

A Proposal of a Multi-Faced Approach for Building a Knowledge Management-Based Strategy in Small and Medium Companies

Dorota Hatowska-Zycka¹, Aldona Kluczek², Jan Bagiński²

¹ Department of Management, Warsaw University, 1/3 Szturmowa St., 02-678 Warsaw, Poland

² Warsaw University of Technology, Faculty of Mechanical and Industrial Engineering, 86 Narbutta St., 02-524 Warsaw, Poland

* Corresponding author's e-mail: alodna.kluczek@pw.edu.pl

ABSTRACT

At the present time, with continuous market changes, customer satisfaction and meeting the needs of employees are the most important factors for building managerial systems and implementing of the strategy in many companies. The goal of this paper is to develop a multi-faced knowledge management-based strategy combining analytical and qualitative methods and processes for small and medium enterprises (SMEs) that managers can use to achieve strategic performance goals in their organizations. Various methods with the currently used modern technologies and a developed organizational culture make up the knowledge management system as a method inspired by the leadership, focused primarily on customer satisfaction and meeting the needs of employees. A multi-faced approach for building knowledge management-based strategy in small and medium companies is developed. It is based on practical experience and a research literature background incorporating implemented technologies and tools in quality environment with the usage of knowledge management. This research depicts a proposal of knowledge management-based strategy as a response to the lack of studies that address the knowledge management in building strategy in SME. Furthermore, this approach enhances the existing literature, giving insight in the collection of current business models.

Keywords: knowledge management, strategy, multifaced strategy approach

INTRODUCTION

In recent years, knowledge and its management have become the prerequisite of all companies able to gain and sustain competitive advantages and sustainable growth. Apparently, knowledge is creating a new vision for business, owners, managers, and employees. The concept of knowledge management has become crucial for the appropriate use of information enhancing a firm's ability to gain and sustain competitive advantage [1,2]. Several authors [3,4] researching the complex company environment, essentially developed their approach to knowledge management as a critical input factor in production, acquisition and other operational processes deployed within the organization.

Organizations need to be managed to meet increasingly competitive pressure and continually rising market demands¹ [5]. Flexibility, modern technologies implementation, better accessibility to information, knowledge assets and employee's concentration on strategical goals execution are crucial issues to improve a company's position while building a strategy. Research has shown that performing a good strategy depends on knowledge management and efficient use of strategic tools [6], modern technologies implementation, better accessibility to information, knowledge assets, employee's concentration on strategical goals

¹ Mental processes of understanding and learning, however they involve much interaction with the world outside the mind, and interaction with others.

execution. The strategy is reinforced in practice when it is consistent with organizational requirements [7]. Among the above-mentioned components of strategy, the discussion is centered on the knowledge assets and its management. Knowledge assets refers to markets, products including technologies and organizations that a business owns or needs. These assets enable all business processes to generate profitability and additional values. Therefore, the knowledge management is not only about managing knowledge itself but managing processes and quality of acting upon the assets. These processes include developing, preserving, using, and sharing knowledge [5]. Therefore, knowledge management involves the identification and analysis of available and required knowledge assets and knowledge asset related processes, and subsequently planning and controlling of actions to develop both the assets and the processes to fulfil organizational objectives. An important element of knowledge management, in addition to technical means of collection and exchange data with the procedure and principles prevailing in this regard, are elements of organizational culture, such as understanding, management support, appropriate incentive schemes and the development of mutual contacts among the employees.

Because knowledge management helps many organizations to manage information, data and assets and the concept remains vital, it is necessary to propose an innovative model for building a knowledge management strategy. The approach will encompass strategic, analytical, and strategic tools and methods.

Having the potential and importance of transformation of the traditional business model towards an innovative knowledge management-based approach for manufacturing companies as well as a present struggle regarding its implementation, the research is aimed at developing a “roadmap” for building knowledge management-based strategy that enables a stepwise approach towards implementation, relying on the deployment of its various processes, tools/methods to gain competitive advantage and maximize economic benefits for the SMEs companies. The goal is to build a multi-faced knowledge management-based strategy incorporating analytical and qualitative methods, such as, Balanced Scorecard, controlling, benchmarking processes and quality issue for SMEs. In this context, the identification of influence of the tools/methods on the strategy realization should be considered.

To reach the goal, the authors have conducted a literature review delivering a comprehensive analysis of traditional business models to an innovative knowledge approach. The literature review was based on two main aspects: well-known knowledge-based approaches, capability maturity and business alignment.

The article investigates the main challenge of the shift from a business model based on process approach to knowledge management-based approach as a holistic system. It is an impulse for business innovations, organizational structures, and practices.

The novelty of this study is to propose a structural, multifaceted approach oriented towards knowledge management strategy based on the literature review and on evidence emerging from the research survey under business practice conditions. By using comparable scenarios “as-is” vs. “to be”, a new approach of the knowledge-based management is designed and based on an empirical study. Then, outcomes are expressed by the impact of organizational factors on a strategy execution phase in organizations. This “model” is aimed at bringing the manufacturing companies to a higher maturity level compared with the status. In this context, it will allow facilitating a transformational process from traditional process approach to innovative approach highlighting interactions between modules of the approach.

Considering the analysis presented above, the knowledge management built and implemented in organizations should be identified on both strategic and operational levels. A substantial amount of the literature cautions against if the individual phases will occur in chronological order while the practice is more modified and complicated. Strategy wise approach is utterly visible in mapping and landscape of strategy tools used for strategy planning and execution by Finnish researches [8]. The process phases comprise three elements: Architecture (strategy analysis and formulation, Action (translating strategy into operations) and Adaptation (monitoring and learning).

The study was designed for the target audience of practitioners and academic community, who are looking for the value creation for building knowledge management-based strategy in small and medium sized organizations with a drive to understand which factors are most affected in these companies. The collected data can help identifying company’s aspects and associated impacted

factors derived from the real environment. Moreover, literature review enriches this study.

The advantage of the research is to provide empirical analysis or observations on qualitative methods and complex, reciprocal processes due to a small amount of literature and practical experience specific to the creation of organizational strategy based on knowledge management. Therefore, the main goal is to identify functional factors for strategy execution in small and medium entities.

THEORETICAL BACKGROUND

This study summarizes the recent literature on knowledge-based approaches for strategic planning including study objectives, tools and techniques used in various branches. Strategic knowledge management often relates to the processes and quality management to create and define the best approach for appropriate organization and use its knowledge and capabilities to achieve a sustainable competitive advantage in strategy execution. The whole process refers to knowledge creation, knowledge possession and organization, knowledge transfer and finally knowledge applications including tools and the newest technologies and systems [9].

The literature review was limited to scientific articles, reviews and reports identifying 190 publications in total. Strategy search procedure included two ways of type review:

1. Systematic review based on the use of keyword queries in databases and abstracts of a representative number of scientific papers;
2. Expert identification where authors usually select studies (in nature) that support their own knowledge.

The first attempt of the literature review has been conducted through keyword search in the Scopus database and scientific articles published after 2000 that contain a query: (“knowledge management” OR “strategy” AND “strategy framework” AND “integration” OR “knowledge-based approach”) in the title, abstract or keyword. The key information from the abstract was used to select articles that applied at least to knowledge management context. The initial set of search terms including 159 papers (54 from Scopus (www.scopus.com) and 105 from online database) has been reviewed (Table 1). A representative number of works on a particular topic has been identified. The second round of searching includes 33 scientific positions, encompassed articles with approaches or methodological considerations and value creation (KPIs, processes, technology, quality methods). Therefore, the extent to which thematic modules are considered in this study was determined.

A huge number of researchers has made proposals for the integration of strategic planning tools and methods to operationalize and monitor goals and targets for all level of activities within organizations. Tennat and Roberts [10] discussed strategic objectives with tactical targets to integrate

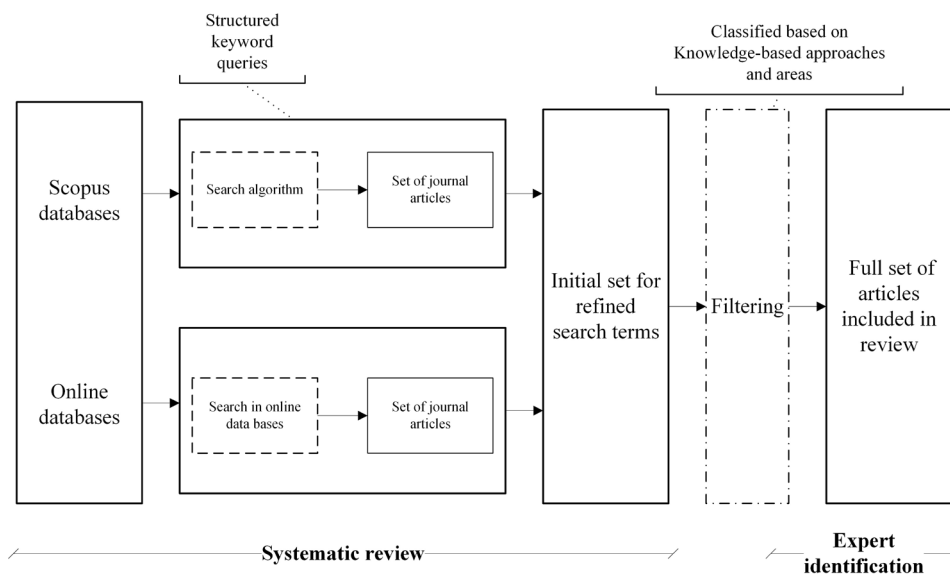


Figure 1. Procedure for two-stage literature review

Table 1. Total number of articles found per database

Database	Total articles found matching keywords, abstracts	Total articles after first inclusion and exclusion criteria
Scopus	65	54
Online	125	105
Total	190	159

them into a single holistic approach for operating a modern business, while Dias et al. [11] presented the integrated conceptual framework consisting of Balanced Scorecard and Hoshin Kanri for continuous improving and monitoring strategic performance of an organization. This approach focuses on prioritizing strategic objectives to be deployed in daily operational activity. Initially, the Balanced Scorecard approach [12,13] focused on strategy performance in four perspectives (finance, customer, processes, and employee) using a performance measurement system based on a cause-and-effect relationship between strategic objectives. Hoshin Kanri proposed and offered to extend system capabilities by connecting managers and employers by deployment process through vertical and horizontal communication channels, making organizational targets achievable in a more constructive and effective way [14], redesigned by da Silveira et al. [15]. Balanced Scorecard as a strategy tool can translate a company’s mission and vision into strategy goals by the creation of key performance indicators linked with strategy objectives, while Hoshin Kanri perceives the strategic management as a process, deploying process control activities that is aligned with planning and execution phases. It differentiates a few types of planning – strategic planning, operational planning, project planning and financial planning as a scheme of doing, making, and arranging [10]. The approach has partially been used in the model of process-thinking approach in strategy execution (shown in further discussions in this paper)

The above-mentioned tools have strengths and weaknesses, but when they are combined, they could be used perfectly to develop strategy by execution of strategic objectives defined in the Balanced Scorecard and presented in a structured way. Castro and Frazzon [16] identified and aggregated multiple method for benchmarking based on the bibliometric analysis. Benchmarking as a good practice and methodology has been reviewed in literature in many studies [17,18]. The main conclusion from all research comprises the best practices that implicate better development and

sustainability of each organization on the external environment of the market. Companies always look for better practice for results, establishing the best method they can implement at the present time. Benchmarking meets this requirement as one of the effective tools used in a process wise approach.

Process-aware information systems like business process management need both effective tools and automating routine tasks and good organizational processes approach, using quality and knowledge management skills within the organization [19]. Process capabilities and outcomes should be driven by organizational performance and performance indicators-based knowledge situated in business processes [20]. Currently, design of complex systems such as decision-making systems for managers, information systems and knowledge management systems require large amount of research and methods that would meet demanding market expectations. To classify organizational processes, the organization should determine its complexity, knowledge input, number of involved activities and scale of flexibility of the whole approach to performance indicators defining strategy implementation and execution with reference to quality management and knowledge intensity [21].

Strategy execution process is usually pushed by controlling area in either small or bigger organizations. The area might use specific mechanisms implemented in particular organization allowing to identify particular management decisions [22]. Controlling platforms comprising standard controls and reporting information systems allow managers and employees to supervise business results from a profitability perspective, providing risks and opportunities cases contained in balance scorecards and decision-making tools. This can also be used for solving actual problems and initiating dialogues between organizations and stakeholders [23]. The role of management control systems has been shown numerous times in literature, as well as its impact on knowledge creation and management support. Strategy planning and execution phases, including control system, are linked as one process framework for building a knowledge usage tool that organizations might incorporate to their culture values of goals achievement for each employee [24]. All control-wise specifications depend on organizational structure and the management approach and needs. If the company decides to deploy one knowledge management

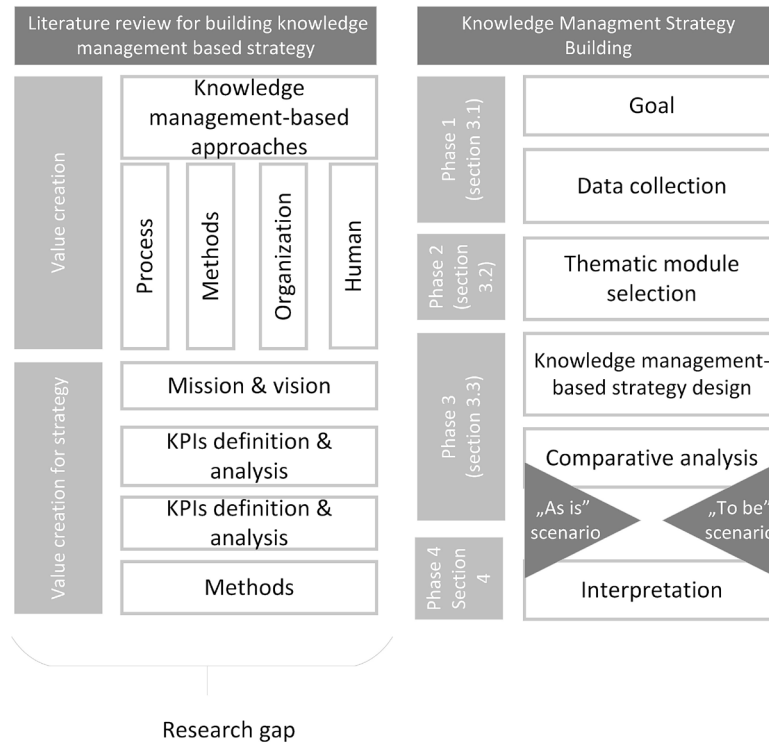


Figure 2. Structure of the research

system, all processes and tools should be linked using a synergy effect in quality background and employee’s communication skills, for better strategy understanding and execution afterwards.

Another methodological approach using many analyses and methods (statistical, mathematical, competition, etc.) to control various types of industrial activities (production, HR management, financial, marketing and many others) was provided by Malyarets at al. [25]. A comprehensive review of strategic tools was examined in the last 25 years in many prominent journals [8]. Different views on how organizational strategic management is developed in parallel with projects or programs were discussed [26]. According to the author, component projects and organizational strategic management are highly intertwined. Some selected articles addressing knowledge-based management across many branches were depicted in Table 2.

A literature review on complex, integrated approaches for building knowledge management-based strategies in SME is missing and the trend and development on such an approach is yet to be reported. Therefore, three research gaps were distinguished as follows:

1. There is still need for further research on the relationship between practice and science. Changes in the market force, the science to

be involved in business and making decision processes. In other words, the science needs an impetus for further research (achieving mutual benefits).

2. The effective use of tools/methods related to a given company profile is insufficient. The implementation of the tools themselves, so that the company could optimally use its resources or implement these tools in the most efficient and qualitatively way.
3. The literature shows that further research is needed to link the organizational culture of a company (“soft” organizational aspects) with technology (“hard” aspect in terms of technology, tools, and processes).

Many researchers have contributed to the considered field, but no article addresses implementation of knowledge-based management strategy in SMEs.

In this study, the methodological approach used combined an exploratory analysis of scientific papers, and market insider reports, including semi-structured interviews with (senior) executives from analyzed pharmaceutical companies. The methodology comprises three phases: two-stage literature review, knowledge-based strategy building; analysis & recommendation. This new approach of the knowledge-based management is proposed.

Table 2. Recent literature review addressing knowledge-based management in various branches

Knowledge-based approaches	Areas/study objectives	Tools & technologies	Branch/Sector	Source
Knowledge processes	Design approach for process-based knowledge management (PKM) systems that can support knowledge-intensive processes where effective task execution is highly reliant on the knowledge and expertise of participants executing the tasks	UML (Unified Modelling Language) Technically oriented as well as management-oriented audience, Software, engineering tools	n/a	[21]
bi-adaptive context of knowledge management of a project-oriented organization	An approach for improving a model of organizational knowledge management processes	Organizational skills, competences and knowledge utilization methods, tools utilized in organizations comprising adaptive processes for projects execution milestones	n/a	[27]
Strategy implementation based on KM processes	The analysis approach used for defining the KM factors used in strategy implementation and realization, a variety of KM effects appearing in formulation and implementation of company strategy to be emerged	Variety of tools (ERP systems) linked to strategy execution Including social factors, people-related aspects	n/a	[6]
Knowledge management by properly using intellectual knowledge	The approach identifying and classifying success drivers of successful knowledge management via intellectual skills in open innovation processes. Strategic management of innovation processes and intellectual property rights	Mixed methods approach, Success driver's identification	Pharmaceutical industry	[28]
Integration of performance-based approach with process-based approach	The approach for integrated strategy planning and realization based on the integration of Balanced Scorecard (BSC) and Hoshin Kanri (HK) to leverage and combine their robustness and consistency for strategy in turning of the Continuous Improvement strategy	BSC + HK	Engineering, education, Aviation industry holistic model for all branches at quality improvement	[11,29]
Planning and realization approach for strategic quality management	The technique for planning strategic vision for the modern business integrating strategic objectives with tactical management, and their targets in a single model. Tool for Strategy Quality Management	Hoshin Kanri	Technique used in all branches at quality improvement	[10]
A methodological approach for controlling different types of activities	A modern concept for controlling goals, tasks, principles, functions, and their relationship to other functions aimed at improving the existing information system through the creation of the structure of controlling	Forecast analysis, portfolio analysis, management and organization methods, statistical and mathematical analysis, economic and strategic analysis, competition analysis	Industrial organizations	[25]
Controlling approach	A concept for achieving organizational strategic objectives focused on the development as well as with projects and programs in the organizational strategic management context. The deployment of operational tools aligned with financial management and resources and process planning, monitoring and control to execute strategic goals of organization	The main agreement of components including projects of strategic tasks execution, and management, organizational planning methods	IT systems and not IT-specific projects	[26]
Planning concept	The deployment of operational tools aligned with financial management and resources and process planning, monitoring and control to execute strategic goals of organization	Strategic planning methods	Nine UK organizations (small- and medium-sized enterprises (SMEs))	[30]
Benchmarking concept	An analysis of the benchmarking tools, methods and concepts used to assess and identify best practice that support better performance. The research was performed using bibliometric analysis	Various methods analyzed (e.g., qualitative, and quantitative data focus, survey approach, statistical analysis, mathematical programming-based approach)	n/a	[16]

RESEARCH METHODOLOGY

A research methodology approach for measuring strategy execution is presented in Figure 2 consisting of two main modules: systematic literature review and multifaced approach for building for knowledge management strategy. This approach framework is to encompass a set of elements which needs to be working effectively for the knowledge management process.

The proposal is built based on the data collected from the survey questionnaire which was designed for pharmaceutical small and medium companies. The questionnaire included closed-ended questions from three researched areas in company strategy execution: Modern Technology, Quality and Processes, and Organizational Culture. A scale ranging from 1 to 5, from definitely negative to definitely positive approach to usage of elements from the three areas is applied [16]. The authors’ approach is inspired by the systematic review studies on knowledge-based approaches and tools, as well as practical business experiences.

Goal and data collection

The goal of this paper is to develop a multifaced knowledge management-based strategy combining analytical, qualitative methods and processes for small and medium enterprises (SMEs). The data was collected based on cross-functional interviews conducted in small and medium sized

pharmaceutical companies located in Poland. This study was conducted between 2020 and 2021.

Thematic module selection

As a result of data from the survey, a selection of thematic modules was done as presented in Table 3.

Approach design of knowledge management -based strategy

In further sequence of activities, a comparable scenario “as-is” vs. “to be” of the approach (Table 4) is proposed.

FINDINGS

The investigation based on the designed questionnaire about the degree of impact on the achievement of strategy goals reveals a great interest for building a strategy based on knowledge, than a traditional process approach, although the relevant works seem to indicate different outcomes [20,31,32]. The literature analysis emphasizes the importance of the implementation of the strategy on work performance. Therefore, the empirical study depicts that there is the impact of two areas on strategy implementation having potential for SMEs operations. The results of the authors’

Table 3. Representatives’ thematic modules from survey

No.	Thematic modules/categories	Description/Explanation
1	Enterprise mission & vision	A vision statement focuses on tomorrow, visions, and anticipated company status in the future - what an organization wants to ultimately become. A mission statement focuses on today and what an organization does to achieve it including necessary values defining as organizational culture.
2	Strategy processing	Strategy processing means execution of main objectives defining strategy goals allowing the company to achieve its vision in future.
3	KPIs definition	A key performance Indicator is a measurable value that demonstrates how effectively a company is achieving key business objectives. Organizations use KPIs at multiple levels to evaluate their success at reaching targets.
4	KPI analysis	Key Performance Indicators reflecting profit and loss and balance sheet results overview cyclic analysis.
5	Strategy execution controlling & monitoring	Monthly/quarterly/yearly controlling and monitoring of strategy execution by financial results objectives and action points undertaken.
6	Strategic objectives definition (strategy map)	Pointing and defining strategy objectives that indicate relations between each other creating strategy map in four areas of BSC-finance, customer, processes and employee.
7	Strategic objectives and operational activity alignments	Definition of operational processes and activities stated behind each objective that covers daily employee workload.
8	TQM	Total Quality Management – quality management system focused on customer indicators reflecting its needs that involves all employees in continuous improvement. It integrates company strategy, data, and effective communications to improve the quality, discipline into the culture and organization development.

Table 4. Comparative scenario analysis

No.	Thematic modules	“As is” scenario	“To be” scenario	Similarity/Interactions identified	Difference
1	Enterprise mission & vision	Very often mission and vision are either not defined or unknown	Mission and vision implementation using new approach to company existence on the market	Necessity of new technologies and appropriate tools deploying	Lack of knowledge included in defined processes
2	Strategy processing	Checking whether the strategy is implemented in the company	Strategy processing defined	Necessity of new technologies and appropriate tools deploying	Lack of knowledge included in defined processes
3	KPIs definition	Usually, the main targets are based on company profitability only	KPI definition linked with enterprise strategy	‘Strategy map’ creation	BSC tool implementation
4	KPI analysis	Cyclic analysis of KPIs values without reflections about strategic objectives execution	Cyclic analysis of strategy performance with action points to be taken in case of big discrepancies in comparison to the targets, future vision focused	Necessity of deep analysis of strategy map interactions	BSC implementation
5	Strategy execution Controlling & Monitoring	Monthly/Quarterly/Yearly profit & loss, balance sheet results	Monthly/Quarterly/Yearly financial results controlling and monitoring all discrepancies with defined objectives targets	Necessity of expanded controlling/monitoring processes implementation	BSC, Controlling tools implementation
6	Knowledge process initiating)	Monthly/Quarterly/Yearly strategic processes analysis	Quality check - improvement of all processes and action points that have been executed without anticipated effect reflecting strategy goals	Necessity of ‘Lesson learned’ activities	Controlling, Benchmarking tool implementation
7	Strategic objectives and operational activity alignments	Daily operational activities interacted with strategy targets	Each employee responsibility for strategy execution- ‘ownership’ values	Management approach to responsibility spreading across all employees’ tasks	Organizational Culture, knowledge sharing and values wise communication skills
8	TQM	TQM	TQM	TQM	TQM

analysis implicate two main areas or aspects of impact on companies’ strategy execution:

- Modern Technologies (Balanced Scorecard, Controlling, Benchmarking, IT systems)
- Processes and Quality.
- Organizational culture

In the context of considered aspects, modern technologies showed a correlation with strategy execution. As a result, 43% of responders shown that the impact is significant importance for strategy execution (38% of small businesses and 44% of medium companies). With regards to individual tools, most of the interviewed parties (68%) have indicated Balanced Scorecard and IT systems as most important impacted tool for strategy execution. The 21% of the interviewed have pointed out Controlling and only 11% Benchmarking. Figure 3 presents the above-mentioned outcomes.

The second area affecting the strategy execution concerns Processes and Quality. Generally, 36% of interviewed have stated the importance for achieving strategy goals (34% small and 35%

medium enterprises). Examining a degree of impact on the strategy implementation for considered companies, 9% have indicated a very significant impact, 13% from small and 9% from medium enterprises. 49% of responders (34% small and 56% medium companies) have claimed the impact is significant on the achievement of strategy targets. These analyses were presented in Figure 4.

For Processes and Quality area, results showed the illustrative process of building knowledge-based strategy for SMEs, followed by the embodied strategic analysis of qualitative tools and methods within the map of processes. By combining the selected tools and processes described above, an innovative approach for building knowledge-management strategy was designed (Figure 4). In addition, requirements for knowledge allocation in these processes and mutual relations were developed. The new strategy was confronted with the process approach or a “map of processes” that exists in a business practice.

In the context of organizational culture, 4% of companies have declared very significant impact

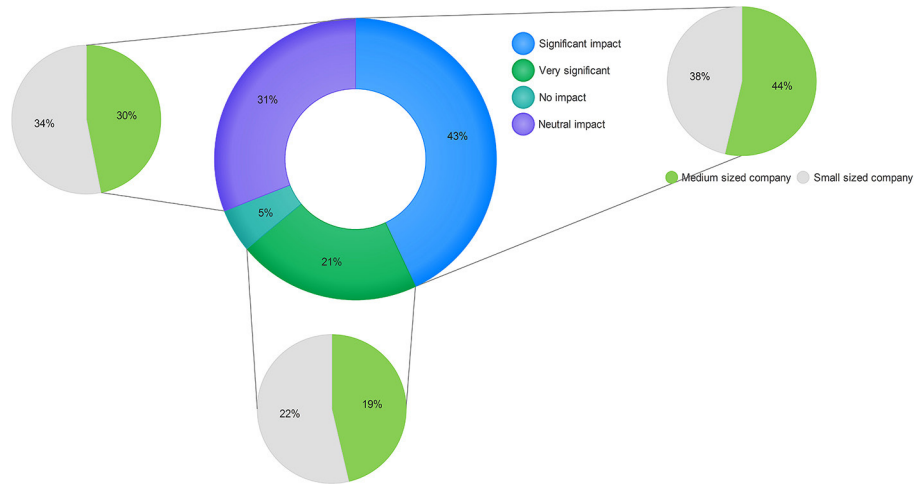


Figure 3. Modern Technology Impact on the strategy execution

on strategy implementation 33% of responders showed that the impact is significant only. This result affects 36% of small business and 30% of medium companies. The most relevant elements from this area are: continuous knowledge possessing (9%), knowledge sharing (10%) and communication between employees in teams (9%). Figure 5 presents the above-mentioned outcomes.

The whole process-wise strategy execution scheme comprises various phases linked by reflecting cause and effect approach as depicted in Figure 6 and Figure 7.

Mission and vision (1) are transformed into strategy processing (2) that is described by strategy objectives (3) as a strategy map (link between strategic goals and four perspectives described in Balance Scorecard platform – finance, business processes, customer, and employee). The next phase shows the alignment between strategy objectives and operational activities (4) that use all channels

of communication between managers and employees involved in operational execution tasks, that allows to define all KPIs (key performance indicators) (5) needed to achieve all goals defined at the first stage of strategy planning. Controlling and monitoring phases (6) are a crucial part of this milestone, allowing to distribute appropriate information about performance achievements to managers onwards. After this point, benchmarking reviews would retrieve best practices and analysis of lessons learned (7) from all mistakes made over the whole process of strategy execution monitoring. All milestones interact with each other by feedbacks and with quality gates using total quality management approach and learning from mistakes, correcting processes in continuous growth and development. At the level of each individual process of building a strategy, tools and methods were interrelated to create an integrated “map of processes” of strategy as a whole.

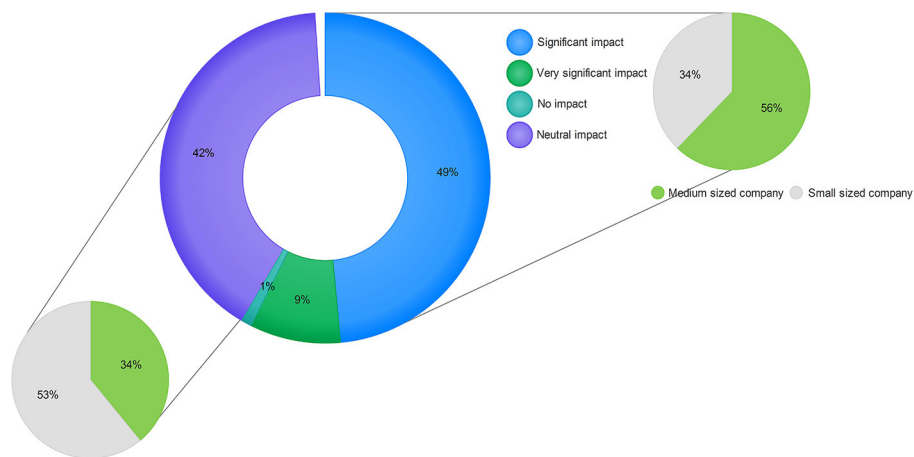


Figure 4. Processes and Quality Impact on the strategy execution

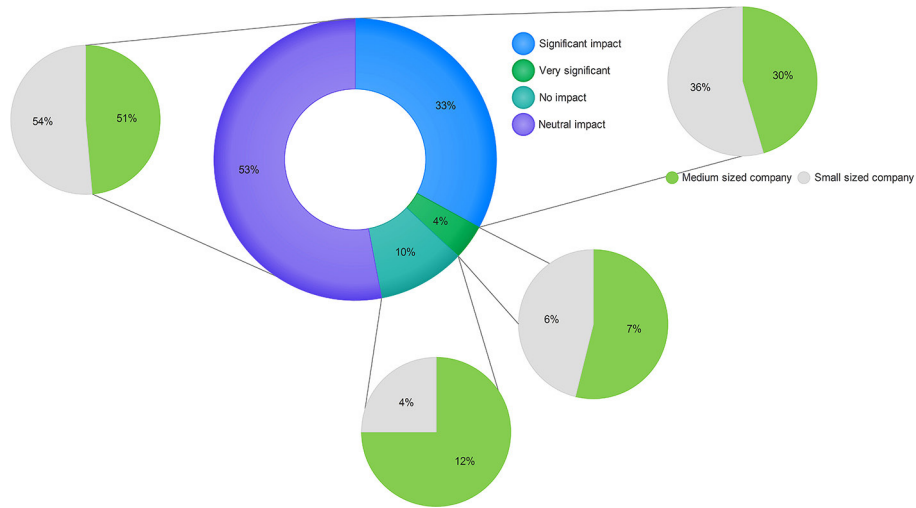


Figure 5. Impact of Organizational culture on the strategy execution

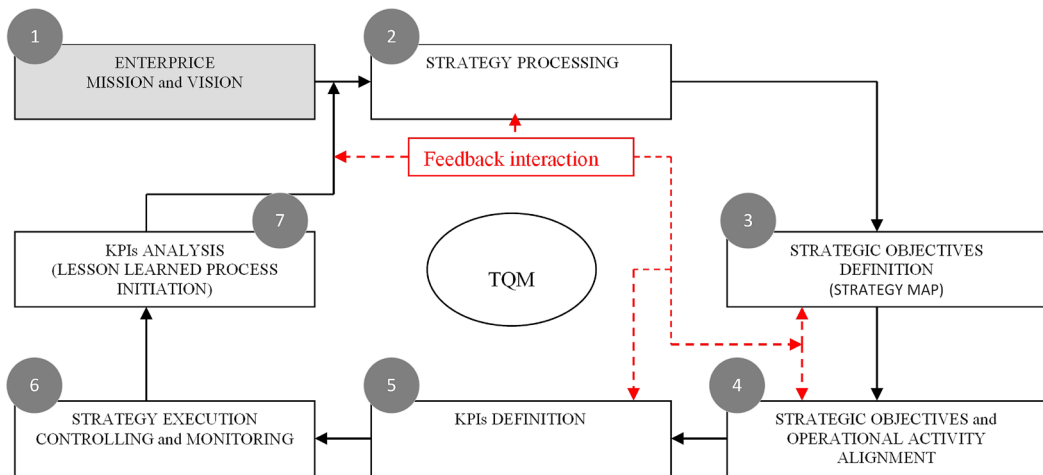


Figure 6. Primary process approach in building strategy in SMEs

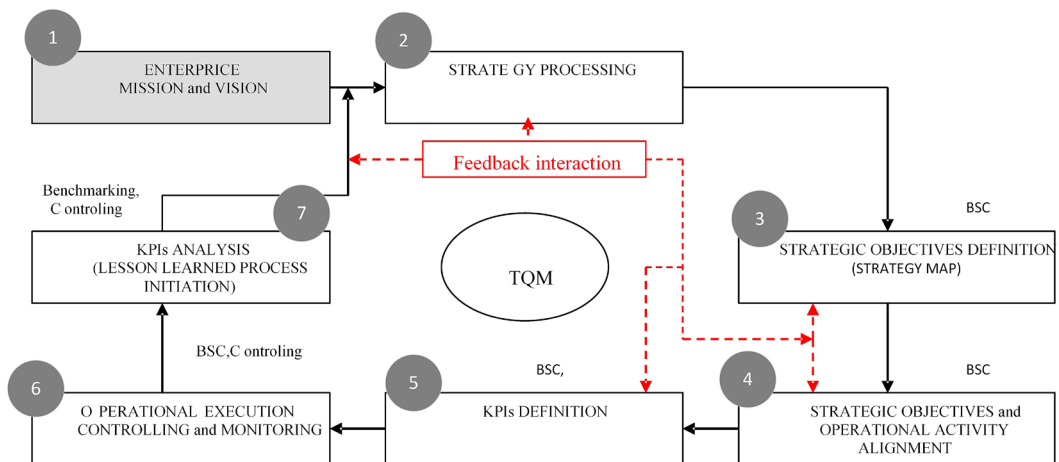


Figure 7. Innovative multifaced knowledge management-based approach in building strategy in SMEs combining BSC, controlling, benchmarking tools and methods

DISCUSSION

When analyzing the extensive structure, it is observed that the quality management system (TQM) covers all sub-processes and occupies a central place as a whole. As a system of continuous improvement, it penetrates all areas of the strategy implementation map.

The presented multifaced approach allows all employees on individual organization structure levels to cooperate in searching for the best solutions and sharing best practices using benchmarking processes. Knowledge is allocated throughout the model parts in each single chain. It is developed and replenished by employees' skills and social communication capabilities strictly influencing people's ownership in particular areas of responsibility. It also allows to develop the professional skills of inexperienced managers to get a better understanding of the whole business process. Linked processes combined with tools and modern technologies determine company strategy development with local business unit planning. The products of the processes are both strategically and execution wise compared and dynamically improved. The ongoing evaluation provides cross-checking the progress in better strategy execution phases, which leads to a better company market position. This also brings real value for customers, keeping goals on a good track for building better relations with customers.

With regards to internal organization and human resources, aspects such as 'diagnostic system' provide value for each employee – building trust and ability to integrate what has been shown in many research concepts (Korsgaard, 2014, Fink and Kessler, 2010). This aspect builds a reflection on the integration of abilities and better communication between either managers or employees on lower levels of an organization. Each employee is engaged in global strategy execution, feeling responsibility for his/her part of the business processes, enhancing abilities to anticipate effectively future uncertainties including breakdowns with business areas and market changes. Managers discuss each problem, openly work together searching for the best solutions using all available methods and tools creating a Knowledge Management System that is the best option for their company. The proposed approach for building knowledge management in terms of human resources reflect intellectual capital and organizational performance [33].

RESEARCH LIMITATIONS

The disadvantage of the research relies on the number of samples due to the limitation of the considered companies. In the empirical study, ten cases have been interviewed. A small sample size of the interviewed parties does not provide reliable results. The examined sample seems not to be statistically representative under the analyzed aspects. So, more observations are needed to help verify this constructed approach. It can be achieved by examining a larger number of organizations. It will be aimed at increasing a chance a success in implementation into practice, providing robustness to analysis and the utility of this innovative approach.

The presented innovative and multifaced approach in terms of the three aspects should be enriched with IT- knowledge tools. Therefore, it is suggested to be extended in further research. This model might also be enhanced by embodying an evaluation/measurement of a knowledge management process for modelling uncertain/uncontrollable factors. The future research discussion should also be focused on innovations respecting new systems and processes mentioned in literature [34–36]. New opportunities also lie also in finding the influence of the knowledge management-based strategy on managerial preference amongst collaborating organizations.

CONCLUSIONS

The paper presents the knowledge management-based strategy framework, which is based on the three aspects addressing SMEs: "Modern Technology", "Processes and Quality", and "People and Organizational Culture". The multifaced approach places business knowledge at the center of organization' operations to complete capabilities of a company. The outcome confirmed the strategic role of functional factors used for the research with the best approach of quality and processes, including significant impact of organizational culture that has received a second place in the strategy execution factor. The worst visible outcome concerns modern technologies. It proves the statement that modern technologies implementation would not cover the strategy execution effectiveness growth within the organization.

The paper is of value because the considered strategy might be used as useful guideline for

SME's managers to meet their set goals. Furthermore, strategy implementation in place may contribute to increase the company's performance and achieve financial and non-financial prosperity. In the designed approach, each process is explored individually, but results interpreted holistically.

From the methodological perspective, the empirical study was carried out based on systematic literature review from evidence achieved because of the investigation of companies concerning different types of knowledge, specifically, technological, operational and culture wise.

The paper contributes to the current body of knowledge-on-knowledge management presenting results for SMEs. Based on experience of one of the paper's authors, the implication to practice seems to be possible by integrating strategical, qualitative, and quantitative tools, goals, KPIs with the existing business processes supported by adopted methods. To create a knowledgeable organization, the organizations must intensify work to screen the current state of today's knowledge management and then implement not only business goals, but also align it with the organization strategy.

The approach could be applied by executives in an efficient way enabling the companies to achieve sustained competitive advantages at the maximal use of resources.

The article seems to be of interest to not only practitioners but also researchers dealing in the fields of knowledge management and its alignment with organization 's strategy.

From the above-mentioned considerations, a few important conclusions for science-based organizations and their management can be stated:

- traditional methods and technics of strategy creation and execution should be verified continuously,
- managers must be driven to better invention, creativity, higher level of flexibility in all steps of strategy execution,
- attributes like leadership, innovations, creativity, organization values and ability to learn it became particularly valuable.

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