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PARTICULARITIES OF MANAGEMENT TOOLS EMPLOYED WITHIN ROMANIAN ORGANIZATIONS. A PILOT STUDY

Abstract: *The main purpose of this paper is to analyze the particularities of management tools employed within Romanian organizations and the possible influences they might have on the economic and managerial capabilities. The information collected through the survey conducted in March-May 2015 within 94 organizations in southeastern Romania, allowed us to analyze the particularities of management systems. In this paper, we will focus on other management tools (management methods and techniques). To achieve the aim of the research, five hypotheses were formulated and tested through statistical means.The main results were found to be in line with the theoretical approach and previous research and validated most of the formulated hypotheses. In particular, it was found that to achieve managerial performance, is not enough to implement any of the management tools, but their methodology of design and implementation should be known and properly applied. Managers wanting to enhance their organizations' managerial performance should be aware of the importance of acquire and put into practice managerial knowledge. Thus, it will be created the premises for shaping the directions and means of action able to increase the organizations' competitiveness and performance, through modernization of management tools.*

Keywords: *economic performance; management method; management technique; managerial tools; economic performance; managerial capabilities.*

JEL Classification: C12, D22, L20, L25, M10.

1. Introduction

In the actual context, characterized by an unprecedented rhythm of changes in their socio-economic environment and significant progress of technology and knowledge, managers have to find the most effective ways able to enhance their

competitiveness and economic and managerial performance, among which a decisive role is played by the design and implementation of modern management tools (known also as management systems, methods and techniques).

Although at the theoretical level there are numerous references that addresses those issues, arguing that management tools help companies to radically improve their performance, there are also detractor who state that "they're simply fads-expensive gimmicks that deliver questionable results and then fall out of fashion, to be replaced by a new crop of hyped-up panaceas".(Rigby D., 2001b)Moreover, there are empirical evidences that different management tools are utilized in organizations at different developmental levels of their business and from different countries/groups of countries (e.g. well-developed countries and catching-up economies) that also make differences between organizations and accordingly their developmental level.(Nedelko, Potocan, & Dabic, 2015),(Nedelko & Potočan, 2016)

Therefore, by over a year ago, we began our research efforts aimed at analyzing the particularities of management tools employed within Romanian organizations, the possible relationships between them and economic and managerial capabilities, thus creating the premises for shaping the directions and means of action able to increase the organizations' competitiveness and performance, through modernization of management tools.(Popa, Ștefan, & Popescu, 2015)Thus, we first focused on the particularities of management systems, followed in this paper by the other management tools (management methods and techniques).

Given the above, the objectives pursued throughout this paper relates to: (1) Analyze the particularities of management tools (methods and techniques) employed within Romanian organizations, (2) Highlight the possible relationships between them and the organizations' performance, and (3) Creating the premises for shaping the directions and means of action able to increase the organizations' competitiveness and performance, through modernization of management tools.

2. Theoretical framework

2.1 Management tools

Based on survey research, in Rigby's view (2001a), management tool concept can mean many things, often involving a set of concepts, processes, exercises, and analytic frameworks, while Nedelko, Potocan and Dabic(2015) define them as entity of instruments to support implementation of ideas and concepts, aiming to support organizational processes. Based on the historical development of concepts, they define two major management tools groups. First of them comprise management tools developed in early stages of management development and today well known and wildly used (e.g. benchmarking, outsourcing, strategic planning, mission and vision statements, the balanced scorecard, customer relationship management, and customer segmentation). The second group encompasses tools either significantly based upon IT development, supporting an

existing management concept with IT or developed in the late stages of management development (e.g. shared service centers, corporate blog, radio frequency identification, consumer ethnography and loyalty management).(Nedelko, Potocan, & Dabic, 2015)

According to Burduș and Popa(2014), in a broad sense, management tools (instruments) are systems, methods and management techniques used by managers to conduct the management processes, exercise of the management functions and fulfill the roles in managerial practice. Thus, the management method represents "a set of related principles, rules, techniques and procedures by whose implementation there are enhanced and improved managers' work"(Burduș & Popa, 2014), while the management technique includes "a specific set of rules and procedures which can be used by managers in solving concrete and smaller problems facing in the exercise of management functions."(Burduș & Popa, 2014) The management methods are mostly presented in a general manner, allowing managers to adapt them to their organizations' specificity, while management techniques pose a much greater degree of formalization, being presented as algorithms with specific steps to be followed. (Burduș & Popa, 2014)Thus, a management system will include several methods, while a method will appeal to several management techniques.

Among the management tools, one may distinguish(Burduș & Popa, 2014), (Nicolescu & Verboncu, 2008a): (1) the management systems (e.g. management by objectives, management by budgets, management by product, participative management, management by exceptions, management by projects), (2) general management methods and techniques (e.g. organizational diagnosis, delegation, meeting, SWOT analysis) and (3) specific managerial methods and techniques (e.g. ELECTRE, brainstorming, Philips 66, Delphi method, organization chart, job description, job enrichment, job development, job rotation).

Moreover, there was argued that different management tools are utilized in organizations from different countries/groups of countries (e.g. well-developed countries and catching-up economies) that also make differences between organizations and accordingly their developmental level.(Nedelko, Potocan, & Dabic, 2015), (Nedelko & Potočan, 2016) Thus, in catching-up economies, in the forefront are practices that support the business and processes optimization, while practices enhancing customer relationship management are in the forefront in well-developed economies.(Nedelko & Potočan, 2016)

In the Romanian context, Verboncu, Popescu and Radu(2006) recommend that the management's methodological "menu" of any organization should not be short of: scoreboard, delegation, organizational diagnosis, SWOT analysis, decisional methods, creativity methods (brainstorming, synectics, Phillips 66, etc.), while for public organizations there are primarily recommended: scoreboard, delegation, organizational diagnosis(Verboncu, Profiroiu, & Văruicu, 2010) and CAF (*Common Assessment Framework)* (Moraru, 2012), (Băcală & Bibu, 2013), (Matei & Bălăceanu, 2014)

It was argued that organizations' performance may be substantially improved by the range and manner of use of the management methods and techniques.(Nicolescu & Verboncu, 2008a) Thus, managers wishing such results should make informed decisions on the most appropriate management tools for their organization, but also for the specific context in which to use them. Another issue they must be aware of is the methodological one. It is not enough the appropriate management tools to be employed within organizations, it is also necessary to be followed the specific steps, in other words to comply with the management tools' methodologies of design and implementation. A prerequisite to rigorous application the methodologies of design and implementation of the management tools, is that the persons involved (especially managers, but also the entire staff) to possess appropriate theoretical knowledge and practical experience. Thus, the potential to improve organizations' performances do not imbued in management tools themselves, but in the ability of managers to make the right choices and skillful implement them. (Rigby D., 2001b)One may conclude that to enhance organizations' competitive capacity and performance it should reconsider the process of training and development of managers, in which appealing to systems, methods and management techniques should play a central role.(Nicolescu & Verboncu, 2008a)

2.2 Previous research on management tools

Although at the theoretical level there are numerous references that addresses this issue, arguing that management tools help companies to radically improve their performance, there are also detractor who state that “they're simply fads-expensive gimmicks that deliver questionable results and then fall out of fashion, to be replaced by a new crop of hyped-up panaceas”.(Rigby D., 2001b) Moreover, in terms of empirical research there have been made very few steps, so there are little or no available data to support theoretical approach.

Some studies focus on specific management tool (Powell, 1995), (Zeitz, Johannesson, & Ritchie, 1997), (Zemanová, 2015), while a holistic and comprehensive approach of the different tools together is rarely found in literature. (Nedelko, Potocan, & Dabic, 2015) In this regard, we can mention the study carried out over 70 countries, which examined the use of 25 managerial tools, as well as how effectively those tools have performed over more than 15 years. (Rigby D., 2001a), (Rigby D., 2001b), (Rigby & Bilodeau, 2007), (Bilodeau & Rigby, 2007), (Rigby & Bilodeau, 2015) The latest collected data (Rigby & Bilodeau, 2015) revealed that Customer Relationship Management was the most used management tool, followed by Benchmarking and Employee Engagement Surveys, while the most appreciated proved to be Big Data Analytics, Total Quality Management and Customer Segmentation.

Potocan, Nedelko and Mulej(2012) and Nedelko, Potocan and Dabić(2015) investigated the present and future use of the same management tools within Slovenian and Croatian companies and found different patterns comparing with previous mentioned study. Thus, Outsourcing, Benchmarking and Core

Competencies,Knowledge Management, and Total Quality Management were ranked as the top three tools used by Slovenian sample and Mission and Vision Statements, Benchmarking and Core Competencies by the Croatian one. Organizational characteristics proved to have a statistically significant but week impact on use of the most analyzed single management tool(Potocan, Nedelko, & Mulej, 2012), a positive impact of present use of management tools on managers' future intention to use and a very weak impact of managers' present satisfaction on the future intention to use those management tools. (Nedelko, Potocan, & Dabic, 2015)

Cullen, Mangan and Dwyer (2002), cited by Cullen, O'Connor, &Mangan(2004) helped to understand the management tools' use in Irish context. They found that the most frequently employed management tools within Irish companies are: Strategic Planning, Performance Management and key Performance Indicators and Management by Objectives.

According to Nicolescu and Verboncu(2008a), empirical data collected in 1999 from 120 Romanian managers, revealed that 80% of them used few management tools, mainly the classical ones, and very seldom appealed to the modern management tools. Very little or no time is granted for acquire and implement the current business principles, specific methods and techniques of management science (diagnostic analysis, dashboard, brainstorming etc.). (Cicea, Borisov, & Alexandru, 2012)

2.3 Hypotheses

To achieve the above objectives, and based on previously own research (Popa, Ștefan, & Popescu, 2015), five hypotheses were formulated and tested through statistical means.

It was argued that different management tools are utilized in organizations from different countries/groups of countries (e.g. well-developed countries and catching-up economies) that also make differences between organizations and accordingly their developmental level. (Bilodeau & Rigby, 2007),(Nedelko & Potočan, 2016),(Nedelko, Potocan, & Dabic, 2015),(Potocan, Nedelko, & Mulej, 2012),(Rigby D., 2001b),(Rigby & Bilodeau, 2007),(Rigby & Bilodeau, 2015)Further, it was raised the question if organizational factors (domain/field of activity, age and size) make a difference in usage of management tools.

Therefore, we were interested in analyzing the particularities of management methods and techniques employed within Romanian organizations, both in terms of intensity of use of each of them and the degree to which significant differences exist according to organizations' characteristics (region of origin, domain/field of activity, age and size).

Previous research conducted in 1999 (Nicolescu & Verboncu, 2008a) amongst 120 Romanian managers, revealed that management tools are far to be exploited to their full potential within Romanian organizations, especially the modern management tools. Moreover, with respect to the others management tools

(management systems)(Popa, Ștefan, & Popescu, 2015), by far, the most frequently used is management by objectives (average score - 0.767), followed a great distance by management by projects (0.428), management by budgets (0.425) and, far away, on the last place, by management by exceptions (0.093).

Thus, based on above, hypothesis no. 1 was(Popa, Ștefan, & Popescu, 2015),(Nicolescu & Verboncu, 2008a):

H1. Organizations have not implemented to their full potential the modern management tools provided by the science of management.

Once we have shaped the picture of particularities of management methods and techniques employed within Romanian organizations, we are now interested in whether there is a correlation between them and managerial performance.

It was argued that organizations' performance may be substantially improved by the range and manner of use of management tools.(Nicolescu & Verboncu, 2008a) Thus, managers wishing such results should make informed decisions on the most appropriate management tools for their organization, but also to be aware of the methodological issues. It is not enough the appropriate management tools to be employed within organizations, it is also necessary to be followed the specific steps, in other words to comply with the management tools' methodologies of design and implementation.

Empirical evidences support the theoretical approach (Popa, Ștefan, & Popescu, 2015), since (except management by objectives - $r_s = .378$, $p < 0.01$) there is no statistically significant correlation between the degree to which management systems are implemented within organizations and managerial performance. However, stronger correlation ($r_s = .587$, $p < 0.01$) was found between the compliance with the stages of design and implementation of management by objectives and managerial performance.(Popa, Ștefan, & Popescu, 2015)

Therefore, we formulated the following hypotheses(Popa, Ștefan, & Popescu, 2015):

H2. There is no significant correlation between the degree to which there are implemented the different management methods and techniques within Romanian organizations and their managerial performance.

H3. There is a significant positive correlation between the proper application of the methodology of design and implementation of management methods and techniques and organizations' managerial performance.

A prerequisite to rigorous application the methodologies of design and implementation of the management tools, is that the persons involved (especially managers, but also the entire staff) to possess appropriate theoretical knowledge and practical experience. However, previous research (Popa, Ștefan, & Popescu, 2015) found that the general level of knowledge on management systems is quite low, given that the average scores exceeded only slightly “3” (on a five-point scale) and only in case of management by objectives lies around “4”.

An important source of such knowledge could represent the management trainings and we were interested if there is any relationship between the amount of managerial knowledge and the number of training attended by Romanian managers. Therefore, we assume that(Popa, Ștefan, & Popescu, 2015):

H4. The methodologies of design and implementation of management methods and techniques are not well known among managers.

3. Data and methods

3.1 Research design and sampling

The overall methodological design followed some predefined steps(Popa, Ștefan, & Popescu, 2015), (Ștefan, Popa, & Dobrin, 2016),(Calu, Ștefănescu, Dobrin, & Șerban, 2011): (1) first, based on the research objectives and the literature review, the research hypotheses were developed, (2) secondly, the research instrument (questionnaire) was designed, (3) thirdly, the investigated population and sample was identified, (4) survey data was collected, and (5) research hypotheses were tested by means of appropriate statistical tests and with technical support of IBM SPSS 23.0 Statistics statistical package.(IBM Corp., 2014)

The main data source was the survey conducted in March-May 2015 amongst 94 Romanian organizations from Bucharest-Ilfov, South-East and South region. Even selected through a convenience sampling method, the organizations included in the sample basically cover all domains/fields of activity, age and size. Within each organization, the number of respondents was chosen according to its size, considering also the distribution of hierarchical levels, seniority and level of education of employees. Overall, there was distributed approximately 2500 questionnaires, from which 1596 were actually completed, representing a response rate of 63.84%.

Briefly outlining demographics of our sample: (1) average working experience in the current organization is 5.97 years; (2) concerning education, 64.50% of respondents have a college or bachelor degree, 22.38% master or doctorate degree, while only 13.12% have just high-school education; (3) regarding their current position in organization, 43.50% of respondents are supervisory staff (of which 19.16% were in lower management, middle management 16.14%, and top management 8.20%), while 56.50% of respondents are non-managerial positions (i.e., specialists).

3.2 Instrument

A three parts questionnaire (Popa, Ștefan, & Popescu, 2015), (Ștefan, Popa, & Dobrin, 2016) was designed and meant to capture both the organizations' characteristics, respondents' demographic profile and particularities of managerial tools employed within Romanian organizations. As mentioned above, of them, in this paper we will focus only on the managerial methods and techniques.

After a thorough literature review and considering the personal experience, we compiled a list (without being exhaustive) of the most frequently employed management methods and techniques within Romanian organizations to be examined (Burduş & Popa, 2014), (Nicolescu & Verboncu, 2008a), (Nicolescu & Verboncu, 2008b), (Verboncu, Apostu, Gogîrnoiu, & Zalman, 2013): (1) the delegation, (2) organizational diagnosis, (3) SWOT analysis, (4) the meeting, (5) scoreboard, (6) benchmarking, (7) brainstorming, (8) Philips 66 method, (9) Delphi method, (10) business plan, (11) career plan, (12) job rotation, (13) TQM (Total Quality Management), (14) Kaizen, (15) Lean Six Sigma and (16) CAF (Common Assessment Framework).

To achieve the research objectives and validate each hypothesis, considering also the type of variables involved, appropriate statistics and statistical tests were employed (means, standard deviation, One-Sample T Tests, one-way ANOVA, nonparametric Kendall's and Spearman's correlation) by means of IBM SPSS 23.0 Statistics statistical package(IBM Corp., 2014).

4. Results and discussions

As stated above, to achieve the research objectives, five hypotheses were formulated and tested through statistical means.

H1. Organizations have not implemented to their full potential the modern management tools provided by the science of management.

We wanted to know which are the most popular management methods employed within Romanian organizations. To this end, the respondents were asked to choose from a predefined list, the managerial methods employed with their own organizations. Figure 1 shapes an overall picture of management tools implemented within Romanian organizations, as well as the mean scores corresponding to each of them.

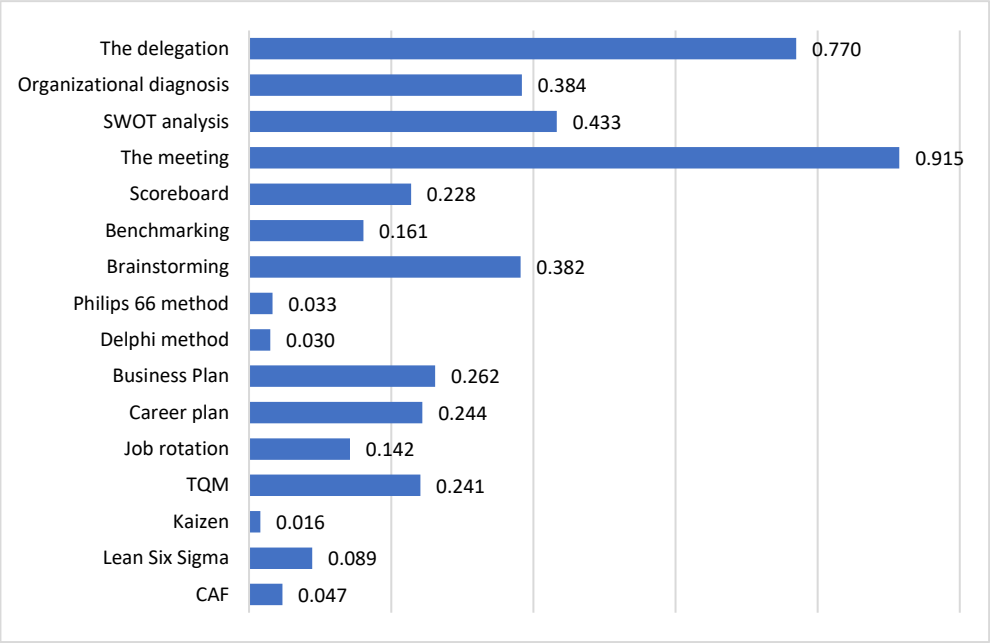

Figure 1. The degree of implementation of management methods and technique within Romanian organizations.
Note: *TQM = Total Quality Management, CAF = Common Assessment Framework.***Source:** *Own representation based on survey data*

Analyzing these results, one can see that they confirm both theoretical approach and own or others previous research mentioned above. Thus, the most popular management tool is the meeting (as its mean score is 0.915), followed by the delegation (mean score 0.770), a considerable distance away - SWOT analysis (mean score 0.433), organizational diagnosis (0.384) and brainstorming (0.382). In contrast, one can note that five of the analyzed methods are far from reaching their full potential, considering their average scores of less than 0.1. In this respect, we refer to: Lean Six Sigma (0.089), Common Assessment Framework (0.047), Philips 66 method (0.033), Delphi method (0.030) and kaizen (0.016).

Analyzing the data presented in figure 1, one can see that only two management tools (the meeting and the delegation) seems to be employed on a large scale within Romanian organizations. To validate the hypothesis foregoing through a statistical test, One-Sample T Tests were conducted, comparing the mean scores of each management tools with a threshold value of 0.5. As expected, only two of the analyzed management tools, present statistically significant higher scores than the threshold of 0.5: the delegation ($M = 0.770$, $sd = 0.3462$, $t_{(92)} = 7.535$, $p = 0.000$) and the meeting ($M = 0.915$, $sd = 0.2297$, $t_{(92)} = 17.439$, $p = 0.000$). In conclusion, we can say that organizations have not implemented to their full potential the modern

management tools provided by the science of management. If analyzing data emerging from our research within international context (table 1), for some common management tools, there are not encouraging results.

Table 1. International context

No.	Management tool	NA	EU	AP	LA	SLO	CRO	CZ	IRL	RO
1	Benchmarking	50%	50%	29%	42%	48%	49%	46%	41.0%	0.161
2	TQM	22%	25%	47%	28%	41%	27%	-	30.8%	0.241
3	Lean Operation	-	-	-	-	50.4%	13.6%	-	-	0.089
4	Six Sigma	-	-	-	-	42.2%	32.3%	-	-	

Note: NA = North America, EU = Europe, AP = Asia-Pacific, LA = Latin America, SLO = Slovenia, CRO = Croatia, CZ = Czech Republic, IRL = Ireland, RO = Romania.
Source: adapted from Rigby &Bilodeau(2015), Nedelco, Potocan&Dabić(2015), Zemanová(2015), Cullen, Mangan and Dwyer (2002, cited by (Cullen, O'Connor, & Mangan, 2004) and own research.

Although the results are not presented through the same units of measurement, data presented on the second row of Table 1, suggests that the benchmarking is by far the least used in Romania (M = 0.161) far away from the average of 50% of the European and North America countries reported by Rigby and Bilodeau (2015). As regards the Total Quality Management, the degree to which it is employed within Romanian organizations (M = 0.241) is comparable to the average of European and North American countries (25% and respectively 22%). It looks like TQM is more popular among organizations from Asia-Pacific region (47%), but also among Slovenian ones (41%). Comparing data illustrating the use of Six Sigma and Lean Operations, Nedelko, Potocan & Dabić (2015) reported significantly higher percentages for Slovenian and Croatian organizations than the present research.

H2. There is no significant correlation between the degree to which there are implemented the different management methods and techniques within Romanian organizations and their managerial performance.

As expected, no significant relationship was found between the degree to which there are implemented the different management methods and techniques within Romanian organizations and their managerial performance, as, in the correlation matrix, the nonparametric Kendall's tau-b correlation coefficients range from (τ_b = - 0.129, n.s.) to (τ_b = 0.151, n.s.) and Spearman's correlation coefficients range from (r_s = - 0.175, n.s.) to (r_s = 0.187, n.s.) Thus, *there is no significant correlation between the degree to which there are implemented the different management methods and techniques within Romanian organizations and their managerial performance.*

H3. There is a significant positive correlation between the proper application of the methodology of design and implementation of management methods and techniques and organizations' managerial performance.

For reasons related both to questionnaire and paper dimensions, we have limited our investigations only to the three most popular management tools. Figure 2 presents the mean scores on the extent of compliance with the methodology of design and implementation of the 94 analyzed organizations. As one can see, the meeting is the management tool whose methodology of design and implementation is most rigorously applied (M = 3,900), followed by the delegation (M = 3.858) and organizational diagnosis (M = 3.547).

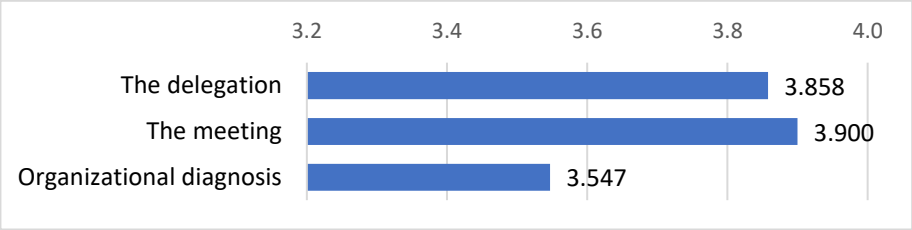

Figure 2. Compliance with the steps of design and implementation of management methods and techniques
Source:*Own representation based on survey data*

Depending on organizations' domain/field of activity (see Table 2), one can notice certain interesting differences. Thereby:

- In terms of proper application of the methodology of design and implementation of the meeting, as managerial tool (see Table 2, fourth row), mean scores are statistically different as determined by one-way ANOVA ($F_{5,86}$ = 2.847, $p < 0.05$). Thus, the highest mean scores have the organizations in services (M = 4.025), followed by those in health care (M = 3.932), industry (M = 3.925), trade (M = 3.921), public administration (M = 3.379) and the lowest those constructions (M = 3.301).
- As determined by the same one-way ANOVA, the mean scores are also statistically different in terms of proper application of the methodology of design and implementation of organizational diagnosis ($F_{5,52}$ = 2.431, $p < 0.05$). As one can see in Table 2, fifth row, the highest mean score (M = 3.872) was found for organizations in constructions, while the lowest for public administration organizations. (M = 2.852).
- Even there are differences in terms of proper application of the methodology of design and implementation of the delegation, according to organizations' field/domain of activity, those differences proved to be statistically insignificant ($F_{5,77}$ = 1.344, n.s.).

Table 2. Compliance with the steps of design and implementation of management methods and techniques depending on organizations' domain/field of activity

No.	Management tool	Field of activity						F
		Constructions	Health care	Industry	Public administration	Services	Trade	
1	The delegation	4.068	3.692	3.708	3.033	3.921	3.890	1.344
2	The meeting	3.301	3.932	3.925	3.379	4.025	3.921	2.847*
3	Organizational diagnosis	3.872	3.113	3.570	2.852	3.782	3.131	2.431*

Source:*Own representation based on survey data*

In order to test the hypothesis no. 3, nonparametric Kendall's tau-b and Spearman's rank-order correlation were run between the proper application of the methodology of design and implementation of the three analyzed managerial tools and organizations' managerial performances (ManP)

Table 3. Correlation matrix between the proper application of the methodology and organizations' managerial performance

No.	Management tool	Managerial performance				N
		Kendall's tau_b		Spearman's rho		
		Correlation Coefficient	Sig.	Correlation Coefficient	Sig.	
1	The delegation	0.166*	0.031	0.242*	0.028	83
2	The meeting	0.401**	0.000	0.543**	0.000	92
3	Organizational diagnosis	0.238*	0.010	0.331*	0.011	58

Note: * $p < 0.05$ (2-tailed). ** $p < 0.01$ (2-tailed).
Source:*Own representation based on survey data*.

As expected, significant relationship was found, as, in the correlation matrix, the nonparametric Kendall's tau-b correlation coefficients (displayed in Table 3, third column) range from $\tau_b = 0.166$, $p < 0.05$ to $\tau_b = .401$, $p < 0.01$ and Spearman's correlation coefficients (displayed in Table 3, fifth column) range from $r_s = 0.242$, $p < 0.05$ to $r_s = 0.543$, $p < 0.01$. Thus, we can validate this hypothesis, meaning that *there is a significant positive correlation between the proper application of the methodology of design and implementation of management methods and techniques and organizations' managerial performance.*

These findings support those emerged from Rigby (2001b) survey, Thus, the potential to improve organizations' performances do not imbued in management tools themselves, but in the ability of managers to make the right choices and skillful implement them. (Rigby D., 2001b)

H4. The methodologies of design and implementation of management methods and techniques are not well known among managers.

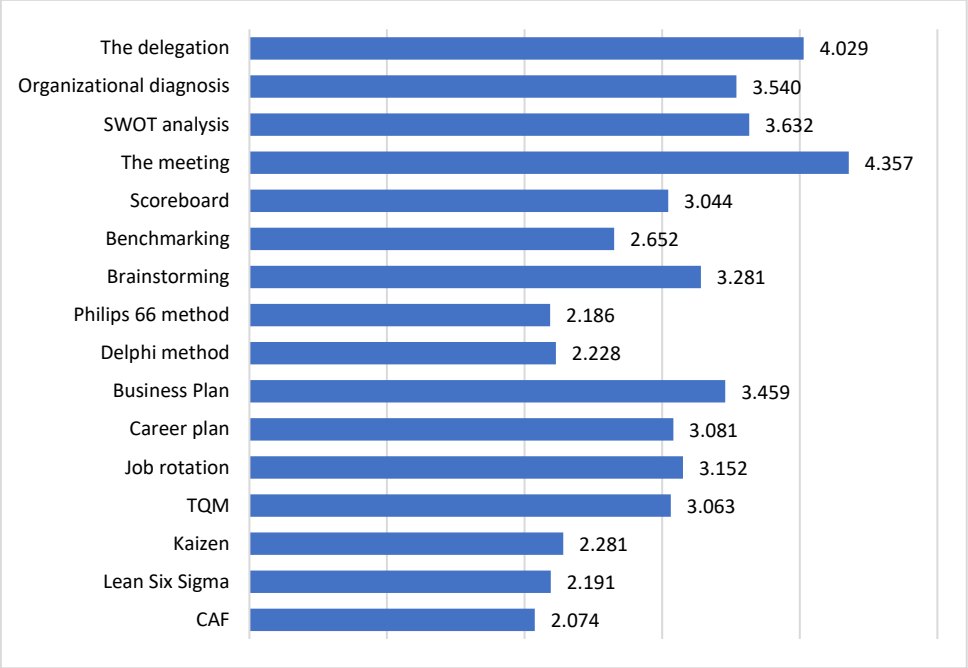

Figure 3. Knowledge of management methods and techniques' design and implementation methodologies
Source:*Own representation based on survey data.*

From data presented in Figure 3, one can see that the best known is the methodology of design and implementation of the meeting (M = 4.357), followed by the delegation (M = 4.029), SWOT analysis (M = 3.632) and organizational diagnosis (M = 3.540), and the least known are Lean Six sigma (M = 2.19), Philips 66 method (M = 2.186) and Common Assessment Framework (M = 2.074).

If we consider the hierarchy of posts (see Table 4) one may remark that: (1) As determined by one-way ANOVA tests, the knowledge of management methods and techniques' design and implementation methodologies are statistically different depending on hierarchy of posts (see Table 4, last column). (2) Overall, the amount of knowledge increases with hierarchical level of the position held. (3) Note that there are also exceptions. Thus, in terms of delegation, middle-level managers (M = 4.243) are more knowledgeable than top-level managers (M = 4.236), as well as in terms of the meeting (M = 4.508 compared with M = 4.484).To validate hypothesis no. 4 foregoing through a statistical test, One-Sample T Tests were conducted, comparing the knowledge of management methods and techniques' design and implementation methodologies of each management tools with a threshold value of 4. As expected, only in case of the meeting there was found statistically significant higher scores than the threshold of 4 (M = 4.357, sd = 0.8740, $t_{(1572)}$ = 16.183, p <

0.01). From data presented above, it is obvious that the general level of management knowledge on methodologies of design and implementation of management methods and techniques should be improved among managers from all hierarchical levels. In conclusion, we can validate hypothesis no. 4, meaning that *the methodologies of design and implementation of management methods and techniques are not well known among managers.*

Table 4. Knowledge of management methods and techniques' design and implementation methodologies depending on hierarchy of posts

No.	Management tool	Management level				F
		Top-level managers	Middle-level managers	First-line managers	Non-managerial staff	
1	The delegation	4.236	4.243	4.130	3.973	7.138*
2	Organizational diagnosis	4.086	3.925	3.852	3.400	23.446**
3	SWOT analysis	4.314	4.095	3.912	3.481	30.023**
4	The meeting	4.484	4.508	4.340	4.356	2.876*
5	Scoreboard	3.689	3.449	3.246	2.748	33.511**
6	Benchmarking	3.406	2.921	2.881	2.520	20.877**
7	Brainstorming	3.820	3.554	3.429	3.123	13.687**
8	Philips 66	3.098	2.397	2.526	1.951	48.016**
9	Delphi method	3.147	2.453	2.496	2.017	35.238**
10	Business Plan	4.084	3.837	3.758	3.257	26.970**
11	Career plan	3.778	3.654	3.394	2.846	42.385**
12	Job rotation	3.647	3.505	3.302	2.972	17.986**
13	TQM	3.688	3.288	3.396	2.918	16.259**
14	Kaizen	3.039	2.864	2.701	1.938	63.423**
15	Lean Six Sigma	2.902	2.813	2.554	1.858	60.073**
16	CAF	2.823	2.385	2.367	1.835	30.377**

Note: * $p < 0.05$, ** $p < 0.01$.
Source:*Own representation based on survey data*

5. Discussions and conclusions

Throughout this paper, we tried to make the first steps towards filling the gap between the theoretical approach and the managerial practice, providing empirical evidences on particularities of management tools employed within Romanian organizations and possible relationships between them and economic and managerial capability.

The main results were found to be in line with the theoretical approach and previous research (Popa, Ștefan, & Popescu, 2015) and validated most of the formulated hypotheses:

1. Organizations have not implemented to their full potential the modern management tools provided by the science of management as only two of the analyzed management tools, present statistically significant higher scores than the threshold of 0.5: the delegation (M = 0.770) and the meeting (M = 0.915).

2. There is no significant correlation between the degree to which there are implemented the different management methods and techniques within Romanian

organizations and their managerial performance. However, there is a significant positive correlation between the proper application of the methodology of design and implementation of management methods and techniques and organizations' managerial performance. These findings support those emerged from Rigby (2001b) survey, Thus, the potential to improve organizations' performances do not imbued in management tools themselves, but in the ability of managers to make the right choices and skillful implement them. (Rigby D., 2001b)

3. Considering the above, unfortunately, the methodologies of design and implementation of management methods and techniques are not well known among managers, as only in case of the meeting there was found statistically significant higher scores than the threshold of 4 (M = 4.357 on a five-point scale).

The practical implications of this study arise from the empirical evidences that to achieve managerial performance, is not enough to implement any of the management tools, but their methodology of design and implementation should be known and properly applied. Managers wanting to enhance their organizations' managerial performance should be aware of the importance of acquire and put into practice managerial knowledge. Thus, it will be created the premises for shaping the directions and means of action able to increase the organizations' competitiveness and performance, through modernization of management tools.

As it was designed as a pilot study, there are both limitations and future research opportunities(Popa, Ștefan, & Popescu, 2015),(Ștefan, Popa, & Dobrin, 2016). The sample representativeness, in terms of number and territorial distribution, was the main assumed limitations, but also the premise of future research directions, which should involve a nationally representative sample, allowing the extrapolation of the research results. Another assumed limitation could arise from the bias effect involved by self-assessment approach. Future research should also make a step forward and, based on above findings, to focus on shaping the directions and means of action able to increase the Romanian organizations' competitiveness and performance, through modernization of managerial tools.

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