

IT tools used in the strategic controlling process – Polish national study results

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Abstract

Purpose of the article The purpose of the work was to identify and analyse instrumental solutions of strategic controlling applied by organisations operating in Poland. In particular, the study examined the extent, to which implementation of strategic controlling tasks is supported by IT tools. It identified the frequency of application and the usefulness of IT tools in the process of strategic controlling from the point of view of their direct users.

Methodology/methods The study was based on a diverse research methodology. It used the method of critical analysis of subject literature, as well as surveys - the author's original questionnaire. For analysis of empirical data, description and statistical reasoning methods were used, the following statistical analyses were conducted, among others: analysis by means of cross tabulation and use of χ^2 statistics, as well as Student's t-test for independent samples.

Scientific aim The presented results constitute a part of broader research works carried out by the authors' team, concerning the state of implementation of strategic controlling solutions in organisations operating in Poland. The study examines functional, organisational and instrumental solutions of strategic controlling. The present study refers only to instrumental solutions of strategic controlling, in particular to IT tools supporting implementation of strategic controlling tasks. It searches for an answer to the question of the extent, to which implementation of strategic controlling tasks is supported by IT tools and how their usefulness in this process is assessed.

Findings This article presents only a small part of the obtained research results. It shows that (IT) tool solutions supporting strategic controlling are still not advanced enough. Statistically, out of the examined IT tools for implementation of strategic controlling tasks, the companies most often use simple spread sheets (MS Excel), while the least frequently used tools are non-integrated and integrated management support systems, which – seemingly – should be the norm in organisations as large as those examined, especially considering their large suitability indicated by the respondents using those tools. On the other hand, BI systems become more and more popular.

Conclusions The authors are aware of the limitations of the conducted study, especially of the limited research sample. Strategic controlling solutions are still rare, which causes the small sample size and the limited possibilities of statistical analysis. When about the frequent use of simple spreadsheets instead of more advanced solutions, the authors think it can result both from limited financial resources that can be used to purchase integrated management support systems and, as well, from incomplete understandability of functionalities offered by those systems and from being unable to modify models built in the used tool by managers and controllers, who do not always have high competencies related to computer science.

Keywords: strategic management, strategic controlling, controlling instruments, IT solutions in controlling

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Introduction

Digitization changes the face of the modern economy. For the organization this means on the one hand more and more challenges and changes in the way business processes are being implemented, and on the other, quite new possibilities.

The digital revolution brings an interesting paradox to management, on the one hand it increases an uncertainty of decision-making by flooding the managers of a huge amount of information, on the other hand – increasing the range of organizational phenomena to be measured – gives confidence in the possibility of full control over organisational activities and hopes for their greater effectiveness. What is interesting, “the realm of the measurable (...) could theoretically be extended to our entire lives, well beyond the workplace, knowing that what happens outside work is possibly even more relevant in understanding our attitudes at work” (Quattrone, 2016, p. 120).

Observation of business practice shows that the success of most modern methods of effective process management and competitiveness increasing is derived from the better-than-used data analysis methods, whose number (data) has recently increased dramatically. The ubiquitous pursuit of the widest possible use of the available data for strategic and operational decision making requires adequate software to provide adequate online information and investment in computer hardware (also mobile), but also poses new challenges to managers and employees. They should have the ability to select the most valuable data for the needs of individual business processes and to their proper interpretation.

One of the management supporting methods, which more and more widespread and widely usage in practice is nowadays possible because of the development of digitization, is controlling. Controlling itself is focused on generating and delivering managerial information (mainly accounting) for enterprise decision making, tailored to addressees needs and on coordination of specific processes in the organization. The subject of this paper are solutions of strategic controlling. While controlling itself is already ingrained in the practice of functioning of organisations operating in Poland, strategic controlling still is not very popular. Research shows that strategic controlling is a method of supporting strategic management, mainly utilised by large and very large organisations with complex organisational structures. The frequency of application of this kind of solutions is the highest in organisations employing more than one thousand employees, though it is also used by medium-sized organisations. This results, above all, from the fact that strategic management tasks themselves are implemented more often in medium-sized and large organisations than in small ones and, at the same time, the larger the organisation and the more complicated its organisational structure, the more often it applies controlling (Bieńkowska, Kral, Zabłocka-Kluczka, 2017).

Efficient execution of strategic controlling tasks requires the use of an appropriate set of instruments. Apart from purely substantive instruments (i.e. SWOT/TOWS analysis, BCG matrix and other portfolio methods, BSC and scenario techniques (Kłosowski, 2015; Vollmuth, 1995) that the controllers use in their work, tool solutions supporting strategic controlling nowadays become equally as important. Creation, conversion and transfer of management information for the purposes of formulating the organisation's strategy and evaluating its implementation involves the need to process huge amount of financial and non-financial data, which would be nowadays difficult to execute without proper IT systems. "Implementation of controlling (also in the strategic aspect – note by A.B., Z.K. and A.Z.-K.) is almost automatically connected with implementation of an IT system" (Młodkowski, Kałużny, 2007, p. 31), and in general all management control systems (on all levels, strategic as well) “are embedded in IT systems and cannot be operated without intensive IT support” (Szukits, 2017, p. 2).

This paper presents only a fraction of the research of the authors' team pertaining to instruments used by organisations to pursue the goals and tasks of strategic controlling. The purpose of the paper is to identify IT tools used in this process – their types, and tasks performed with their use, as well as to assess their suitability for implementation of the aforementioned tasks. It also tries to answer the question of whether there is any significant difference in using the abovementioned instruments (both in terms of the scope and frequency of use) by organisations of various sizes and operating in the environment with variable dynamics. Presentation and discussion concerning the aforementioned instrumental solutions of strategic controlling constitutes the essence of this pa-per. However, it will be preceded by a short explanation of theoretical aspects of the research problem and presentation of the research methodology.

1 IT tools used in implementation of strategic controlling tasks

The purpose of strategic controlling is to support managers at the stage of setting out the strategy and selecting the instruments used to represent it, as well as to construct a monitoring system of implementation of the strategy and the reporting system. Considering the highly dynamic nature of contemporary economic processes and the growing demand of the management staff for a wide range of management information necessary to make the key decisions, it is now difficult to imagine implementation of strategic controlling tasks without proper support in the

form of an efficient IT system. Such a system "should be designed to ensure that the use of information is as effective as possible" (Litwa, 2007, p. 19). "Requirements for IT systems supporting controlling are very complex, and largely depend on the type and the specific nature of the business entity, as well as on the industry this entity operates in" (Kes, 2004, p. 17).

A system supporting strategic controlling should enable conduct of current monitoring and consolidation of information obtained from all business areas of the organisation (both with regard to the strategic planning process and implementation of the strategy), while at the same time ensuring their (information's) transparency and constituting a certain "early warning system" for any emerging hazards for implementation of the organisation's strategy. Cooperation between the sub-system of strategic controlling and the sub-system of finances and accounting, as well as other modules (IT sub-systems) corresponding to particular areas of operations of the organisation (constituting the information base of strategic controlling), is possible thanks to the existence of a single flow of information. At the same time, it is important to ensure the possibility of automatic flow of all non-financial and financial data, and for each entry made in the books in the sub-system of finances and accounting to be immediately reflected in the sub-system of strategic controlling. As a result, data stored in the sub-systems will be consistent, transparent and compatible (Bieńkowska, Kral, Zabłocka-Kluczka, 2009). These systems are also expected to have specific functionalities, e.g. capacity to export data to a spreadsheet, clear user's interface adjusted to the user's needs, availability of applications over the Internet and Intranet, capacity to carry out statistical analyses, multi-dimensional planning, reporting and analyses, as well as storage of various options of plans, budgets and models, acceptable (possibly short) processing and data calculation time, technical assistance of the supplier, and finally - flexibility of models designed in the available tool (Szarska, 2010, p. 16) and capacity to collect and store data for a few accounting periods.

The Polish market currently lacks any integrated IT applications dedicated strictly to strategic controlling, however, there are attempts to search for solutions within systems of integrated organisation management. Usually, for the purpose of supporting implementation of controlling tasks (mainly operational), particular organisations use various original systems, which - in the process of implementation of an integrated solution - are incorporated in its structure or replaced with new applications. Organisations can choose from both simple spread sheets (like Excel), data warehouses supporting the process of making controlling decisions (e.g. OLAP systems, Data Mining) and systems based thereon (e.g. Business Intelligence), non-integrated management support systems, as well as advanced, modern, integrated ERP management support systems (e.g. SAP – with a specialised controlling module or without such a module), and also dedicated systems, created on request for the needs of a specific organisation. In the recent years, we can at the same time observe growth in popularity of using ERP systems for this purpose (Kuźdowicz, Kuźdowicz, 2014, p. 91). It is lately emphasized that "ERP systems are the most preferable in decision-making process in management. This is because the ERP is responsible for forwarding information gathered to necessary management levels as soon as possible when encountered a situation or problem" (Uçaktürk, Villard, 2013, p. 1036).

The most beneficial for the organisation seems to be creation of flexible, integrated modular solutions that would enable further development of such a system in the future, according to the identified needs of the organisation, with its scope covering all its key areas of operation. "A characteristic feature of integrated packages is the immediate availability of data in the IT database common for particular departments of the company. A uniform database enables immediate access to all information at particular levels of the organisation in all sections, which creates opportunities for improvement and increase in effectiveness of the decision-making process" (Skowronek-Mielczarek, Leszczyński, 2007, pp. 50-51). Supplementation of such a system with a strategic controlling module thus requires formulation of requirements for the system (i.e. describing, by means of specifications, a set of functionalities and processes that the system is supposed to handle, e.g. using description of cases of use). When formulating these recommendations, the controllers should take account of the possibility of integrate information coming from all the applied strategic controlling instruments. Selection of such a system will each time depend on the internal and external conditions of operations of the organisation and – undoubtedly – on its financial capacity. It would be beneficial for the controllers to have a real impact on their selection. The research of E. Szarska demonstrates that, in such situations, they have "a considerably greater satisfaction from the use of (such – note by A.B, Z.K. and A.Z.-K.) tools (...), have (...) the ability to modify planning tables designed using such tools, are able to create any reports and multi-dimensional analyses with greater ease. Their information are delivered faster and are often more useful for the decision-makers" (Szarska, 2010, p. 16). This, to a great extent, solves the problem of understanding of the functionalities offered by the system and increases the possibility of their full exploitation. However, practice shows that often the opposite is the case. "Decisions concerning selection of a given system for handling management information are often made by central units of corporations (usually in other countries) or by IT managers. In such situations, controllers (...) very often adapt the resulting information collected in their own planning and reporting models (usually in MS Excel) to the

corporate forms. Such actions result in a low degree of utilisation of the capacity of advanced systems, above all, with regard to modelling, changes in the planning methodology, changes in the structures of organisation of budgeting or reporting processes" (Szarska, 2010, pp. 15-16).

2 Research methodology

The presented results constitute a part of broader research works carried out by the authors' team, concerning the state of implementation of strategic controlling solutions in organisations operating in Poland. The study examined functional, organisational and instrumental solutions of strategic controlling. The present study refers only to instrumental solutions of strategic controlling, in particular to IT tools supporting implementation of strategic controlling tasks. It searches for an answer to the question of the extent, to which implementation of strategic controlling tasks is supported by IT tools and how their usefulness in this process is assessed.

The research was conducted by means of the survey technique. The questionnaire was addressed to all organisations, but its main part was filled in, in accordance with the intention of the research team, only by organisations that had implemented strategic controlling. The study's authors asked persons responsible for implementation and functioning of controlling in the examined organisations to fill the questionnaire, assuming that strategic controlling is a constituent part of controlling in general. On the other hand, in organisations where this type of controlling had not been implemented in the institutional sense (which does not imply that its tasks are not being implemented), persons responsible for implementation of strategic management tasks were asked fill out the survey (Bieńkowska, Kral, Zabłocka-Kluczka, 2017). The section concerning this article included two multiple-choice questions.

Collection of the data used to prepare the results was completed in October 2016. The survey was sent out to 1960 medium-sized and large organisations operating in Poland, excluding organisations with certain detailed legal forms, registered in the REGON system on 30.06.2016. Sampling of these organisations as requested by the study's authors, in proportion to the number of medium-sized and large organisations operating in Poland, was conducted in July 2016 by the unit of the Central Statistical Office (GUS) – the Statistical Computing Centre (Bieńkowska, Kral, Zabłocka-Kluczka, 2017).

The survey was conducted in the period of September – October 2016. The surveys were sent both by traditional mail and by e-mail. Correctly filled questionnaires were sent back by 8 small, 31 medium-sized and 29 large organisations operating in Poland, which constitutes in total 3,5 % of all examined organisations. Only 23 from among all organisations that sent the questionnaire back declared implementation of strategic controlling, and they did not include small organisations. The return rate of surveys was thus very low, which to some extent results from the lack of implementation of strategic controlling in the examined organisations. Despite the small percentage of returned completed surveys, the authors believe that the obtained results provide some image of strategic controlling solutions in organisations operating in Poland (Bieńkowska, Kral, Zabłocka-Kluczka, 2017). Statistical analysis of data obtained in this way was conducted with the use of the IBM SPSS Statistics package.

Characteristics of the examined organisations were presented with breakdown by the dominant type of operations, organisational and legal form, type of ownership, number of employees, sales structure, type of environment, in which they operate, type of organisational structure, and management style. Additionally, the authors show distribution of the surveyed organisations declaring implementation of strategic controlling. The information are presented in Table 1.

Table 1 Characteristics of the surveyed organisations in relation to the distinguished research criteria

Characteristics of the examined organizations		Entire research sample (N=68)	
		number of organizations	%
by size (number of employees):	up to 50	8	11,8
	51-250	31	45,6
	251-500	9	13,2
	501-1000	5	7,4
	over 1000	15	22,1
	Total:	68	100,0

by type of operations:	production	23	33,8
	services:	33	48,5
	production and services	7	10,3
	sales	5	7,4
	Total:	68	100,0
by organisational and legal form:	sole proprietorship	1	1,5
	limited liability company	31	45,6
	joint-stock company	16	23,5
	other company (limited partnership, general partnership, professional partnership)	3	4,4
	local government unit	3	4,4
	company partially owned by the State Treasury	2	2,9
	other	12	17,6
	Total:	68	100,0
by type of ownership:	Polish	52	76,5
	primarily Polish ownership	8	11,8
	primarily foreign ownership	2	2,9
	foreign	5	7,4
	Total:	67	98,5
by sales structure:	national	39	57,4
	export	28	41,2
	Total:	67	98,5
by type of environment:	stable	9	13,2
	relatively stable	29	42,6
	variable	26	38,2
	turbulent	3	4,4
	Total:	67	98,5
by type of organisational structure:	linear	16	23,5
	functional	28	41,2
	multidivisional	16	23,5
	matrix	6	8,8
	organic	2	2,9
	Total:	68	100,0
by management style:	autocratic	24	35,3
	democratic	13	19,1
	intermediate	26	38,2
	laissez-faire	2	2,9
	Total:	65	95,6
Distribution of the surveyed organizations with an implemented system of strategic controlling		(N=23)	

		number of organizations	%
by size (number of employees):	up to 250	7	30,4
	250 and more	16	69,6
	Total:	23	100,0
by type of environment:	stable	12	52,2
	unstable	10	43,5
	Total:	22	95,65

Source: prepared by the authors on the basis of Bieńkowska, Kral, Zabłocka-Kluczka, 2017

When presenting the research findings, some cross-sections, according to which the examined organisations were classified, have been omitted, above all, due to the fact that the examined groups contained too few organisations. In fact, when analysing instrumental solutions of strategic controlling, only the size of the organisation and the type of environment, in which the organisation operates, have been taken into account.

3 Results of the study and discussion

As it has been already mentioned, only 23 of all the examined organisations declared the use of the system of strategic controlling. The dominant group consisted of large and very large entities (in total, more than 2/3 of the respondents), mainly joint stock companies (47,8 % of the respondents) and limited liability companies (another 30.4 %), fully Polish-owned (65,2 %) or primarily Polish-owned (another 26,1 %), conducting operations to equal extent on the domestic and international market. At the same time, these were organisations that also declared implementation of tasks of strategic management and controlling in general (Bieńkowska, Kral, Zabłocka-Kluczka, 2017). The intention of the research team was to identify the IT tools that are used in the examined organisations to support the strategic controlling implementation process and to see how their usefulness is assessed. In the first step, respondents were asked to indicate IT tools used for implementation of strategic controlling tasks (Table 2).

Table 2 Use of IT tools for implementation of strategic controlling tasks.

IT tools used for implementation of strategic controlling tasks	n	%
spread sheets, such as Excel, Lotus, etc.	21	91,3%
data warehouses supporting decision-making with regard to strategic controlling (OLAP systems, Data Mining, etc.)	14	60,9%
non-integrated management support systems	5	21,7%
integrated ERP management support systems - without a specialised controlling module	6	26,1%
integrated ERP management support systems - with a specialised controlling module	6	26,1%
Business Intelligence systems	13	56,5%

Source: prepared by the author

The obtained results indicate that usually (statistically significantly more often), from among the distinguished IT tools for implementation of strategic controlling tasks, the companies use simple spread sheets, such as Excel or Lotus (91.3 % of answers given by the respondents, $\chi^2(1, N = 23) = 15,696$; $p = 0.000$), while the least frequently used tools (statistically significantly less frequently) were non-integrated and integrated management support systems (respectively, 21.7 and 26.1 % of respondents and $\chi^2(1, N = 23) = 7348$; $p = 0,007$ and $\chi^2(1, N = 23) = 5,261$; $p = 0,22$), which - considering the size of the examined organisations and the extensive scope of tasks performed within strategic management - is inadvertently surprising. The most popular instruments used by controllers for the purpose of supporting implementation of strategic management tasks (scenario methods, prognostic methods, strategic calculation of costs, budgeting of capital and portfolio projects, and finally, the most popular pro forma analysis of the financial condition) by definition force them to work with large databases, to version, store various options of plans, budgets and models, compare large amounts of data with breakdown into various variables (e.g. particular organisational units, domains of activity, groups of products, assortments, sales regions, etc.), which - considering Excel's limitations - seems to be difficult to execute. In the opinion of J.

Goliszewski, spread sheets do not offer a very user friendly possibility of preparing multi-sectional analyses and reports (Goliszewski, 2015, p. 572 – 573), they do not work in on-line mode (there is usually a problem with migration of data from financial and accounting systems), and data filtering and preparation of statements and reports using those spread sheets is hindered and time-consuming.

On the other hand, the possibilities offered by this type of solution are also emphasised. According to A. Kopiński, "one of the most interesting aspects of working with an Excel spreadsheet is the possibility to create deterministic data models" (Kopiński, 2004, p. 194). It should be also emphasised that the obtained research results are simultaneously consistent with the research of E. Szarska (conducted on a sample nearly 10 times bigger), related to usability of IT tools in general controlling, carried out in 2010. They confirm that "spread sheets, mainly MS Excel, are the main work tools of controllers. They are used by 93 % of practitioners in Poland (Szarska, 2010, p. 15). Furthermore, the analysis using the Student's t-test for independent samples demonstrated that, according to the respondents, usefulness of this type of tools is substantially greater only for reporting at the operational level ($t_{(21)}=4,490$; $p=0.00$), on the other hand, there are no statistically significant associations with regard to the usefulness of the aforementioned instrument in implementation of tasks at the strategic level. At the same time, more than half of the respondents declare parallel use of more advanced tools, i.e. data warehouses and decision-making support systems of Business Intelligence class (Table 6), and this percentage is higher than in the abovementioned research of E. Szarska (respectively, 36 %, including 6 % declaring use of advanced tools only (Szarska, 2010). This may mean that they become more and more significant in business practice with each year. Slightly more than ¼ of the respondents simultaneously use integrated ERP management support systems.

The acquired data were also analysed in terms of frequency of application of particular IT tools supporting strategic controlling in organisations of various sizes and with different dynamics of the environment. In the vast majority of cases, there is no significant statistical association between the organisation's size and the use of specific IT tools supporting strategic controlling. A statistically significant association was reported only in the case of application of Business Intelligence systems. Analysis using the test χ^2 ($\chi^2(1, N = 23) = 7,304$; $p = 0.007$) shows that large organisations use them significantly more often than medium-sized organisations. The dynamics of the environment also does not have a statistically significant influence on selection of specific IT tools supporting strategic controlling. In the next stage, respondents were asked to assess the suitability of the applied IT tools in the process of strategic controlling. The question was addressed to the whole population of the examined organisations, due to the fact that the applied IT tools are used for implementation of substantive strategic management tasks also by organisations, which had not implemented the strategic controlling system. Answers were given by 55 out of 68 surveyed organisations. The obtained results are presented in Table 3.

Table 3 Assessment of suitability of the applied IT tools for implementation of strategic management tasks, including strategic controlling tasks

Applied IT tools:	all examined organisations			organisations that have implemented the strategic controlling system		
	N	M	SD	N	M	SD
enable current monitoring of implementation of the organisation's strategy	56	4,23	0,95	23	4,47	0,95
enable on-line reporting of the organisation's achievements at the operational level	56	4,12	0,9	23	4,26	0,75
enable acquisition of information from the organisation and its environment, used for the purposes of formulating the organisation's strategy	55	4,11	1,05	22	4,27	0,93
enable consolidation of information concerning all business areas of the organisation and its environment, significant in the process of strategy formulation	55	4,07	1,03	22	4,09	1,27
include all key areas of the organisation's operations	55	3,96	1,26	23	4,3	1,06
enable on-line reporting of the organisation's achievements at the strategic level	55	3,91	0,99	22	4	0,96
enable implementation of the organization's strategy	55	3,87	1,2	22	3,95	1,29
enable coordination of processes of formulating the organization's strategy	55	3,83	1,13	22	3,95	1,17
enable full integration of information received as a result of using methods and techniques of strategic controlling	55	3,76	1,15	22	3,72	1,31
are a good detector of difficulties, i.e. in sufficient advance warn of any emerging hazards for implementation of the strategy	56	3,71	1,06	23	3,87	0,92

Source: prepared by the authors

According to the respondents, the applied IT tools are the most useful in the process of current monitoring of the strategy implementation and acquisition of information from the organisation and its environment for the purposes of formulating the organisation's strategy (more than 80 % of respondents completely or partially agree with those theses), and also enable consolidation of information concerning all business areas of the organisation and its environment, significant in the process of strategy formulation. However, they enable on-line reporting of the organisation's achievements at the operational level better than at the strategic level, though - from the statistical point of view - these differences are not significant. On the other hand, relatively the least applied IT tools in the opinion of the respondents are the best in the process of detection of difficulties and warning about any emerging hazards for implementation of the strategy; however, it should be emphasised that as much as 2/3 of the respondents deems them to be useful in this respect. The analysis of the obtained results showed that there are no statistically significant differences (Student's t-test for independent groups) in the way suitability of the applied IT tools is perceived by organisations, which have implemented strategic controlling, as compared to those that do not use this type of solution, though in several cases the results are at the brink of statistical significance. It can be assumed that organisations that have implemented strategic controlling have a tendency to cover all key areas of the organisation's operations with an IT system supporting management (analysis using the Student's t-test for independent samples: $t_{(53)}=3,71$; $p = 0,09$), whereas organisations without an implemented strategic controlling system do this more selectively. Furthermore, organisations that have implemented strategic controlling have a tendency to assess the applied IT tools as more useful in the process of current monitoring of the organisation's strategy implementation than organisations that have not implemented this system ($t_{(54)}=0,138$; $p = 0,107$). Statements of the respondents, who - although they have not implemented the strategic controlling system - still execute strategic management tasks, are also interesting. Analysis using the Student's t-test for independent samples showed that the applied IT tools are assessed as statistically significantly more useful with regard to:

- acquisition of information from the organisation and its environment, used for the purposes of formulating the organisation's strategy ($t_{(53)}=3,112$; $p = 0,054$),
- implementation of the organisation's strategy ($t_{(53)}=2,181$; $p = 0,021$),
- current monitoring of implementation of the organisation's strategy ($t_{(54)}=0,129$; $p = 0,039$),
- on-line reporting of the organisation's achievements at the operational level ($t_{(54)}=1,624$; $p = 0,047$) and - although with less confidence - at the strategic level ($t_{(53)}=0,133$; $p = 0,084$).
- by organisations implementing strategic management tasks than by those that do not admit their formal implementation.

Finally, the study examined whether any dependences exist between the used IT instruments and the assessment of suitability of their use in the process of strategic controlling. Interestingly, a strong (statistically significant) dependence exists only in the case of organisations using integrated ERP systems, but without a specialised controlling module. Analysis using the Student's t-test for independent samples showed that, in the opinion of organisations applying such IT solutions (as opposed to those organisations, which do not use ERP systems):

- they enable acquisition of information from the organisation and its environment, used for the purposes of formulating the organisation's strategy ($t_{(20)}=3,791$; $p = 0,066$),
- they enable full integration of information received as a result of using methods and techniques of strategic controlling ($t_{(20)}=0,028$; $p = 0,001$),
- they enable consolidation of information concerning all business areas of the organisation and its environment, significant in the process of strategy formulation ($t_{(20)}=1,467$; $p = 0,025$),
- they enable coordination of processes of formulating the organisation's strategy ($t_{(20)}=0,764$; $p = 0,015$),
- i.e. they are useful for implementation of tasks of strategic planning. However, in the case of implementation and current monitoring of the organisation's strategy implementation, no statistically significant dependencies were observed.

To sum up, more than 2/3 of the respondents assessed the tools applied by them as useful in the process of strategic controlling. At the same time, it should be emphasised that more than 18 % of respondents believe that those tools do not allow for full integration of information received as a result of using methods and techniques of strategic controlling, and 14,5 % of the respondents claim that they do not include all key areas of the organisation's operations. This indicates the directions of further improvement of the strategic controlling system in the examined organisations.

Conclusion

This article presents only a small part of the obtained research results. It shows that (IT) tool solutions supporting strategic controlling are still not advanced enough. Statistically, out of the examined IT tools for implementation of strategic controlling tasks, the companies most often use simple spread sheets (MS Excel), while the least frequently used tools are non-integrated and integrated management support systems, which – seemingly – should be the norm in organisations as large as those examined, especially considering their large suitability indicated by the respondents using those tools. On the other hand, BI systems become more and more popular. It should be emphasised that, even in organisations that use this type of advanced solutions, spread sheets are still used frequently, which can result from incomplete understandability of functionalities offered by those systems and from being unable to modify models built in the used tool by managers and controllers, who do not always have high competencies related to computer science.

The authors are aware of the limitations of the conducted study, especially of the limited research sample. Although the number of organisations with an implemented controlling system in Poland increases, the form of operative controlling is still the dominant one. Strategic controlling solutions are still rare, which causes the small sample size and the limited possibilities of statistical analysis. However, they hope that this can constitute the perfect basis for further research, since – as shown by experience – the subject matter is still relatively rarely explored by both theoreticians and practitioners of management.

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