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INNOVATIVENESS OF POLISH COMPANIES – PRELIMINARY RESEARCH RESULTS

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Purpose: The purpose of this study is to examine the approach to implementing innovations and investing in research and development in enterprises. It also takes into account differences depending on the size of the enterprise and attempts to preliminarily define the innovation strategies used in them.
Design/methodology/approach: The research was carried out among 278 companies between March and September 2025 using a CATI method. Entities that invested in product and process innovation were intentionally selected for the research.
Findings: The research allowed to determine the respondents' approach to the development of innovation policy and the diversity of expenditure on innovation activities, as well as the number and type of innovations implemented. Respondents also indicated whether they use internal or external sources of innovation. A preliminary analysis of the survey results indicates significant variation in the data, which may characterised the innovation strategies used by the surveyed companies.
Research limitations: Researching the innovativeness of enterprises using a questionnaire survey is difficult due to the limited possibilities of comparing innovative activities in terms of the scale of innovations implemented, which is the result of considerable subjectivity. The research took into account data from companies for the years 2022-2024, which, unfortunately, in many industries were affected by the crisis caused by the COVID pandemic and later by the Russia-Ukraine war and the related disruption of supply chains. This may significantly affect the research results.
Practical implications: The results obtained cannot be generalised due to the intentional selection of entities for the research. In the future researches, it is advisable to use stratified sampling, so that it would be possible to further verify whether the industry is relevant to the company's innovation performance. With this approach, the results obtained could, to a large extent, form the basis for creating innovation policy.
Originality/value: The originality of the research is related to the consideration of the strategic orientation of the respondents in the area of innovation, the types of innovation introduced in companies and the impact of public subsidies on the results achieved.
Keywords: Innovativeness of companies, results of innovations, innovation profiles of enterprises.
Category of the paper: Research paper.

1. Introduction

In line with J.A. Schumpeter's concept of creative destruction, companies through innovation are capable of creating breakthroughs in the development of new products, technologies leading to increased productivity, expanding to new markets and building competitive advantage (Zagóra-Jonszta, 2015).

According to the study's findings, innovation plays a crucial role in driving economic growth, enabling firms and countries to increase profits and social welfare, respectively (Koç, et al., 2025, p. 15).

Innovation was addressed in endogenous models of economic development, but its role was defined somewhat differently. In Romer's model, in which growth is driven by the accumulation of knowledge, the role of innovation is highlighted. Although new knowledge is characterized by diminishing returns at the company level, it can have positive impact through the technological development of other companies (Romer, 1986). According to Romer, investments in physical capital can trigger learning by doing and knowledge spillovers, as a result of which technology becomes a public good. The phenomenon of knowledge diffusion is the primary justification for the use of public support.

Later models that did not consider R&D and the resulting innovations as a by-product assumed two approaches to product innovation. The first, which is presented in the Grossman and Helpman's model, describes horizontal innovation. New products do not replace those that already exist, but expand the range of products available (Grossman, Helpman, 1991a, 1991b).

The second group of models focuses on vertical innovation and assumes that they have an impact on improvement in the quality of existing products. As a result, it is emphasised that new varieties of these products replace those already on the market. In particular, in the Aghion and Howitt's model, the authors point to the importance of Schumpeter's creative destruction through the creation of changes within products.

Many authors emphasise the benefits that companies can derive from the effective implementation of innovation. Ongoing research confirms that investments in research and development and other forms of innovation bring tangible benefits to companies, which include increased competitiveness and productivity, higher market value and a long-term rate of return. The rate of return can be high and may exceed other ways of investing. The knowledge spillovers effect prompts the public sector to create innovation policies using various forms of support, including even non-refundable public grants, which may cause concerns about distorting free market mechanisms and favour the supported entities to some extent. It is also emphasised that problems related to the effectiveness of intellectual property protection and the significant risk of failure may negatively affect the level of private investment in innovation development (Hall et al., 2009). However, ongoing meta-analyses show that it is possible to achieve a significant return on investment, which, according to studies compiled for the UK,

is around 14%, although when factors that may influence its underestimation are taken into account, it is estimated at around 20% (Frontier Economics). The latest research results confirm the positive impact of implementing innovation in companies. They emphasise the correlation between R&D intensity and productivity, and the results confirm the key role of innovation in increasing the efficiency of companies and maintaining competitive advantage in developed economies (Saharti, 2025; Mohen, 2019).

Assessing the impact of innovation implementation in companies also has its limitations, which include the fact that there may be significant delays in results in relation to the expenditure incurred, which may be as long as several years, and the varying capacity of entities for endogenous growth, as companies in a better financial position may increase their R&D investments. Another problem is sectoral diversity and the aforementioned diffusion of innovation, through which benefits can be transferred to other entities.

2. Research methodology

According to M. Romanowska, it is necessary to conduct intensive scientific research into the innovativeness of Polish companies. She points out that it is important to understand the phenomenon of innovation in Polish companies, or rather the lack thereof. The previous article in the series points precisely to the relatively low level of innovation in the Polish economy, which is both a result and a cause of the orientation of Polish companies. Research focuses more often on the external determinants of innovation development in business entities than on addressing entrepreneurship, cultural resources and corporate strategy (Romanowska, 2017). In her study, M. Romanowska proposed a diagnostic profile that treats the innovation more broadly. They were the direct inspiration for the research discussed in this study.

The approach to innovation is important not only in terms of its development, but also in terms of its successful implementation. Innovation often fails, and this is particularly true of new product launches. Focusing on the products themselves can often be the very reason for failure. A systematic approach to products using analysis of what other innovators are doing and their effects can lead to improvements in the efficiency and effectiveness of a company's innovation activities (Keeley et al., 2013). This may mean that strategic orientation in areas of innovation development is one of the most important success factors.

The research carried out for the purpose of this study seeks to identify model profiles of innovative companies and those that can promote positive long-term performance.

The research was carried out among 248 companies between March and September 2025 using a CATI method. Entities that invested in product and process innovation were purposively selected for the research.

The following variables were taken into account during the research: innovation expenditures (as a percentage of sales revenues), employment in R&D (as number of enterprises, as a percentage of enterprises and as a percentage of total employment), sources of innovation financing (own resources, EU funds, national public funds), number of innovations developed and implemented in the last 3 years, novelty of innovations, type of implemented innovations (product, process), main reason for undertaking innovative activity, benefits from innovation implementation, existence of a separate innovation unit in the structure, and innovation strategy model.

3. Results and discussion

Of the companies considered, 26% were large, 36% were medium-sized and the rest were small companies. There is considerable variation in the innovation expenditure, ranging from close to 0% of turnover to 11,5% of sales revenues. Almost half of large enterprises (close to 48%) employ R&D staff, as do a small percentage of medium-sized companies (18%), but small companies only occasionally do (below 11%).

Own resources are most often used for funding innovation in companies. Funds from the European Union budget or the state budget were used much less frequently.

All companies declared that they had carried out innovative activities during the researched period. No significant differences were found with regard to process innovation related to company size or the industry represented. There is a clear difference in terms of product innovation implementation depending on the size of the company. Large companies are the most active (66%), while medium-sized companies show less involvement (49%%). The small companies were less likely to engage in product innovation (less than 29% of them indicated such activity). Multiple answers were permitted for this question, as companies may implement both product and process innovations during the period under review. In most cases, these innovations consisted of significant modifications to existing products rather than the introduction of completely new ones on the market.

As regards the sources of innovation, the majority of companies use external sources, implementing solutions available on the market (66% of innovation-active large companies, 65% of medium-sized companies and over 77% of small companies active in the area of innovation implementation in the period concerned). As multiple responses were permitted in the survey, since companies may use both sources of innovation simultaneously, they do not add up to 100%. Large enterprises are more likely to indicate that they use internal sources of innovation. This may be due to investing more funds and employing staff in the area of R&D. There were no significant differences between medium-sized and small enterprises.

The study also took into account the number of innovations in companies over the last three years. In this area, large companies have a slight advantage over others. Companies that employ research and development staff introduced more innovations, which can be seen in every size category.

The structure of the research sample and the results of the research are presented in the table (Table 1).

Table 1.
Preliminary results of a business survey

Item	Size of the enterprise		
	large enterprises	**medium-sized enterprises**	**small enterprises**
number of enterprises	65	89	94
percentage of enterprises	26,21%	35,89%	37,90%
employment in R&D activities			
number of enterprises with employees in R&D activities	31	16	10
percentage of enterprises with employees in R&D activities	47,69%	17,98%	10,64%
innovation expenditure			
average R&D expenditure as a percentage of sales revenues	3,41	2,19	2,02
average R&D expenditure as a percentage of sales revenues in enterprises employing R&D personnel	5,08	3,55	4,19
average R&D expenditure as a a percentage of sales revenues in other enterprises	1,89	1,90	1,76
standard deviation	2,80	1,66	1,73
number of innovations in the last 3 years			
average	1,55	1,29	1,26
average in enterprises employing R&D personnel	1,87	1,81	2,20
average in other enterprises	1,26	1,18	1,14
standard deviation	0,87	0,53	0,59
type of innovation*			
product innovation	66,15%	49,44%	28,72%
process innovation	95,38%	93,26%	92,55%
sources of innovation*			
internal	61,54%	31,46%	29,79%
external	66,15%	65,17%	77,66%

Note. Own research.

* Multiple responses were permitted.

The high standard deviation indicates significant diversity among the surveyed companies in terms of innovation expenditure and the number of innovations introduced. Further research will aim to refine the results obtained in terms of differences in the innovation strategies of the surveyed companies.

Similar indications were given regarding the benefits of innovation. Most often, respondents pointed to process improvements, cost reductions and increased efficiency. Large companies also pointed to the strengthening of their market position and the improvement of product attractiveness. Companies also noted a general improvement in opinion and ease of acquiring contractors.

Responses regarding the motives for undertaking innovative activities indicate that companies understand the need to do so, but this is often a requirement of the market and competitive conditions.

The results obtained do not differ from those obtained in other similar researches. It was noted that the innovation profile of companies in the comparable researches and the benefits of innovation were similar. This applies in particular to the reasons why companies undertake innovative activities, which are primarily the expected increase in the company's competitiveness. The research carried out indicates the positive impact of innovation strategies on competitiveness (Agazu, Kero, 2024; Xue et al., 2025; Bogetoft et al., 2024; Oksanych, 2021).

Preliminary results at the current level of analysis indicate that the respondents are more likely to reach for familiar solutions and adapt to market requirements, as similar measures are already being implemented. This reduces the risk of implementing innovation. The higher involvement is characteristic of large companies, especially in the industrial sector.

The commitment to research and development and innovation implementation declared by the surveyed companies may result from their awareness of the role these activities play in the development of the enterprise. Better results in this area in large enterprises may, in turn, be caused by the more stable financial situation of the enterprise.

One issue that should be noted is that respondents declaring that they conduct innovative activities and classifying them may have more likely done so subjectively. It would therefore be important to carry out similar research in the future including audits, which, in more detail, would allow a more objective classification of the activities. Unfortunately, research and development is often protectesurprisd by companies, so there are frequent refusals to participate in studies. Research on innovation can be prone to errors. Even in the case of quantitative measures of innovation, there is a problem of errors in variables, as they are subjective, not always clearly defined, and the moment when their effects appear is difficult to capture when innovation is defined over a three-year period (Jaumandreu, Mairesse, 2017).

For the final part of the publication series, the results obtained will be subjected to advanced statistical analyses to verify further research hypotheses formulated prior to the research. It will present detailed analyses of the motives for undertaking innovative activities, address the benefits gained by companies, and discuss in detail their innovation strategies depending on the size of the company and the industry in which it operates. For the final part of the publication series, the results obtained will be subjected to advanced statistical analyses to verify further research hypotheses formulated prior to the research. It will present detailed analyses of the motives for undertaking innovative activities, address the benefits gained by companies, and discuss in detail their innovation strategies depending on the size of the company and the industry in which it operates.

4. Conclusions

The research confirmed the diversity of companies in the area of innovation, particularly in terms of their size and the industry they represent.

Large enterprises are more likely to invest in innovation and research and development than small and medium-sized enterprises. The reasons for this approach are important. Respondents often indicated that, in their opinion, innovation improves work efficiency and the quality of a company's products. Entrepreneurs count on unique products and more efficient processes that will enable dynamic growth through higher profits. A detailed analysis of their responses, together with an indication of the relevant links with other variables, will be the subject of the next part of the publication series.

What distinguishes large companies surveyed is their approach to conducting R&D. A significant proportion of them (nearly half) employed staff conducting research and development work in the company. This may be a significant argument in favour of the fact that these companies are not looking for ways to reduce costs by outsourcing R&D work, but are carrying it out themselves in order to exploit the potential offered by its results. This is important in light of available research findings, which indicate that conducting R&D independently has a significant impact on a company's technical efficiency (González-Blanco et al., 2024). A much smaller proportion of companies in other size categories employed such staff. All enterprises declared that they had carried out innovative activities during the period under review. This may be a sign of high awareness of the role that innovation plays in building competitiveness. In terms of product innovation, large enterprises were also more active among the respondents. The focus on external sources of innovation, which was primarily declared by small enterprises, may indicate that they are keen to seek ready-made solutions that are already known on the market but implemented in enterprises in order to meet market requirements.

As has been demonstrated based on a review of the literature and preliminary results of empirical research, innovation plays a significant role in creating the foundations for the functioning and growth of companies and the economy, but there are still problems associated with assessing the results of its implementation. Therefore, it is necessary to conduct continuous research and improve its methodology. A multi-dimensional research approach should be used in order to capture the various aspects of innovation.

Literature reviews have shown that companies should develop strategies that take into account projects with different time horizons in order to better manage liquidity and achieve long-term growth. It is also important to bear in mind the possibility of short-term fluctuations in financial indicators, which occur even in well-prepared and implemented innovation projects. It is possible to mitigate the negative effects related to the development of innovation by, among others, using various sources of financing, including public instruments such as subsidies and tax breaks, which can improve the profitability of risky innovation projects, especially when

significant knowledge spillover effects are expected. The manner in which research and development work is carried out is particularly important. The literature contains research findings confirming that seeking to reduce costs by outsourcing research and development work does not contribute to improving a company's innovation potential.

Small and medium-sized enterprises are a particularly supported area in terms of innovation in the European Union. However, it is worth noting that it is large companies that have the capacity to create innovation thanks to their expenditure. These innovations can then be implemented in smaller entities thanks to the effect of knowledge spillovers. This means that all categories of enterprises should be supported in accordance with their role and capabilities in order to create optimal conditions for the creation and transfer of innovation.

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