal marketing challenges	External marketing challenges
1.Identity of the scientific research institute 2.New product development process 3.Internal communication	1.Image of the scientific research institute 2.Commercialisation process support 3.Co-operation channels/platforms

Source: Own study.

The organisation and functioning of the website should be pointed out in particular, which thanks to its user-friendly layout and information supplied has a decisive impact on the evaluation of a given website (perceived usefulness of the website and the institution)<sup>5</sup>. The institution should first and foremost want to meet the needs of users/potential clients during their virtual visit at the entity, hence, attention should not only be paid to the written content and the manner in which it was presented (graphics); but it should be enriched by iTunes or You Tube, a virtual tour of the institution, promotional films and other available solutions. Another element complementing contemporary identity is a social media presence as well as SEM and SEO. The mentioned elements can undoubtedly have an impact on the "refreshment" of identity, and will certainly expand the way it is perceived with new aspects. The second issue brought to attention in the case of internal challenges is the understanding and practical execution of the new product creation process (usually innovation) at a scientific research institute. Without going into the details connected with the stages and the course of this process, the basic problem is in the approach to the commercialisation phase and its role and place of marketing in the implementation process. Extensive research evidence and innovation commercialisation practice in the case of various different product categories indicates two approaches to its implementation as a process, namely: Narrow and broad ("sensu stricto" and "sensu largo") approach. In the first case, commercialisation is treated as the last and final stage of an innovation development process or preparing it to be placed on the market (mainly FMCG products). The broad approach is when the innovation process is treated as a strategic view of the market and takes into account the position of the entity in the context of building competitive

advantage and the business model creating the added value for stakeholders. It corresponds to a very popular term "from the idea/concept to the market/consumer" and includes everything that is connected with "the creation of a product and placement on the market" (results of R&D work, technology, industrial products). In every case, however, it should be borne in mind that the course of the commercialisation process, regardless of the adopted approach, is different which results from the nature of the product, the market and the buyers<sup>6</sup>. In this process, marketing actions constitute the foundation for facilitating the entire process, irrespective of the sensu stricto or sensu largo approach. The approach taken only impacts the place (stage), the type, the material scope of the harnessed instruments and their role in the formation of the socio-economic value of innovation for stakeholder, as well as the course and partial and comprehensive assessment of the pursued market strategy for the implementation of innovation. What is important here, however, is that commercialisation requires a professional approach to the undertaken marketing actions, which in turn are based on the competences and experience of marketing staff. Hence, scientific research institutions, due to their lack of competencies in this scope (lacking human resources and experience), are increasingly handing over within outsourcing the whole or particularly significant elements of commercialisation to competent institutions (e.g. technology transfer centres or technology parks as innovation support institutions) to companies specialising in the management of these kinds of processes. The last element falling within internal challenges is internal communication which plays a fundamental role in the fulfilment of internal marketing objectives comprising of integration of employees with the aim of implementing the company strategy and initiating internal changes<sup>7</sup>. It should particularly be viewed in the context of the organisational structure, human resources and symbolism and significance of the internal language of the organisation (understanding and communication of values). The organisational structure as a reflection of the network of connections between separate organisational divisions and the organisational cells that they contain has a decisive impact on the communication between them. In a scientific research institute whose role and marketing tasks have not been unequivocally understood and reflected in its structure, usually reduced to an support function, an appropriately built organisational

structure should not just take the formal flow of marketing information into account. In the internal marketing of scientific research institutes important tasks should be assigned to informal communication, which is performed in the form of an exchange of views and ideas, discussions, and the submission of comments and ideas. These complement the formalised flow of information resulting from adopted rules and regulations, regulations or programmes. It is people that are employed there and who are participating in the management processes and in the shaping of communication (symbols and meanings) that play a major role in the way the flow of information system functions in institutions. Employees participate in formal communication and implement its guidelines but, on the other hand, also create various forms and solutions for informal communication. Each use a developed system of symbols and meanings to communicate with each other and to interpret the tasks and results obtained. A scientific research institute, due to the different tasks being performed and the techniques of their evaluation and verification (e.g. assessment criteria for scientific and creative achievements, assessment criteria for scientific potential, and assessment criteria for material gains) an internal communication system has to be devised that corresponds to the requirements of sector acts and regulations.

In the group of challenges faced by external marketing at scientific research institutes, the image of institutions is of fundamental importance, which in the case of these entities plays a leading role in establishing trust towards the institution and the portfolio offered by it/ Most of all, however, it is a case of competitive advantage on the scientific research institute market, namely, the reflection of the sought-after and valued market values generated by the institution and which no other market player possesses. It is also an effect of the right approach to communicating the identity of an institution and reception of the messages transmitted by stakeholders. This is particularly difficult due to the necessity of a skilful, comprehensible and acceptable way of providing information on the innovation values offered in a knowledge-intensive economy. Thus, it is important in this case to display the competences, openness and cohesion of the message sent to stakeholders. The use of the right set of marketing instruments is also decisive in image shaping, in this case, shifting away from the standard 4P to SAVE (Solution; Access;

Value; Education)<sup>8</sup>. This means focusing on presenting the functionality, utility and relationships between the benefits and the offered price for the solution and conducting the broadest form of educational activity addressed at stakeholders. The second external challenge is connected with the necessity of obtaining market support for commercialisation processes mentioned above when discussing the internal marketing challenges linked to the development of new product. Generally, without going into a detailed discussion of the dilemmas of commercialisation (a large body of literature is available on this topic), the basic issue is reduced to the verification of the market proposal as innovation that satisfies identified consumer needs and expectations, the supply of reasons to prepare a marketing plan facilitating efficient and effective placement on the market, selection of sales forecast variants and anticipation of innovation lifecycle phases on the market. The second issue is the multifaceted and multidimensional competitive analysis of proposed innovation solutions, their positioning and development of procedures permanently modifying and complementing the market offer. Scientific research institutions in very many cases do not have the human resource tools that would be capable of solving the discussed problems. The last challenge in this group is the shaping of channels/platform of co-operation, treated as forms of contact with practice, opportunities for exchange of experiences, collaboration in the development of research procedures and rules for making the generated values available. The development of platform with offers of professional support of scheduled marketing actions also falls within this option of challenges. In concrete terms, the creation of groups/collections of institutions is recommended that based on the competences and experience held by them will provide support in the preparation of expert technical and other opinions, market analyses, standardisation and certification procedures and the development of databases (information resources). This is indicated by current trends for the development of communication and sales channels on target markets that prefer direct communication with the client and other market players, the creation of collaboration platforms with the market participants facilitating the exchange of experience and the creation of new and use of established networking links. This may be treated as creating within the group of the integrator of information,

educational and publishing activities, leading to the building of networks linking various market participants that may potentially take part in resolving the reported needs of target customer segments and finding new areas of activity.

The various aspects of scientific research institution marketing outlined above indicate the necessity of a substantial and meaningful reference to the marketing actions undertaken at scientific research institutions and emphasising their importance and significance in the shaping and making available of new values to potential clients. This does not result directly from the difficulties in using the available set of marketing tools but mainly from the diversity and the relatively heterogeneous problem issues, that are to form new aspects of the realised marketing strategy of institutions.

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