

CONTEMPORARY FORMS OF PRESENTATION OF RESEARCH AND DEVELOPMENT MARKETING IN THE CZECH REPUBLIC

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The aim of this popularizing scientific article is to briefly describe the utilization and presentation forms of the research and development marketing that are used in the Czech Republic, especially the elements of marketing research, marketing mix and marketing communication in this area. Research and development and related innovations are an integral part of the innovation process and are one of the most important factors for ensuring the competitiveness of individual entrepreneurs and as well the whole countries. Therefore a growing importance is being paid to the support of research and development and to the subsequent popularization and commercialization of the achieved results from the field of science and research in advanced countries. The article also mentions the forms of support funding of research and development in the Czech Republic and international comparison of expenditures on R&D.

Keywords:

Research and development, innovation, marketing research, marketing mix, marketing communication, marketing tools, popularization, commercialization, R&D expenditures.

Introduction

Research and development should be one of the priority topics of every advanced economy. In conditions of the Czech Republic, insufficient attention is paid to the research and development, whether in terms of the amount of their funding or the promotion and popularization of their results. Promotion and popularization do not receive enough publicity and thus awareness of the results of the research and development (and certainly, here it is something to build on) is small and it can be said as inadequate. Properly oriented marketing activities should help change this situation and through their marketing tools, in particular form through the elements of marketing research, marketing mix and marketing communication, it should improve the overall awareness of the public, entrepreneurs, investors, but also political representatives on the results and current projects of science and research. Thanks to extensive promotion and awareness of the results and projects of the research and development, marketing should also help in finding suitable and intensified forms of funding for the research and development activities. It is very important the method of implementation and usage of the marketing in the research and development area. Appropriate and effective use of all available marketing tools will effectively and significantly help to intensify of cooperation between research organizations and industry sector resulting in increased competitiveness of particular manufacturing companies.

Ensuring of high level of competitiveness must be a priority of every entrepreneur and manufacturing company. If the competitor offers to the market products with the same (or even better) parameters in comparison with our products, becomes our company uncompetitive, and thus, the company has no hope of survival in today's global world. In order Czech firms can compete in a fierce competition and retain their competitiveness not only on the Czech market, but also

in a European and global scale, it is essential to promote research and development from both attainable financial resources – private and governmental. Next, very important step, is just to ensure the effective use of those financial resources with the help of marketing tools. The achieved results should be adequately popularized as close as possible to the general public, and especially to address in an active form the potential customers, who can exploit those results commercially.

According to M. E. Porter, competitiveness is based on identification and exploitation of competitive advantages that would respect the specifics of national economy and individual sectors. Competitive advantage grows essentially from the value that the company is able to create for its customers. It may take the form of lower prices for equivalent products, services or provide specific benefits that more than compensate for the higher price.[Porter 1996]

Research and development and particularly the forms of their support are a global issue and have already been the subject of a number of different policies and studies. Each country invests in research and development in particular for that reason to have constantly a competitive advantage over other countries and to manage successfully export its products to other countries and regions as well, and thus to increase its competitiveness and the level of its balance of payments. The topic of supporting research and development has also the political aspect globally – the constant rivalry of individual countries, but also the individual continents, who will be the biggest global innovator, who will come to the market with the best products and technologies; it has a number of other aspects from the political to the military ones. Key areas where research and development play a crucial role can be found quite a big number (military industry, nuclear research and development, space research and development, medicine, pharmaceutical, petrochemical, food processing industries, automotive, etc.). Each of the world players are trying to indicate the direction in the given research and development area and to constantly come up with new ideas and inventions that will ensure global leadership and competitive advantage and exclusivity before others.

1. Utilization of marketing in the research and development area

Marketing in research organizations or innovative companies should be used in differentiation themselves from their competitors, having a right product available in the right place at the right time. These marketing activities must be in adequate form provided and communicated to the potential customers or project partners. The research and development specific outcomes, in which are the potential customers interested in, are above all, sale of a patent, industrial or functional model, know-how, software, technology or license.

Utilization of marketing has more options and possibilities especially in applied research and development, than in basic research. Should research and development create real value for the company, must be directly linked to real customer demands. Commercial (and also marketing) failures of products based on research and development are, by launching the new innovative product to the market, ordinarily more frequent than the technical failures. The reason is usually insufficient knowledge of the market (the needs of clients or users and competitors). For the company management should research and development marketing activities represent important information base and therefore as well adequate importance should be paid to these activities, because marketing can help to pursue the common goals of commercial success and growth of the company. This change of mind and management style is still huge issue at the Czech companies, because it requests integration of research and development marketing activities (with deep market knowledge, especially knowledge of the needs of clients) into the company top priorities and strategies.

Concentration on utilization of marketing, should be based on a certain combination of two aspects of the creation of research/innovation incentives, which are „demand pull“ and „technology push“. The aspect of demand pull is connected with finding the best ways to meet the needs of existing clients or emerging customer demand. However, it leads primarily to improve existing products and technologies or rather to product and process innovations of lower orders. The risk here may lie in the progressive lag behind the competition. On the contrary, technology push directs to the finding of a competitive application for new products resulting priority from the results of research and development, to the generating of new markets for conceptually new (different) products. The result is often breaking and radical innovations. They are naturally associated with a higher risk, but on the other hand, they also create a potential for high returns and profits. Willingness to this orientation in companies is therefore determined with an often lacking risk management and its insufficient knowledge as well. In the context of the use of „technology push“, it is just important the formation of new needs for potential clients, but that requires an advanced and effective marketing already. [AVO 2013]

2. Strategic orientation of research and development marketing

There are many definitions of marketing and views of marketing activities. In the concept of P. Kotler and G. Armstrong, marketing is defined as „a social and managerial process by which individuals and groups satisfy their needs and desires in the process of production and exchange of goods or other values“. Many people believe that marketing is simply the science of sales techniques or advertising and no wonder. Every day we are literally bombarded with TV ads, new advertisements or campaigns in support of sales, business calls or presentations on the Internet. Sales or advertising are just tips of the iceberg. Although very important, they are only two of the many functions of marketing and by far not the most important. Today it is necessary to understand under marketing not only the tools that are used within the already obsolete meaning only to make sale – to convince and sell – but in terms of a new meaning it attempts to meet the needs of customers. [Kotler 2004]

The basic task of the marketing of research and development should be the promotion and sale of the results and findings of scientific research activity to potential users and customers. If I mainly focus on the promotion, popularization and sale of the results of applied research, customer portfolio consists of four main target groups:

- **Industrial companies** (application domain – industry, firms) – since those are the main customers and users of the results of research and development. Marketing activities addressed to the application sector can provide financial support to the research centers through the sale of technologies or knowledge (licenses, patents, etc.),
- **Public sector** (government, government organizations, various ministries, agencies, etc.) – because from this sector flows a substantial portion of finance to support research and development, it is essential to consistently convince particular organizations about the need to support research and development. Different strategies (to enhancing competitiveness, export promotion policy, support of research and development, innovations) are created usually just by the public sector on the governmental and national level.
- **Students (universities, secondary schools)** – promotion of research and its results in order to attract talented young people to research work.
- **General public** – because also the public is to be convinced that investments in science and research are reasonably spent

investments into the future, despite the fact that it is essential that the public knows how it is dealt with taxpayers' money. It is necessary to present the personalities of science and research to the public (professional and non-professional) and to show successful projects and results.

Marketing of research and development is a discipline that must clearly identify all the target groups and to offer them the required products and services using marketing strategies and the properly set marketing mix. Another reason for promoting science and research is to attract and motivate talented young people into this field whether to study technical subjects or carry out scientific work later. Lack of good scientists is currently a big issue and the subject of many studies and strategies that should change this reality.

According to DATAMAR, a company specializing in marketing research and development, it is necessary to continuously build a good image of science and research and ensure resources (financial and human) for science and research so that individual scientific research projects and activities can be successfully implemented, see Figure 1. [Mlynarova2012]

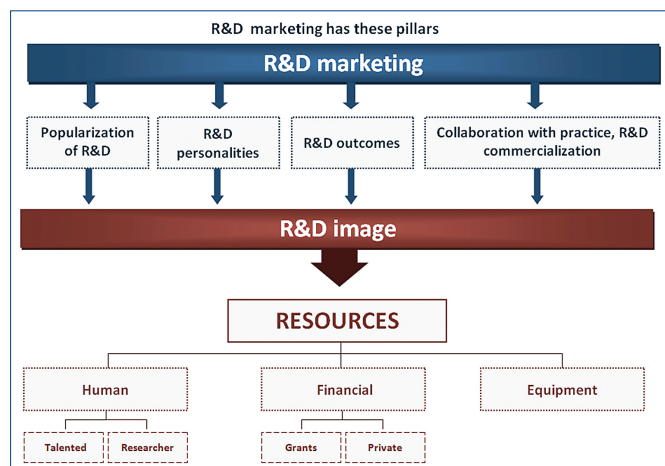


Figure 1. Marketing pillars of research and development

3. Forms of marketing research in research and development

Research and development organizations and innovative companies must in the beginning of their specific marketing strategies define their target segments. For basic research is the target segment especially the government sector and students or eventually the general public. Marketing research in the field of applied research and development has to obtain information and anticipated trends from their existing and as well potential new customers which are mainly the manufacturing companies, because these companies are confronted with the real market situation. It means to ascertain the market position of the company or organization (its product portfolio) and to identify market opportunities (with regard to the behavior of clients and competitors) and possible threats (risks). There is also a question, at what market we want to focus on (domestic, foreign, global).

There are two types of marketing research: primary and secondary. Primary research (field research) is that which is carried out first in order to obtain certain information and data, and therefore we have a chance to have the following information obtained first. The types of primary marketing research are qualitative research and quantitative research. Secondary research (desk research) processes information and data obtained from the previously published, freely available or bought resources. Here, we share information with others and it is to us how we can still profit from them, as the case may be. [AVO 2013]

4. Marketing mix of research and development

Marketing tools and marketing mix of research and development must be analogous to marketing tools that the marketing has available to implement its strategic and tactical plans – these are symbols, introduced by McCarthy, indicating:

- **p – product**
(company/corporate policy related to products),
- **p – price**
(price and a company's pricing policy associated with products),
- **p – place**
(product placement or distribution and distribution policy),
- **p – promotion**
(promotion/advertising, marketing communication),
- **p – people**
(human resources),
- **p – partnership**
(partnership relations). [McCarthy 1960]

Those marketing tools, which are understood as a set of internal factors of a company, must be best combined and harmonized in order to best match the market requirements and conditions. However, the marketing mix of science and research is a set (system) of very specific tools whereas attention is paid gradually (mostly) to all the tools of the marketing mix.

According to Professor Sevcik from Prague Charles University, marketing in the field of research and development features with the following analyzed characteristics:

- **promotion and education** – which are the most essential integral part for creating the image of a R&D organization and must be oriented to potential customers,
- **product** – the content and form of R&D activities that demonstrate own possibilities, determine the field of activity and identify the scope of direct competition,
- **place and time** – where and when are R&D activities requested and offered, are the decisive criterion for scheduling R&D activities,
- **price and cost of service** – price and cost of R&D activities which enable the economic assessment of activities, their optimization and opportunities for further development, are the most important component of the existence criterion of an organization,
- **process** – the issues of solution forms of R&D activities that analyze the opportunities for cooperation and contractual arrangements,
- **people** – background of co-workers, their expertise, age composition, identification with the goals of an organization, indicating the feasibility of the planned project, further development of the organization and it is the key to its personnel policy,
- **physical evidence** – the first impression conveyed by the organization and associated with its identity, including employees and the exterior, which is critical for customer acquisition,
- **productivity and quality** – which are the main component of the success criterion of an organization. [Sevcik 2012]

The marketing mix of research and development is mainly characterized by its complexity. A crucial issue is the focus on the customer – impressing (addressing) customers with the results and outcomes from science and research projects and activities and their possible application in the market. The results of scientific research can ensure companies from the industrial sector a considerable competitive advantage, these results must be presented to potential customers in the first place but particularly clearly in such a way so that they can be effectively used and commercialized subsequently by individual economic entities (commercial companies).

4.1. Marketing communication in research and development

Marketing communication has a specific function within the marketing

mix – to inform potential customers, especially the industrial sector on the outcomes of R&D activities and projects and their possible use and subsequent commercialization, it has to strengthen the ideas of potential customers on the outcomes of scientific activity and to convince them to implement and apply the specific results in practice. The aim of marketing communication may also be achievement for the target group to take an idea, which is required in the area of science and research primarily. For this target there are available the following resources which are referred to as a communication mix, see the definitions of P. Kotler and G. Armstrong: „Marketing communication mix is a set (system) of tools consisting of advertising, personal selling, sales promotion and public relations that are used by a company for a persuasive communication with customers and meeting marketing goals“.

- **Advertising** – any form of non-personal paid presentation and sales promotion of products, services or ideas of a certain subject.
- **Sales promotion** – short-term incentives to encourage the purchase or sale of goods or services.
- **Public relations (PR)** – efforts to build positive public relations for the given company, creating a good institutional image and the effort to minimize the consequences of adverse events or rumors spread about the company, as the case may be.
- **Personal selling** – personal presentation of the offer, which aims at selling products or services and creating a good relationship with the customer.
- **Direct marketing** – establishing direct contacts with carefully selected customers; advantage is the possibility of an immediate response to an offer by the customer and the ability to build long-term relationships with customers. [Kotler 2004]

As separate forms of communication mix, at research institutions, there are now also included especially the following activities:

- presentation of a research institutions and their R&D results and projects at trade fairs, exhibitions, conferences and seminars and at social nets (Facebook, Twitter, etc.),
- self-organized lectures and seminars,
- professional websites (internet),
- advertising in newspapers, specialized journals and magazines,
- press conferences and reports,
- promotional materials – brochures, promotional items,
- webmarketing, etc.

Marketing should also help in brand building of innovative companies or research organizations or their products. The brand is generally regarded as one of the key instruments of marketing product mix when exposed to the user (consumer) and increasing attention is devoted to it by manufacturers and retailers in recent years. Building of a brand and brand management is an important assumption for market success.

Within the marketing of research and development, any mentioned marketing tools can be used to achieve the required publicity while the most effective one will be always a suitable combination of several of them. Selecting an appropriate tool, media, communication content, targeting at a suitable segment, duration and frequency of information communication, and, finally, the human factor will play an important role in the communication process and the result itself.

4. 2. Presentation of the results of the Czech R&D in abroad

In the Czech Republic, there lacks a central institution that would comprehensively address the issue of research and development, including the promotion of the results of the Czech research and development abroad. Some activities are coordinated by the Ministry of Education, Youth and Sports (e.g. CZELO office), others are running under Ministry of Industry and Trade, namely activities performed by Czech Invest (e.g. Czech Technology Days or Czech Accelerator project). Ministry of Industry and Trade also provides

and ensures organizing and financial support of Czech official participations in international fairs and exhibitions.

Presentation activities of Czech R&D results and outcomes abroad are organized either centrally – i.e. by specialized organizations providing presentation services for a wider range of customers, research organizations or companies or separately by individual research organizations, companies and individual researchers.

Among the presentations and events provided by special organizations are mainly included:

- **Czech Liaison Office for Research and Development in Brussels (CZELO)**, whose task is to assist the successful integration of the Czech research into European research cooperation, in particular through the European Union's Framework Programmes for R&D.
- Organizing **Czech Technology Days abroad**, which is a well established tool to promote bilateral collaboration in VaVal – R&D. This is a series of presentation events held either abroad or in the Czech Republic, to which there are invited researchers, developers and entrepreneurs from the Czech Republic and their counterparts from the selected technologically advanced countries (including the USA, Japan, Israel, Finland, France, Australia, etc.). The aim is to establish direct contacts and build a foundation for future particular collaboration.
- **Joint participation of companies at trade fairs and exhibitions abroad** – within the support of foreign trade, The Ministry of Industry and Trade organizes and provides financial support for organizing Czech official participations in international fairs and exhibitions. In 2012, Czech companies got the possibility to present themselves at 30 international trade fairs and exhibitions in 15 countries worldwide in this way.
- **Enterprise Europe Network – Czech Republic** – that network (EEN) provides the popularization of R&D in the Czech Republic but also abroad. Especially in the context of activities related to technology transfer, the network tries to convey the results of the Czech research and development into practice at home and abroad where it uses the collaboration of its foreign partners to this goal.
- **Czech Accelerator** – this project focuses on the development of Czech and technology-oriented small and medium-sized enterprises in foreign markets. The aim of the project is to help these companies to commercialize their products and support to accelerate their penetration of world markets.
- **Czech head** – award for the best researches and research projects. One of the goals of this project is to ensure the promotion of Czech research and development abroad. Among the activities focused on that direction there is mainly organizing the European Forum of Science and Technology in Prague – an annual international conference on the topic Science and the Future of Europe.
- **Promote** – the project aims to encourage the involvement of employees in R&D into projects of international scientific cooperation on the development of specific competencies of regional R&D staff

in order to increase their chances for effective participation in international research projects.

Among the presentations and events provided separately by individual research organizations, companies and individual researchers there are mainly included publications of technical and special articles, lectures at professional seminars and conferences, company presentations at international exhibitions and trade fairs, presentations of research results within membership in professional organizations with international operations and joint outcomes from international research projects.

5. International comparison in expenditures on research and development

An important factor in the evaluation of development of the economy is the percentage of GDP intended for supporting research and development. The total R&D expenditure (GERD – Gross Expenditure on R&D) is the best known and most commonly used indicator for international comparison of R&D. It is the total expenditure on R&D funded from public, private (business and non-business) and foreign sources.

In this respect, the Czech Republic still lags behind the amount of funds expended in the EU. Expenditures on R&D are increasing from year to year, but in the international context, the Czech Republic still lags behind the EU average not only in this indicator but also in the so-called R&D intensity or the number of employees to 1,000 jobs for example. In recent years, expenditure in the Czech Republic lays just around 1.5 % of GDP whereas the EU-27 average is just fewer than 2% of GDP. Expenditure on R&D in advanced economies such as Germany, Austria, and France is between 2.5 – 3 % of GDP. In the Scandinavian countries, which are well known for their significant investments into the research and development, it was this proportion 3.4 % of GDP (Sweden) and 3.88 % of GDP (Finland). [EUROSTAT Pocketbooks 2011]

Among the EU member states, there exist big differences in R&D spending, but also in the ability to create innovation. In the EU – European Innovation Scoreboard 2011 yearbook, the situation of the EU member states is assessed using different indicators, on the basis of which the EU countries were divided into four groups according to their overall innovation performance. The Czech Republic was rated as „a moderate innovator“ only, see the breakdown in Figure 2. [INNOVATION UNION SCOREBOARD 2011]

6. Breakdown of expenditure on research and development in the Czech Republic

As stated by Czech Statistical Office, the total expenditures on research and development amounted to CZK 70.7 billion in 2011, which represents 1.86 % of GDP. Compared to 2010, there was an increase in R&D expenditures by CZK 11.6 billion (20.6 %), which represented the highest annual increase in expenditures on R&D in the last ten years. All sources of funding (both private and public,

GROUP	GROWTH RATE	GROWTH LEADERS	MODERATE GROWERS	SLOW GROWERS
INNOVATION LEADERS	1,6%	Finland (FI), Germany (DE)		Denmark(DK), Sweden (SE)
INNOVATION FOLLOWERS	2,6%	Estonia (EE) Slovenia (SI)	Austria (AT), Belgium (BE), France (FR), Ireland (IE), Luxembourg (LU), Netherlands (NL)	Cyprus (CY), United Kingdom (UK)
MODERATE INNOVATORS	3,5%	Malta (MT) Portugal (PT)	Czech Republic (CZ), Greece (GR), Hungary (HU), Italy (IT), Poland (PL), Slovakia (SK), Spain (ES)	
MODEST INNOVATORS	3,3%	Bulgaria (BG) Rumania (RO)	Latvia (LV)	Lithuania (LT)

Figure 2. Overview of Innovation growth leaders, 2011

domestic and foreign) contributed to a significant increase of R&D year-on-year expenditures in 2011. The most important sources of funding remain private domestic business resources which cover 46.9 % (CZK 33.2 billion) of total expenditures on R&D. In the second place, there are public domestic resources (CZK 26.2 billion, i.e., 37.0 %). Foreign resources are becoming still more significant in terms of financial flows into R&D. [Czech Statistical Office 2012]

Allocation of funding for research and development by individual sources of financing (business, public and foreign sources) in relation to the total percentage of expenditures on R&D in 2000–2012 are shown in Figure 3. [Czech Statistical Office 2013]

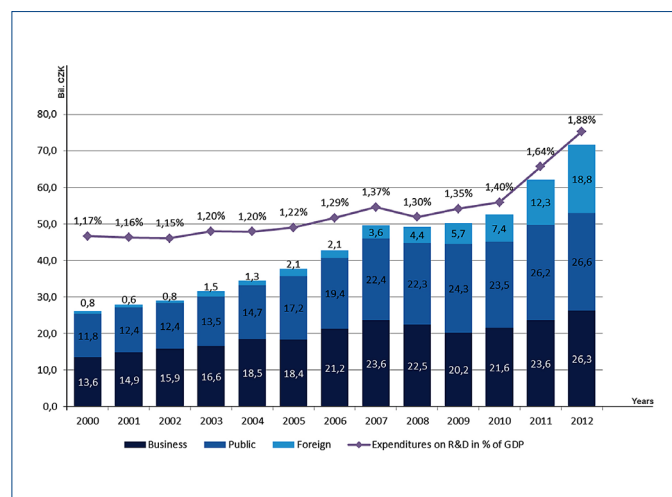


Figure 3. Total expenditures on R&D in the Czech Republic based on financing sources (2000–2012)

6.1. Public support for research and development in the Czech Republic

In public support for research and development there was allocated 0.69 % of GDP in the Czech Republic in 2012. Public support for research and development is implemented in the Czech Republic through three types of financial flows:

- Targeted expenditure**, i.e. support of research projects:
 - specific academic research**, which is research conducted by students in achieving accredited doctoral or master's degree programs and which is directly related to their education,
 - large infrastructure** for research, development and innovations, where individual projects are approved by the government.
- Institutional funding**, i.e., the provision of institutional resources for:
 - long-term strategic development of a research organization** based on the evaluation of its achieved results and for investigating research targets for a transitional period,
 - international cooperation of the Czech Republic in research and development**, realized on the basis of international agreements,
 - operational programs in research, development and innovations** – "Research and Development for Innovation" and "Education for Competiveness" both coordinated by Ministry of Education, Youth and Sports and "Entrepreneurship and Innovation" coordinated by Ministry of Industry and Trade, where 85% of the public funds are provided by the European Commission, the remaining 15% are covered from the state resources,
 - costs for the system of supporting research, development and innovations**, particularly for providing public tenders and evaluating projects, evaluating results etc. and the costs associated with the activities of RVVI, GACR, TACR, and AV CR.

- Subventions**, which are provided by the administrators of the individual chapters of the state budget.

There are subventions (grants) to companies and individuals and financing activities of allowance and budget organizations for projects whose results are intended for publication, for the needs of state administration or for multiple users. [Blazka 2012]

6.2. Business resources to support research and development in the Czech Republic

From the business (entrepreneurial) resources, were allocated 0.87 % of GDP (2012) into R&D in the Czech Republic, which was more than from public resources where this indicator is 0.69 % of GDP (2012). From the industrial sector in the Czech Republic, where research and development are funded from its own resources, mainly large multinational companies and corporations are active in the field of supporting research and development currently. For the automotive industry, it is Skoda Auto, Robert Bosch, Continental, Delphi, Visteon, TRW and others. Furthermore, namely Siemens with several R&D centers allocated in the Czech Republic (energy industry, IT, automation, etc.), Honeywell with their three research centers (automation, security, aviation), but also the area of pharmaceuticals and medical technology – e.g. Zentiva or LINET, a Czech manufacturer of hospital beds, are to be mentioned. Significant amounts in research and development are invested also by traditional machine tool manufacturers, which are owned either by foreign capital – ZPS TAJMAC, Skoda Machine Tools or purely Czech owners like TOS Varnsdorf, KOVOSVIT MAS, TOS Hulin and others. Some of the multinational companies have even shifted entire development departments – centers of competences or holding research into the Czech Republic for pragmatic reasons – there is still a relatively cheap labor force, even highly skilled, in the Czech Republic, it is also true for scientific researchers. These, often very narrowly focused segments, often collaborate then with research and development workplaces and centers, based on contract research as well.

Firms that follow the Act on Income Tax when administering income tax return may exercise the option deduction from the tax base of the expenditures incurred on research and development. The Act No. 586/1992 Coll., the Income Tax Act, as subsequently amended, was completed since 1st January 2005 by §34 provision, paragraphs 4, 5 and 6, according to which the taxpayer may deduct an amount of 100 % of expenditures incurred in the implementation of research and development projects from the income tax base. From the 1st January 2014, it was a major amendment and extension of the option for a deduction from the tax base, the provisions in the Law on Income Tax concerning the deduction changed to §34 Paragraph 4 and 5 as well as §34a, b, c. It is now possible to apply the cost of services and intangible results of research and development acquired from public universities or research organizations. Another new feature is an increase in the deduction of 110 % from the annual increase in cost of research and development. This provision is intended to support research and development and encourage taxpayers to invest in research and development and to increase corporate spending in this area in this way. The Law on Income Tax specifies the conditions to claim deduction. The tax subject will apply that deduction in its tax return and will prove those expenditures during a potential tax inspection, as the case may be.

Conclusion

An important aspect for manufacturing companies is to offer to the market competitive products and goods. A major factor in achieving competitiveness is the ability of companies to bring to market new, innovative, high-quality products made with maximum cost efficiency. Manufacturing companies must have well developed marketing strategies to this target. Marketing should be an

imaginary link between the manufacturer and the customer. However, this whole process is already started in the stage of research and development. Popularization of results of research and development activities and their subsequent commercialization is the foundation for business success. The elements of marketing research, marketing mix and marketing communication must be focused on greater awareness of science and research results. If a research organization or a production company comes up on the market with a new or innovative product, it will mean for it a significant competitive advantage which in turn can be capitalized. For such new and innovative products to be successfully developed and manufactured, it requires considerable support and investment into the research and development (either from governments or private sources).

Popularization of the results of science and research in the Czech Republic is carried out often ineffectively and unprofessional so that it misses its effect and desired outputs in the form of commercialization of the results of research and development are not coming. Marketing of research and development has very often not the highest priority, especially at the research organizations. Researchers consider marketing activities as unnecessary activity and they do not want to spend time and money for these activities. But it is understandable, because the main task of research workers is investigating (solving) research projects, identifying and exploring new technologies, manufacturing methods, etc. and not marketing activities. In marketing activities, above all, the top management in particular research organizations should be engaged in them (whether the management directly or any appointed department – usually marketing/sales department), which must dispose of sufficient qualifications and experience in this area and in particular, a clear strategy on how to present the activity results of the particular staff and research teams to potential customers in the best way, and how to subsequently commercialize those outcomes as best as possible. Marketing activities should be intensified and financially supported accordingly. A weakness (bottleneck) of research organizations is the fact that they do not often dispose of such qualified personnel in the field of marketing and sales that they often underestimate marketing activities and thus, the awareness of their, often significant results and outputs of scientific activity is not well presented.

Bringing the results of research and development to the widest possible number of potential candidates and interested persons, an active promotion of science and in particular applied research focused on specific new technologies, applications of new materials, production processes and methods will help Czech enterprises and research organizations to ensure the required significant commercial assessment of the outcomes of research and development significantly. No company or research organization can hope to survive if it does not equal to the standards stated by leading institutions wherever they are in the world. This principle applies in all fields and the role of

marketing to promote these goals is essential. In the global world of rapid changes, the only possible way of the development is the support for research and development activities and their subsequent successful commercialization.

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