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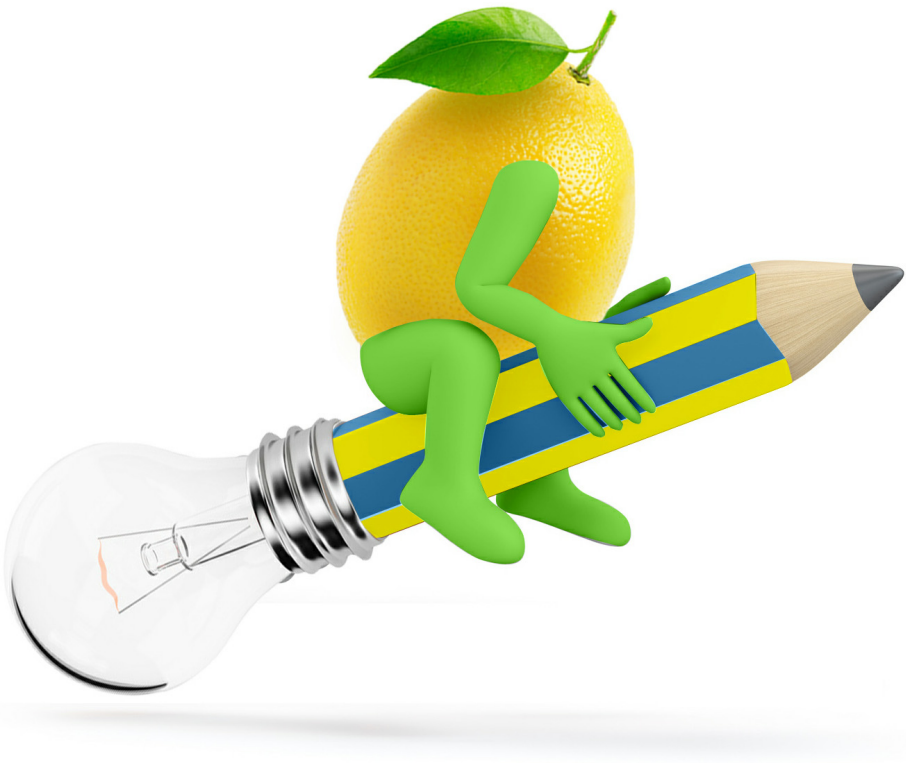

INNOVATIVE ENTERPRISES OPERATING IN THE MEMBER STATES OF THE EUROPEAN UNION

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INNOVATIVE ENTERPRISES OPERATING IN THE MEMBER STATES OF THE EUROPEAN UNION

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Summary

Contemporary enterprises should be innovative to survive on a competitive market. Innovations are the basic factor of development of each firm. They must be systematically developed and implemented in all areas of socio-economic activity. The base for the creation of such a system can be a complex diagnosis of the current state of the commonness of introduction of the innovations in particular enterprises. This diagnosis can be conducted on the base of results of the empirical researches, conducted in February 2016 by TNS Political & Social in 28 EU Member States, Switzerland and the United States. These researches, among other things, refered to commonness of introduction of innovations in enterprises.
In this publication an attempt to achieve the following objectives is undertaken:

1) conducting of statistical-comparative analysis of the empirical researches on the commonness of introduction of specific types of innovations in enterprises operating in the Member States of the European Union and the United States,
2) verification of the thesis that the commonness of implementation of certain types of innovations in enterprises functioning in the EU Member States is relatively low and varied.

The analysis of empirical material allowed to achieve these objectives.

Keywords: innovation, innovation activity, enterprise, development, management

Introduction

Modern companies operate under conditions of globalization and strong competition in domestic markets and abroad, because the boards of these organizations need to rationally approach the selection of objectives, factors and strategies for their development (Baruk, 2006, p. 11). Objectives and strategies of companies must change because of the new forces shaping the new rules of the game (Lee Olsen and Trimi, 2012, p. 820–821). The development goals are states where awareness and the will to achieve in a specific time horizon (in the future) stimulate specific actions today (Buczkowska, 2012, p. 8)[1]. These objectives should be generated in strategic areas of the business, such as research and development, knowledge management, production, sales, marketing, finance, markets, management, profitability, core competencies, organizational culture, employment, cooperation with customers, etc.

The accomplishment of the objectives in these areas should cover many aspects of the company including in its scope three main subsystems: management, social, technological and production.

Generally development objectives relate to the whole enterprise, affect the organization in a long-term, are more qualitative in nature, lead to structural changes, socio-economic development and social progress. In general, the development goals are (Baruk, 1992, p. 15):

1) economic and economic goals, leading to technological progress, organizational, qualitative and quantitative growth of production, strengthening market position, gaining new markets, increasing competitiveness, etc.,
2) Social goals, leading to changes in social relations, meeting the needs of employees, the possibility of self-realization, shaping organizational and innovation culture, revealing knowledge and willingness to share this knowledge with other employees, increased involvement in shaping the environment of experiences facilitating the inclusion of individual customers in the value creation processes according to their needs, etc.

It should be noted that business development is not something spontaneous, random, intuitive. It is contingent upon developments

taking place in each of its subsystems: administrative, social, economic and technological and production, as well as in all spheres of its environment, directly or indirectly affecting the attitude of the company to changes, and the possibility of their creation and practical use.

Thus, it can be concluded that the causes or conditions that cause developmental processes are factors of business development. The literature mentions a variety of factors influencing the development of businesses (Rese and Baier, 2011, p. 140). These may be internal factors, external, quantitative, qualitative, systemic, incidental, economic, non-economic, political, legal, organizational, stimulus, threatening, linked to social capital, etc. An important task of the management of the company is to create conditions for systemic acquisition of information about the development factors, systemic analysis of the impact of these factors and to make rational decisions reflected in development strategies. Particular emphasis should be placed on exploring development opportunities through the disclosure of the limitations inherent in the company and in its environment and making decisions leading to their transformation into opportunities.

One has to keep in mind that external factors create certain opportunities or threats to the development of the enterprise, while internal factors indicate the strengths and weaknesses of the company. It is therefore necessary to carry out a detailed analysis and critical assessment of the dynamic system of opportunities and threats as well as strengths and weaknesses before determining the directions of development.

Regardless of the classification of the factors of enterprise development adopted, the criteria for their identification, it can be conclude that one of the basic factors of development are innovations, which have their sources inside the company and in the elements of its environment, e.g. in scientific and research and development organisations (Krusinskas, Norvaisiene, Lakstitiene i Vaitkevicius, 2015, p. 123).

Innovation is understood here as a deliberately designed change concerning (Baruk, 2016, p. 30):

1) products (launch of the manufacturing and marketing of new or significantly improved products or services),
2) production methods (application in production of new or significantly improved methods),
3) work or production organisation (new organisational solutions in the structural and process terms or significant improvement of the existing solutionsis),
4) management methods, marketing methods,

applied for the first time in a given community (the smallest community if the organisation), in order to achieve socio-economic benefits, meeting specified technological, economic and social criteria (Schippers, West i Dawson, 2012, p. 3)[2].

Since innovations are considered to be the main factor in the development of companies and entire economies and in increasing their competitiveness, it is therefore reasonable to study the degree of involvement of operators in the process of their creation and implementation. The aim of the publication is therefore, to:

1) carry out a statistical and comparative analysis of the results of empirical research on the widespread introduction of specific types of innovation in enterprises operating in the Member States of the European Union (EU) and the USA,
2) verify the thesis that the universality of the implementation of certain types of innovation in enterprises operating in the EU Member States is relatively low and varied.

A survey-based studies were conducted by TNS Political & Social in 28 EU Member States, Switzerland and the United States in February 2016 on a group of 14,117 enterprises (Innobarometer, 2016, p. 2). In these studies a general definition of innovation was adopted, treated as the implementation of new or significantly improved goods, services, processes, marketing strategies or organizational methods (Innobarometer, 2016, p. Q1)[3].

The universality of innovation by Member States

The analysis of the phenomenon was carried out in two three-year periods covering the years 2011–2013 and 2013–2015. It is widely held that a company is innovative, if over a period of three years it has implemented at least one innovation. As shown in Table 1, in 2011–2013 on average 66% of enterprises operating in EU Member States met this requirement. In the second period, the proportion of such companies increased by1 percentage point.

The rate of implementation of at least one innovation varied between the Member States. In the years 2013–2015, the highest innovativeness was recorded among businesses operating in:

1) Denmark (81%), Austria (75%) and Portugal (73%) — "old" Member States,
2) Malta (83%), Cyprus and Slovenia (74% each) and the Czech Republic (73%) — "new" Member States.

Businesses in the following countries were found at the opposite end of the scale:

1) Sweden (51%), Finland (54%) and Great Britain (57%) — "old" Member States,
2) Estonia (50%), Lithuania and Hungary (58% each) and Latvia (61%) — "new" Member States.

The maximum difference in the prevalence of this measure, standing at 33 percentage points, was recorded between Malta and Estonia. The following countries found themselves above the average result for the EU: Austria, Belgium, Denmark, France, Greece, Portugal, Cyprus, Czech Republic, Malta, Poland, Romania, Slovakia and Slovenia.

In the years 2011–2013, the highest percentage of businesses with at least one innovation functioned in:

Table 1. Percentage of companies which implemented at least one innovation in the years 2011–2013 and 2013–2015

Item	Number of companies surveyed in 2013–2015	Companies implementing at least one innovation in	
		2011–2013	2013–2015
		% of surveyed companies	
European Union EU28:	**13 112**	**66**	**67**
"Old" member States EU15:			
Austria	503	64	75
Belgium	500	67	69
Denmark	501	75	81
Finland	501	59	54
France	500	55	71
Greece	500	58	68
Spain	500	61	66
Holland	500	62	63
Ireland	500	70	67
Luxembourg	202	60	67
Germany	500	63	67
Portugal	500	80	73
Sweden	500	55	52
Great Britain	500	69	57
Italy	500	75	66
"New" Member States EU-13:			
Bulgaria	500	56	63
Croatia	500	72	64
Cyprus	200	64	74
Czech Republic	500	63	73
Estonia	500	40	50
Lithuania	500	44	58
Latvia	502	61	61
Malta	200	79	83
Poland	**501**	**68**	**69**
Romania	501	67	72
Slovakia	500	71	69
Slovenia	501	67	74
Hungary	500	42	58
USA	500	61	56

Source: own studies based on *Innobarometer 2016 — EU business innovation trends.* Report, Flash Eurobarometer 433 — February 2016, p. T8-T7 and *The role of public support in the commercialization of innovations*. Report, Flash Eurobarometer 394 — TNS Political & Social, European Commission, May 2014, p. 13.

1) Portugal (80%), Denmark and Italy (75% each) and Ireland (70%) — "old" EU countries,
2) Malta (79%), Croatia (72%) and Slovakia (71%) — "new" EU countries.

The businesses coming last in this list operated in:
1) France and Sweden (55% each), Greece (58%) and Finland (59%) — "old" EU countries,
2) Estonia (40%), Hungary (42%) and Lithuania (44%) — "new" EU countries.

The highest difference in the prevalence of this measure, standing at 40 percentage points, was recorded between Portugal and Estonia. The following countries found themselves above the average result for the EU: Belgium, Denmark, Ireland, Portugal, Great Britain, Italy, Croatia, Malta, Poland, Romania, Slovakia and Slovenia.

In both these periods businesses in the following countries scored above the EU average: Belgium, Denmark, Portugal, Malta, Poland, Romania, Slovakia and Slovenia. The lowest rates of implementation of at least one innovation were recorded in the case of businesses based in: Finland, Sweden (in this countries a drop in the percentage of businesses in the compared periods was recorded — a negative phenomenon), Estonia, Lithuania and Hungary (in these countries the percentage of such businesses increases — a positive phenomenon).

Generally, in most Member States the rate of innovation implementation went up in the compared periods, except for: Finland, Ireland, Portugal, Sweden, Great Britain, italy, Croatia and Slovakia. The biggest increases were observed in France and Hungary (16 percentage points), in Lithuania (14 percentage points) and Austria (11 percentage points). However, in Hungary and Lithuania the percentage of businesses implementing innovations was much lower than in France and Austria. The largest decrease in the rate of innovations implementation (a negative phenomenon) was recorded in Great Britain (by 12 percentage points), Italy (by 9 percentage points) and Croatia (by 8 percentage points). The higher rate of implementation of at least one innovation, recorded for the EU in both periods compared against the

rate for the USA, by 5 percentage points and 11 percentage points respectively, was a positive phenomenon.

In Poland, in the years 2011–2013 innovative businesses accounted for 68%, i.e. 2 percentage points more than the EU average, while in the years 2013–2015 for 69%, also 2 percentage points more. These results gave Poland 9th and 10th place respectively among the Member States.

Types of innovations implemented in the years 2013–2015

The studies discussed here also attempted to identify the structure of the innovations. As shown in Table 2, in the year 2013–2015, on average four out of ten EU businesses implemented innovations in products and services. Slightly more than one third applied new or significantly improved organisational methods, one third implemented innovative marketing strategies, and third per cent of businesses applied innovative processes. Therefore, the interest in implementing individual types of innovations was relatively wide-spread.

Implementation of individual types of innovations differed between the Member States. New or significantly improved products were mostly introduced by businesses in:

1) Italy (51%), Denmark (50%) and France (48%) — among the "old" Member States,
2) Malta (51%), Romania (44%) and Slovenia (40%) — among the "new" Member States.

Implementation of such innovations was least popular in businesses operating in:

1) Holland (26%), Sweden (28%) and Great Britain (30%) — among the "old" Member States,
2) Estonia (20%), Slovakia (29%), Lithuania and Latvia (31% each) — among the "new" Member States.

The largest difference in the popularity of such innovations,

amounting to 31 percentage points, appeared between Italy, Malta and Estonia.

A similar percentage of businesses implemented new or significantly improves services. This phenomenon was most prevalent in businesses based in:

1) Greece (48%), Denmark (46%), Austria and Ireland (45% each) — among the "old" Member States,
2) Malta (60%), Czech Republic (52%) and Slovenia (50%) — among the "new" Member States.

On the other end of the scale we find companies in:

1) Sweden (30%), Finland, Germany and Britain (34% each) — among the "old" Member States,
2) Hungary (28%), Estonia (29%) and Lithuania (36%) — among the "new" Member States.

The maximum difference in the prevalence of this index, standing at 32 percentage points, occurred between Malta and Hungary.

The prevalence of implementation of new or significantly improved organisation methods was also varied. Here, the lead was taken by business in:

1) Portugal (47%), Luxembourg (45%) and France (43%) — among the "old" Member States,
2) Cyprus (49%), Slovenia (47%) and Malta (45%) — among the "new" Member States.

The lowest interest in implementing such innovations was recorded among businesses in:

1) Finland (16%), Sweden (17%) and Britain (22%) — among the "old" Member States,
2) Estonia (12%), Hungary (21%), Latvia and Lithuania (28% each) — among the "new" Member States.

Table 2. Percentage of businesses which implemented specific types of innovation since January 2013

Item	Number of firms studied	Types of innovations implemented in the form of new or significantly improved				
		products	services	organisational methods	marketing strategies (e.g. product prmotion or place-ment or priving strategies)	processes (e.g. production processes or distrubution methods)
		In % of examined businesses				
European Union EU28:	**13 112**	**40**	**40**	**34**	**33**	**30**
"Old" member States EU15:						
Austria	503	43	45	39	37	32
Belgium	500	47	37	40	31	32
Denmark	501	50	46	32	45	46
Finland	501	31	34	16	21	23
France	500	48	37	43	34	32
Greece	500	39	48	41	32	37
Spain	500	35	40	37	38	32
Holland	500	26	39	24	25	20
Ireland	500	32	45	35	40	28
Luxembourg	202	45	36	45	39	34
Germany	500	37	34	32	29	34
Portugal	500	47	42	47	39	43
Sweden	500	28	30	17	22	21
Great Britain	500	30	34	22	31	20
Italy	500	51	41	38	35	30
"New" Member States EU-13:						
Bulgaria	500	38	45	34	33	29
Croatia	500	38	48	36	34	37
Cyprus	200	39	49	49	33	56
Czech Republic	500	34	52	30	36	33
Estonia	500	20	29	12	21	24
Lithuania	500	31	36	28	21	31
Latvia	502	31	39	28	28	35
Malta	200	51	60	45	50	50
Poland	**501**	**37**	**45**	**32**	**29**	**21**
Romania	501	44	48	41	36	33
Slovakia	500	29	48	32	31	28
Slovenia	501	40	50	47	34	37
Hungary	500	37	28	21	23	24
USA	500	30	35	28	28	27

Source: own studies based on *Innobarometer 2016 — EU business innovation trends*. Report, Flash Eurobarometer 433 — February 2016, p. T3-T7.

The largest difference in the prevalence of this index, standing at 37 percentage points, occurred between Cyprus and Estonia.

Innovations in the form of new or significantly improved marketing strategies were most popular among businesses in:

1) Denmark (45%), Ireland (40%), Luxembourg and Portugal (39% each) — among the "old" Member States,
2) Malta (50%), Czech Republic and Romania (36% each) — among the "new" Member States,

On the opposite end of the scale we find businesses in:

1) Finland (21%), Sweden (22%) and Holland (25%) — among the "old" Member States,
2) Estonia and Lithuania (21% each) and Hungary (23%) — among the "new" Member States.

The largest difference in the prevalence of this index, standing at 29 percentage points, occurred between Malta a Finland, Estonia and Lithuania.

The prevalence of implementation of new or significantly improved processes also differed between countries. They were introduced most often by businesses in:

1) Denmark (46%), Portugal (43%) and Greece (37%) — among the "old" Member States,
2) Cyprus (56%), Malta (50%), Croatia and Slovenia (37% each) — among the "new" Member States.

The fewest cases of implementation were recorded in the case of businesses in:

1) Holland and Britain (20% each) and Sweden (21%) — among the "old" Member States,
2) Poland (21%), Estonia and Hungary (24% each) and Slovakia (28%) — among the "new" Member States.

The largest difference in the prevalence of this index, standing at 36 percentage points, occurred between Cyprus and Holland.

Bearing in mind the prevalence of this index Polish businesses did not do very well. The highest percentage of analysed businesses implemented innovations in services. There were 5 percentage points more of such businesses than the EU average, which gave Poland 10th place among the Member States, together with Austria, Ireland and Bulgaria. A lightly lower percentage of Polish businesses (by 8 percentage points) decided to implement product innovations. Here, the average for the EU was 3 percentage points higher. In terms of this result Poland was placed 15th together with Germany and Hungary. Nearly one third of businesses in Poland (2 percentage points less than in the EU) decided to implement innovations in their organisational methods. This result put Poland in 16th place among the Member States, ex aequo with Denmark, Germany and Slovakia. Fewer than three Polish businesses out of ten decided to implement innovative marketing strategies, i.e. 4 percentage points less than the EU average. This result puts Poland in distant 20th place among the Member States, together with Germany. Process innovations proved least popular among Polish businesses. They were applied by just over twenty per cent, i.e. 9 percentage points less than the EU average. This gave Poland 26th place, together with Sweden.

Types of innovations implemented in the years 2011–2013

A comparison of the research results with those obtained in the years 2011–2013 does not show clear differences in implementing individual types of innovation (Table 3). In the years 2013–2015, on average in the EU slightly more businesses implemented innovations in products, services and processes, by 3; 2 and 1 percentage point respectively. Innovative marketing strategies were applied in both periods by 33% of the studied organisations.

Across the Member States the prevalence of implementation of individual types of innovations varied in the years 2011–2013, just as in

the next three years. Innovations in services were mostly implemented by businesses in:

1) Portugal (52%), Britain (45%) i Ireland (44%) — among the "old" Member States. In the later period these were businesses in Greece, Denmark, Austria and Ireland,
2) Croatia (53%), Poland (49%) and Malta (48%) — among the "new" Member States. In the later period these were businesses in Malta, Czech Republic and Slovenia.

This was done least frequently by businesses in:

1) France (27%), Sweden (29%) and Austria (31%) — among the "old" Member States. In the years 2013–2015 these were firms in Sweden, Finland, Germany i Britain.
2) Estonia (20%), Lithuania (23%) i Cyprus (27%) — among the "new" Member States. In the next period such firms were found in Hungary Estonia and Lithuania.

Implementation of product innovations was most prevalent in businesses operating in:

1) Italy (49%), Portugal (48%) and Denmark (46%) — among the "old" Member States. In the years 2013–2015 such firms were found in Italy, Denmark and France,
2) Malta (48%), Romania (41%) and Poland (40%) — among the "new" Member States. In the next period they included businesses in Malta, Romania and Slovenia.

This type of innovations was implemented most rarely by businesses in:

1) Sweden (25%), Germany and Holland (27% each) — among the "old" Member States. In the next period they included businesses in Holland, Sweden and Britain,
2) Estonia (15%), Lithuania (20%) and Latvia (24%) — among the "new" Member States. In the next period they included businesses in Estonia, Slovakia, Lithuania and Latvia.

Table 3. Percentage of businesses which implemented at least one innovation since January 2011 — by innovation category

Item	Number of firms studied	Types of innovations implemented in the form of new or significantly improved				
		Services	Products/goods	Marketing strategies	Organisational structures	Processes
		In % of businesses studied				
European Union EU28:	**11 206**	**38**	**37**	**33**	**30**	**29**
"Old" member States EU15:						
Austria	400	31	35	27	26	23
Belgium	402	36	32	28	33	26
Denmark	400	41	46	35	30	36
Finland	400	32	35	24	14	25
France	500	27	35	25	25	22
Greece	400	35	32	26	34	28
Spain	500	36	36	38	33	29
Holland	400	33	27	25	21	31
Ireland	401	44	36	37	35	33
Luxembourg	200	33	40	30	32	22
Germany	500	33	27	27	28	32
Portugal	400	52	48	45	47	44
Sweden	400	29	25	25	20	21
Great Britain	500	45	35	38	34	28
Italy	500	43	49	44	35	37
"New" Member States EU-13:						
Bulgaria	400	38	32	21	26	22
Croatia	400	53	37	33	38	41
Cyprus	200	27	26	36	43	23
Czech Republic	401	41	29	20	24	23
Estonia	400	20	15	17	14	17
Lithuania	400	23	20	14	18	16
Latvia	400	39	24	20	26	28
Malta	200	48	48	44	37	43
Poland	**500**	**49**	**40**	**28**	**29**	**26**
Romania	400	44	41	38	27	28
Slovakia	401	43	39	28	27	29
Slovenia	400	42	38	29	34	31
Hungary	401	18	24	17	8	13
USA	500	40	26	35	25	27

Source: own studies based on: *The role of public support in the commercialisation of innovations*, Flash Eurobarometer 394 — TNS Political & Social, May 2014, p. T8, T9, T10, T11, T12.

Businesses most eager to implement innovative marketing strategies usually came from:

1) Portugal (45%), Italy (44%), Spain and Britain (38% each) — among the "old" Member States. In the next period these were firms operating in Denmark, Ireland, Luxembourg and Portugal,
2) Malta (44%), Romania (38%) and Cyprus (36%) — among the "new" Member States. In the next period these were firms operating in Malta, Czech Republic and Romania.

Businesses on the other end of the scale came from:

1) Finland (24%), France, Holland and Sweden (25% each) — among the "old" Member States. In the years 2013–2015 these were businesses from Finland, Sweden and Holland,
2) Lithuania (14%), Estonia (17%) and Latvia (20%) — among the "new" Member States. In the next period these were businesses from Estonia, Lithuania and Hungary.

And finally, process innovations were implemented most eagerly by businesses in:

1) Portugal (44%), Italy (37%) and Denmark (36%) — among the "old" Member States. In the next period these firms came from Denmark, Portugal and Greece,
2) Malta (43%), Croatia (41%) and Slovenia (31%) — among the "new" Member States. In the next analysed period they came from Cyprus, Malta, Croatia and Slovenia.

Businesses with the fewest implementations of innovations operated in:

1) Sweden (21%), France and Luxembourg (22% each) — among the "old" Member States. In the next period these were firms from Holland and Sweden,
2) Lithuania (16%), Estonia (17%) and Bulgaria (22%) — among the "new" Member States. In the next period these were firms from Poland, Estonia, Hungary and Slovakia.

In the years 2011–2013, businesses in Poland mostly implemented innovations in services.

This was done by almost fifty per cent of the analysed firms, i.e. 11 percentage points more than the EU average. This result puts Poland third among the Member States. Just under fifty per cent of Polish businesses decided to implement product innovations, i.e. 3 percentage points more than the EU average. Here Poland was placed 6th among the EU Member States, ex aequo with Luxembourg.

Innovative marketing strategies were implemented by fewer than three in ten businesses in Poland. This result is 5 percentage points lower than the EU average and puts Poland in 13th place in the Union, ex aequo with Belgium and Slovakia.

Implementation of process innovations was slightly less popular, with just above a quarter of the businesses operating in Poland deciding to do so. This result, 3 percentage points below the EU average, places Poland in 16th place together with Belgium.

No comparative analysis was conducted of the prevalence of organisational innovations, because in the 2011–2013 innovations were identified in the form of organisational structures, and in the years 2013–2015 in the form of organisational methods.

Prevalence of innovations implementation according to the category of businesses

Interesting conclusions emerge from the analysis of the universality of the implementation of innovation in enterprises considered according to their category (Table 4). Based on the criterion of the size of the enterprises surveyed in both periods under consideration, the lowest prevalence of implementation of at least one of the innovations was found among the smallest companies employing up to 9 workers in both analyzed periods. With the increase in the size of the surveyed companies the percentage of firms which implemented at least one innovation over the last three years also went up. It can therefore be concluded that the most innovative enterprises were large businesses.

Table 4. Percentage of businesses which in the years 2011–2013 and 2013–2015 implemented at least one innovation — by categories of businesses

Item	Percentage of businesses which implemented at least one innovation in the years	
	2011–2013	2013–2015
	In % of the examined businesses	
European Union EU-28	**66**	**67**
Businesses by size:		
• micro-enterprises 1–9 employees	63	65
• small 10–49 employees	72	74
• medium 50–249 employees	75	84
• large 250 and more employees	—	96
Business by sector:		
• manufacturing	71	68
• retail trade	69	70
• services	64	65
• industrial	59	61
Businesses being part of a group:		
• yes	—	80
• no	—	65
Businesses by turnover in 2013 and 2015:	59	57
• up to EUR 100,000	62	68
• EUR 100,001 to EUR 500,000	70	72
• EUR 500,001 to EUR 2 million	—	73
• above EUR 2 million		
Turnover since 2011 and 2013:	—	75
• increase by 5% or more	—	64
• no change	—	60
• decrease by 5% or more		

Source: own studies based on Innobarometer 2016 — *EU business innovation trends*. Report, Flash Eurobarometer 433 — February 2016, p. 10 and *The role of public support in the commercialization of innovations*. Report, Flash Eurobarometer 394 — TNS Political & Social, European Commission, May 2014, p. 15.

Compared with the years 2011–2013, in the 2013–2015 period the percentage of firms which implemented at least one innovation in all business size groups increased. The smallest increase (by 2 percentage points) was observed among micro-enterprises and small enterprises. In

the group of medium-sized businesses this figure stood at 9 percentage points.

It should be stressed that in the studies encompassing the years 2011–2013 two additional groups of enterprises were identified: large — employing 250–499 workers and very large — with 500 and more employees. Among the large enterprises 79% were innovative, and among the very large — 85%. In the studies covering the years 2013–2015 these groups were combined into one. In this group 96% of businesses implemented at least one innovation.

Generally, in the years 2011–2013 the highest prevalence of innovation was seen among: very large, production enterprises with turnover in 2013 exceeding EUR 500,000. In the years 2013–2015 those were firms with 250 and more employees, in retail trade, belonging to a specific group, with turnover in 2015 in excess of EUR 2 million and with turnover increase of 5% or more.

On the other end of the scale we find:

1) in the years 2011–2013 — the smallest enterprises, industrial, with the lowest turnover,
2) in the years 2013–2015 — the smallest enterprises, industrial, not forming part of a group, with the lowest turnover, showing a decline of turnover in 2013.

Among businesses considered by sector breakdown, the period 2013–2015 thee occurred a slight increase in the percentage of those that had implemented at least one innovation compared to the previous period, with the exception of manufacturing companies, where there had been a decline by 3 percentage points. Increases by a few per cent were recorded also among businesses considered from the point of view of their turnover, with the exception of enterprises with the lowest turnover, which reported a decline in the prevalence of innovation by 2 percentage points.

It should be stressed that in the 2013–2015 period the surveyed companies put greater emphasis on the implementation of innovative goods or services than on the introduction of other types of innovations. Innovations in products or services were introduced by 55% of micro-

enterprises (only 10% introduced other innovations) and 76% of large companies (20% implemented other innovations). Given the sectoral affiliation: 60% of respondents implemented innovations in goods or services, and 8% other types of innovations. At the opposite end of the scale we find industrial enterprises. In this group 49% of the analysed businesses decided to implement innovations in goods or services and 12% decided to introduce other types of innovations.

The implementation of innovative goods or services was mostly observed among companies founded between 2010 and 2015, of which 65% introduced this type of innovation. Only 10% of these enterprises implemented other types of innovation. This was done less frequently by mature companies, founded before 2010. Innovative products or services were introduced by 54% of the respondents and other types of innovation by 11%.

In the group of companies under consideration by turnover in 2015 the largest percentage (63%) of businesses implementing innovative goods or services achieved the highest turnover — more than EUR 2 million. 10% of such companies introduced other types of innovation. The opposite were companies reaching the lowest turnover — less than EUR 100,000. Innovations in products or services were introduced by 48% of such companies, while 9% decided to implement other types of innovation. Generally, the higher the turnover the higher percentage of innovations implemented in goods and services.

Similar trends were noted in the companies considered in terms of an increase or decrease in turnover since 2013. In enterprises showing an increase in turnover 65% of the respondents implemented innovative goods or services, while 10% decided to introduce other types of innovations. In companies characterized by a decrease in turnover only every second one implemented innovation in goods and services, with 10% introducing other types of innovation (Innobarometer, 2016, p. 21).

Summary

The statistical-comparative analysis of the responses provided by the surveyed companies indicates that on average in the EU every third

company did not implemented in 2011–2013 and 2013–2015, at least one innovations, and therefore did not meet the criterion of innovative enterprise. It was a relatively stable situation, because in the next period, the proportion of companies that implemented at least one innovation increased by only 1 percentage point.

Across the Member States the prevalence of the implementation of at least one innovation varied. In 2011–2013, businesses in Portugal and Malta led the way in this respect. In these countries, approximately eight out of ten companies met the criterion of innovative enterprise. The opposite were Estonia, Hungary and Lithuania, where the proportion of such companies stood at 40% and slightly lower.

In the years 2013–2015 the largest percentage (slightly over 80%) of innovative enterprises functioned in Malta and Denmark. At the other end of the scale there were Estonia and Sweden, where every second company fulfilled the criterion of innovation. It should be emphasized that in both periods considered the smallest percentage of innovative companies was in Estonia, Hungary, Lithuania and Sweden, where the the prevalence of innovation implementation also decreased by 3 percentage points. But in three new Member States, there was an increase of this percentage, despite the low ceiling, which is a positive phenomenon.

On average in the EU implementation of innovations in services and products was more prevalent than in processes, marketing strategies and organizational methods. In the Member States, this phenomenon was varied. In 2011–2013, the highest percentage of Spanish companies implemented innovative marketing strategies. In Cyprus, innovative organizational structures proved to be the most frequently implemented innovations. During this period, a relatively high rate of implementation of all types of innovations was seen among companies in Portugal, Italy and Malta. In the years 2013–2015 these were businesses in Malta, Denmark and Slovenia. Repeatability of this positive phenomenon was observed only in Malta, which would indicate a long, expansive innovation policy in this country.

Polish enterprises more often focused their attention on the implementation of innovative services and products/goods, to a lesser extent, other types of innovation. In the first of the surveyed periods, the

percentage of Polish companies that introduced innovative services or products gave Poland, 3rd and 6th place among the Member States. In the second period it was 10th and 15th place, indicating a deterioration in the relative index of the prevalence of this type of innovations. Given the universality of the introduction of other types of innovation Polish business occupied 15th place — in the first period and a place in the third ten — in the second period. This reflects the relatively low innovativeness of Polish enterprises.

Analysis of the results confirmed the opinion that the innovativeness of enterprises increases with the size of the economic entities measured by the number of employees. Also the prevalence of the implementation of innovation in enterprises belonging to certain sectors, achieving a certain turnover, or the dynamics of their turnover varied. The smallest percentage of companies that implemented at least one innovation in both periods was recorded among industrial enterprises, while the largest among companies in manufacturing and retail trade. The percentage of innovating firms increased along with the increase in turnover, as well as in those where turnover increased.

It can be assumed that the interest of the boards of the surveyed companies in implementing innovations is conditioned by a number internal and external factors (Montag, Maertz i Baer, 2012, p. 1362–1363)[4]. The internal factors include: the conviction among the executives that innovation leads to the development of any organization, increases its competitiveness; openness of managers innovation ; willingness to bear the risks involved; thinking in terms of the future of the company and not relying on the past experience; knowledge of modern methods of management, including management of innovation and through innovation; the ability to shape a culture of innovation, innovative environmental experiences, motivating employees to increase their knowledge, sharing knowledge with other employees, organized learning; effectively raising the resources necessary in innovative activities, and placed in different parts of the world, including in scientific and research and development organizations; acquisition and rational use of financial resources, etc. The most important external factors inspiring (or limiting) the drive towards creating and implementing innovations are: bureaucracy, innovative policy of the

state; structure of the industry; market structure; political, economic; system of research and higher education; the existence of a national innovation system; the level of market competition, etc. (Carstensen i Bason, 2012, p. 3–5).

It seems that the impact of these factors varies with individual EU Member States, resulting in a diverse and relatively low prevalence of innovation implementation.

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[1] A. Buczkowska defines a business goal as a desired state of affairs which the organisation is trying to achieve. Buczkowska, A. (2012). Cele przedsiębiorstwa a pomiar jego dokonań. *Zeszyty Naukowe Uniwersytetu Szczecińskiego*, No. 45, 8.

[2] The expedency of actions leading to the creation of innovations and their effectiveness is highlighted by Schippers, M.C., West, M.A., Dawson, J.F. (2012). Team Reflexivity and Innovation: The Moderating Role of Team Context. *Journal of Management*, Vol. XX, No. X, 3.

[3] *Innobarometer 2016 — EU business innovation trends*. Report, Flash Eurobarometer 433 — February 2016, Q1. According to the author of this article, this definition has a fundamental flaw consisting in the lack of indication of basic criteria which should be met by such changes and the purpose of their implementation.

[4] According to McKinsey Global Survey, 70% of corporation leaders indicated that using new ideas was the highest priority driving the development of the company. Montag, T., Maertz, C.P., Baer, M. (2012). A Critical Analysis of the Workplace Creativity Criterion Space. *Journal of Management*, Vol. 38, No. 4, 1362–1363.

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