

D. A. TSENOV ACADEMY OF ECONOMICS
DEPARTMENT OF STRATEGIC PLANNING

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FORMULATING HORIZONTAL AND
VERTICAL INTEGRATION STRATEGIES IN
BUSINESS

ABSTRACT

of a dissertation for awarding the educational and scientific degree of
Doctor, Doctoral programme “Planning” at the “D. A. Tsenov” Academy
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The materials for the defense are available in the PhD and Academic Development department at the D. A. Tsenov Academy of Economics – Svishtov.

I.GENERAL CHARACTERISTIC OF THE DISSERTATION

1.Relevance of the research. The undeniable dynamism of contemporary business environments is the result of technological innovation, changing customer preferences and the globalization of the economy. In this context, companies face the need to be agile and reactive in order to maintain and increase their competitiveness.

Integration strategies, including vertical and horizontal integration, are essential to business performance. From managing internal processes more efficiently, to improving supply chain visibility and managing the global structure more cost-effectively, integration strategies give companies comprehensive control over operations while ensuring that their partners' business operations run smoothly and efficiently. By using such strategic solutions, companies can limit delivery delays, secure supply chain "bottlenecks" and gain a clear and centralised view of revenue-enhancing processes, resulting in better customer service.

2.Degree of development of the problem. This dissertation is based on the research of Bulgarian and foreign researchers in the field of strategic business integration. With direct relevance to the dissertation are the studies of **Iv. Georgiev, K. Todorov, D. Panayotov, At. Damyanov, N. Yankov, L. Massa, Ch. Tucci, I. Team, M. Porter**, etc. In spite of the existence of the mentioned studies in this scientific field, we are currently witnessing new, continuous and dynamic economic processes and phenomena that are changing the face of modern management and its constituent processes. A new and sophisticated approach to the management of business integration processes and the strategic decisions applied is needed in view of the prospects for the successful development of European markets.

3. Research thesis. It states that the methodologically based formulation of horizontal and vertical integration strategies, combined with

consideration of sector-specific influencing factors, helps to overcome complex problems in product-market and technological innovation, and business expansion and thus favors the achievement of growth, sustainable development or business recovery.

The above formulation represents the assumption that the development of horizontal and vertical integration strategies, following methodologically based approaches and addressing sector specific influencing factors, can act as a key tool to overcome complex challenges in product-market and technological renewal and business expansion. The research focuses on creating optimal frameworks for business integration, not limiting itself to seeking a clear-cut answer “for” or “against” integration, but rather looking to identify how a balanced level of integration can be achieved that is appropriate to the specific case and sector, and what methodological approach should be used to manage this complex process.

4. Object and subject of the research. The *object* of research in the dissertation are the strategies for vertical and horizontal integration of business, and the *subject* – the main methodological approaches for the development of these strategic decisions in companies from the metalworking industry.

5. Aim and objectives of the dissertation. The *aim* of the dissertation is to examine the process aspects of formulating and implementing horizontal and vertical integration strategies for companies in the metalworking sector (specifically Class 24.2 and Class 24.3)¹ and to

¹ Code according to Classification of economic activities 2008 (NACE.BG-2008)
Sector C: Manufacturing
Division 24: Manufacture of basic metals
Group /Class 24.2 Manufacture of tubes, pipes, hollow profiles and related fittings, of steel
Group /Class 24.3 Manufacture of other products of first processing of steel

synthesize measures and mechanisms to improve the applicable activities to support business change and development.

The concrete *objectives* are:

- evaluating the specific characteristics of strategic business integration performed in the framework of strategic management and planning;
- empirical study of the peculiarities of the formulation of horizontal and vertical integration strategies in Bulgarian business organizations;
- generation of advanced methodological solutions for the formulation of horizontal and vertical business integration strategies, followed by a fragmented approbation to assess benefits and potential problems.

6. Research methods. Descriptive, inductive and deductive methods were used in the study. Secondary analysis of information from other empirical studies on the topic has been conducted. For the empirical study of organizations in the metalworking industry in Bulgaria, the in-depth interview and survey methods were applied. The data were processed using IBM SPSS Statistics software package, with univariate and bivariate distributions functionalities.

7. Structure. The dissertation is structured in: introduction, argument in three chapters, conclusion, works cited list and appendixes.

8. Research limitations. This includes: the time interval of the own surveys (covering the period 2022-2024), the empirical study includes only Bulgarian companies in the metalworking industry (Class 24.2 Manufacture of tubes, pipes, hollow profiles and related fittings, of steel and Class 24.3 Manufacture of other products of first processing of steel according to Classification of economic activities), with a 40% response

rate, and does not consider other types of business integration such as diagonal integration, conglomerate integration, etc.

II. CONTENT OF THE DISSERTATION

INTRODUCTION

The relevance of the development is presented. The research thesis is formulated. The subject, object, aim and objectives of the dissertation are defined. The methodology of the study is described.

CHAPTER ONE. BUSINESS INTEGRATION AND STRATEGIC PLANNING

1.1.Models for business organization development

1.1.1.Business models – conceptual aspects

Viewed collectively, the business model in the context of business integration strategies plays a key role in determining the success of integration and achieving synergy and added value from the new organisation. It needs to be thoroughly analysed and designed to ensure the optimal integration and sustainability of the business after the integration.

1.1.2.Sustainable business models

Even more important than the existence of a developed business model is the existence of a developed Sustainable Business Model (SBM). The conclusion is that the usage of models in management is not limited to creating a reflection of the existing reality. Instead, models serve as tools for structuring information and creating “insight” – new understandings and analytical approaches. Their purpose is to support managerial decision-making by allowing the exploration of different scenarios and the assessment of their implications. Modelling plays an important role in the strategic development process and follows a chain starting with conceptualisation and including modelling, scenarios, evaluation and management decision making.

1.2.About the basic relation “conceptualizing – strategizing – planning”

1.2.1. Conceptualization as an initial element

In the pursuit of summarization, a business model is a framework that describes how a company creates value and generates revenue through the products or services it offers. This model defines fundamental aspects such as how the company reaches its customers, how resources are expended, how revenue is generated, and how business sustainability is maintained. For business organisations targeting the European market, the business model should also reflect the specific challenges and opportunities associated with that market.

Generally, the business model of the Euro-market oriented company adapts to the specific requirements and opportunities of the European Union market and serves as the basis for strategic planning and operational management of the business in this region.

1.2.2. Strategizing – procedural aspects

First stage. *Formulation of organizational goals (corporate goals).*

Second stage. *Analysis of external and internal factors.*

Third stage. *Defining the objectives of strategic business units – SBU (business objectives).*

Fourth stage. *Synchronization of the objectives of the SBUs/divisions.*

Fifth stage. *Analysis of scenarios for the presentation of draft strategies.*

Sixth stage. *Strategy selection.*

1.2.3. The strategic plan – final element

The strategic plan reflects the activities of the individual SBUs. And furthermore their place in the company's strategic target portfolio. Which invariably means the pursuit of a single direction for development, combined with the pursuit of synergies, economies of scale and other positive effects that enhance the overall competitiveness of the respective

sales markets. In this context is the universal content of the strategic plan with structural parts such as: strategic starting position; strategic market potential; target system; organization-wide (corporate) strategy; plans, programs, projects and budgets; monitoring and control mechanisms.

1.2.4. Importance of the corporate approach – critical assessments

In conclusion, *corporate planning is a reliable tool for increasing the efficiency of functional activities and processes, and thus for increasing overall competitiveness.* The key point in this context is the optimal choice of a guiding approach for the development of the individual strategies.

1.3. Formulation of strategic integration – main alternatives

1.3.1. Types of strategic business integration

The usage of the criterion of the priority developed dimension in the formulation and implementation of the strategic integration in the development of the business organization results in the differentiation of the following *types*:

- *Internal integration.* This is most often used to look for opportunities to integrate internal activities such as logistics, production, sales, service, etc. A key point is the clear distribution of responsibilities along the entire production chain, or the entire reproduction process. It is characteristic of internal integration that is used as a priority in large and divisionally developed corporate organisational structures;
- *External integration.* In this case, efforts are led to rationalise the work of functional units or SBUs related to so-called external partners (suppliers, distributors, customers, related companies, etc.). The aim is to build effective network interconnections, i.e. effective links between external and internal partners. A determining factor for success is the construction and implementation of modern digital

communication systems for the exchange of critical information between partners.

1.3.2. Forms of implementing strategic integration

The two main *forms* through which strategic business integration works are horizontal integration and vertical integration, the specific features of which will be assessed below.

Horizontal integration. This strategy is characterised by tying up, resp. gaining control over other business organisations, offering similar products on the market. Practically, horizontal integration implies the acquisition of a business operating at the same level of the value chain in the same sector/subsector.

Vertical integration. Successful implementation of this form of integration provides the business organization with more complete control over the production and distribution processes of the relevant products. The company is enabled to expand its competitive strength in the relevant market by reducing its costs and increasing the range of its products.

1.3.3. Expected results – comparative assessments

The choice of a specific type and a specific form of strategic business integration depends on the assessments of the organizational structures, the opportunities for efficient use of resources, the trends in the sector and the specifics of the external environment of a particular business organization. This marks the starting point for efforts aimed at achieving strategic integration priorities. Following a successful review of an organisation's core competence, strategic integration can be implemented and evaluated through appropriate corporate management systems, strategic management practices, strategic leadership and strategic control. The strategic integration process must always be accompanied by subsequent adjustments in the management and coordination of functions and roles (both external and internal to the organisation). The guiding criterion for

these decisions should be the degree of maximisation of the positive aspects and, respectively, minimisation of the negative effects.

1.4. Horizontal and vertical integration strategies – pros and cons

1.4.1. Research framework

For the purposes of the in-depth interview during the period 1.09.2022-20.09.2022 a total of 11 interviews were conducted with representatives of the management teams of companies in the metalworking industry in Bulgaria. These are specialists in the positions of production managers or sales directors and/or financial managers/chief accountants of companies in sector C Manufacturing, 24 Manufacture of basic metals, 24.2 Manufacture of tubes, pipes, hollow profiles and related fittings, of steel and 24.3 Manufacture of other products of first processing of steel. The thematic areas covered in this study are mostly limited to: the advantages and disadvantages of vertical and horizontal integration considering the characteristics of the sector; the applicability of the methodological framework for decision-making.

1.4.2. Advantages and disadvantages of horizontal integration – empirical assessments

In applied aspects, the horizontal integration of the activity is realised with relatively lower fixed costs. This is possible because of the option to adjust the degree of market risk by changing the relative share of product groups/product units, resp. services provided “externally”. The risk of “capacity mismatch” is also eliminated.

The implementation of the introduced positive features of horizontal integration may be limited due to a too high level of integration “outside”. A situation in which there is a significant volume of purchases or sales from and to similar external partners risks weakening the competitive advantages of the lead company.

1.4.3. Advantages and disadvantages of vertical integration – empirical assessments

A leading advantage of vertical business integration and at the same time an argument “for” its implementation is associated with the possibility of cost reduction. These are the costs of moving the products, resp. raw materials from one phase of reproduction to another (the process of creating product value and profit). Another positive is the possibility of ensuring the normal operation of supply and marketing activities. On the one hand, the vertical integration “backward” helps to facilitate the provision of the necessary raw materials for production (respectively quality, quantity, delivery conditions), and on the other hand, the vertical integration “forward” improves the “balance” of interrelations with customers and results finds expression in achieving a higher level of satisfaction of their demand.

The strategy of vertical business integration also contains some negative aspects, such as a limited ability to respond successfully to changes in demand. A reduced degree of flexibility may be reflected in a decline in sales revenue, combined with an increase in the cost of implementing new supply and technology solutions, which may negatively affect the organisation’s financial performance.

1.5. Basic approaches to structuring integration strategy development activities

1.5.1. Critical analysis of basic approaches

Four main (groups of) approaches for formulating strategies, resp. for structuring the individual activities within the phase of corporate planning can be found in the applicable scientific literature, as follows: the standard approach; the hierarchical approach; the transformational approach; and the multidivisional-organizational approach. The choice of a particular approach for developing the strategies depends on the specifics

of the company, the style of the SMT, but also on the guiding consideration “for” taking steps to relate the activities vertically and horizontally.

1.5.2. Methodological framework for formulating strategic solutions for vertical and horizontal integration

The results of our in-depth interview reveal both certain advantages and potential difficulties in applying this methodology.

The positive characteristics are related to: the presence of universality in the methodology, which favours its facilitation and implementation in different situations and problems; considering the arguments of the partner organisations in the elaboration of the strategic decisions; the presence of high potential for the realisation of the integration objectives through the optimised use of the available resources; etc. The potential “bottlenecks” of the application of such a structured methodology are: disrupted rates of realization of the goals when the initial situation changes and the parameters of the integration strategy need to be updated; the appearance of conflicts between the parties involved due to the unwillingness to implement a strategic decision; etc.

CHAPTER TWO. SPECIFICITY OF THE FORMULATION OF HORIZONTAL AND VERTICAL INTEGRATION STRATEGIES IN BULGARIAN BUSINESS ORGANIZATIONS (EMPIRICAL STUDY)

2.1. Introduction to applied scientific research

2.1.1. Aims of the empirical study

The goals of the empirical study cover several key aspects:

First, to present a detailed analysis of the state of horizontal and vertical integration decision-making in Bulgarian business organisations in the metalworking industry.

Second, to identify the key factors and mechanisms that influence the integration process in Bulgarian organisations.

Third, to identify successful practices and challenges faced by organisations in implementing integration strategies.

Fourth, based on the analysis and interpretation of the data, the study to provide a basis for specific recommendations and guidelines for business organizations in the metalworking industry in Bulgaria, oriented towards the improvement and development of their integration strategies (see Chapter three)

This structure of the goals justifies and integrates all aspects of the study related to the specificity of business integration in Bulgarian business organizations in the metalworking industry (Class 24.2 Manufacture of tubes, pipes, hollow profiles and related fittings, of steel and Class 24.3 Manufacture of other products of first processing of steel according to the Classification of Economic Activities), and specifies the relationship between the questionnaire and the results expected to be achieved.

2.1.2. Methodological framework

The efforts in the research are focused on analyzing and understanding the topic of strategic integration in business, specifically in metalworking companies. For that purpose, we use a variety of research methods that are specifically defined. This approach includes conducting a survey and analyzing selected literature sources. The methodology is adapted to the specific research tasks and problems related to horizontal and vertical integration in metalworking companies in Bulgaria.

The application of the survey method was carried out according to a standardized approach. This methodology includes a specially designed questionnaire that contains clearly defined questions, with predefined possible answers, as well as open questions. Each of these questions was

selected to provoke responses that were substantive to the problem framework of our study. The research process involved the use of a questionnaire containing 29 questions that were answered by the research participants.

The *general population* comprises 43 companies, including 21 in Class 24.2 Manufacture of tubes, pipes, hollow profiles and related fittings, of steel and 22 in Class 24.3 Manufacture of other products of first processing of steel according to the Classification of Economic Activities (CEA).²

The questionnaire was sent out to all business organisations in the general population. 52 questionnaires were completed by 23 organisations. The response rate was about 40%. Due to the apparent practical impossibility of clarifying the values of the surveyed attributes for absolutely all representatives of the general population, we planned to select *a sufficiently large finite number of representatives (sample)*. This approach allows us to make a representative assessment using a limited number of participants and thus facilitate the study.

Through a complete survey, we achieve the goal that the population under study (the sample) possesses and represents the main features of the general population in order to obtain the most reliable conclusions from the analysis of the research.

As it was mentioned, 52 representatives of 23 business organizations from the metalworking industry in Bulgaria were actually surveyed in the study (in the period May-September 2023), as follows: 12 according to Class 24.2 Manufacture of tubes, pipes, hollow profiles and related fittings, of steel and 11 according to Class 24.3 Manufacture of other products of first processing of steel.

² Based on data from the National Statistical Institute (NSI).

The structure of the organisations included in the study according to the size criteria is as follows: 0 micro; 8 small; 14 medium and 1 large enterprises. According to the indicator of the share of exports in trade turnover (averaged over the last three years), companies belong to the following groups: 0-20% - 5; 20-40% - 7; 40-60% - 8; 60-80% - 2; 80-100% - 1. According to the values of the vertical integration ratio (VIR), the studied business organizations classify into the following groups: 0-0,2 – 8; 0,2-0,4 – 12; 0,4-0,6 – 3; 0,6-0,8 – 0; 0,8-1,0 – 0.

Sampling reliability is related to the degree of truthfulness of the information collected, i.e., how true the measurements or responses of the persons surveyed are. The survey methodology ensures credibility by addressing the survey to a category of persons including the management positions, including *production director, commercial director, financial director/chief accountant*. The results obtained from the 23 companies surveyed indicate the current situation of business organisations in this sector/subsector in our country.

The data collected in the process of the study were analyzed using the IBM SPSS® Statistics software platform. In the specific analysis, functionalities related to univariate and bivariate statistical distributions (including cross-tabulations) were used. This combination of tools allows researchers to conduct a detailed and informative analysis of the collected data.

2.1.3.Expected conclusions and contributions

The expected positives of the current study are numerous and focus on several key aspects:

1. *Better understanding of the management of business integration in Bulgaria.*
2. *Analysis of decision-making challenges.*
3. *Reference source for business leaders.*

4. *Competitiveness improvement.*
5. *Collaboration and interaction.*
6. *Formulating business strategies.*

2.2. Descriptive data analysis – graphical representation and evaluation

2.2.1. Methodologies and tools for formulating integration strategies

The first section of the survey focused on methodologies and tools for formulating horizontal and vertical integration strategies in Class 24.2 and Class 24.3 organizations. The summary conclusions are:

1. *Methodologies for formulating integration strategies.* The data show that the vast majority of organizations prefer to use specific methodologies in formulating their horizontal and vertical integration strategies. This highlights the need for a systematic and structured approach in planning integration efforts.
2. *Tools to support integration.* Respondents indicated the use of certain tools to help formulate and implement integration strategies. Both software solutions and methodologies and models for the analysis and design of integration processes were considered.
3. *Priorities in the integration strategy.* The data reveal that business organizations prefer to focus their integration strategies on certain priorities. A focus on certain technological aspects, cooperation or other important factors is suggested.

2.2.2. Managerial influence and key factors for integration

In the second section of our empirical study, the focus was on managerial influence and the key factors that affect integration. During the data analysis and synthesis, we defined the following main conclusions:

1. *Managerial influence on integration.* The results show that management has a determining role in supporting integration

processes. The SMT should take an active role as guarantor in aligning strategies and implementing integration solutions.

2. *Key factors for integration.* Examination of the primary data has identified a number of key factors that strongly influence the success of integration efforts. Regular and precise planning and preparation are essential, as is flexibility to adapt to change. In addition, communication, both internally and with external stakeholders, is important to the success of the integration process.
3. *Coherence and strategic goal.* After careful analysis of the data, it became clear that alignment between the integration goals and the strategic goals of the organization was a key success factor. This factor highlights the need to clearly define strategic goals and their implementation to ensure that business integration supports the organization's core (corporate) strategy.

The summary conclusions of the second section of the research highlight the complexity of managing the integration process and its relationship to strategy, as well as the key factors involved. At the same time, they point us towards a broader view of the need for an integrated and individual approach when considering each company and its integration efforts.

2.2.3. Organisational integration and process management

After data were processed and analyzed, we reached the following summary conclusions:

1. *Organizational structure and integration.* The majority of business organizations reported that their organizational structure serves a key function in managing integration efforts. This highlights the importance of a coherent organisational structure to support integration objectives and strategies.

2. *Process management during integration.* Respondents underlined the need for systematic management of integration processes. However, this aspect faces complex issues related to communication, cooperation and coherence of activities.
3. *Use of information technologies and systems.* Companies indicated that information technology and specific software solutions are determinant in supporting integration efforts. Which highlights the importance of technology resources in the context of integration.
4. *Staff training and development.* Participants indicated that staff training and development are key factors for successful organizational integration. The data illustrates the need for competent staff who understand and support integration processes.

In conclusion, the third section of the survey highlights the complexity of organizational integration and process management during integration efforts. Organizational structure, management practices, the used information technology and staff development are important contributors to successful integration in organizations.

2.2.4. Business integration and reengineering process

The fourth section of the study analysed the business integration and BPR processes in Class 24.2 and Class 24.3 companies. The conclusions are:

1. *Steps in the integration and reengineering process.* Participants emphasize the importance of process phases in performing integration and reengineering efforts. Important aspects are process identification, analysis of current processes, definition of new processes, implementation and control, training and communication, monitoring and improvement of processes.
2. *Measurement of results.* Respondents emphasize the need to measure and evaluate the results of integration and reengineering

efforts. This aspect includes the usage of key indicators to assess performance and results.

3. *Complexities and challenges.* Business organizations report encountering challenges and complexities during integration and reengineering projects. These variety from complex technology integrations and staff resistance to security and legal aspects.
4. *The role of information technology.* The respondents indicated that IT is key in supporting integration and reengineering efforts, especially through automation process and the implementation of an integrated ERP-type management information system. Particularly important are integrated information systems, business analytics and mobile applications.
5. *Management of complex projects.* Companies assign importance to the management of integration and reengineering projects. The need for lean organisation and resource management during projects is emphasised.

As concluding comments, the fourth section of the survey illustrates the important role of process steps, outcome measurement, challenges encountered and the role of information technology in business integration and process reengineering. Managing complex projects is essential to the successful implementation of these efforts.

CHAPTER THREE. METHODOLOGICAL ASPECTS OF FORMULATION OF HORIZONTAL AND VERTICAL INTEGRATION STRATEGIES IN BUSINESS

3.1. Technologies for formulating strategic integration decisions

3.1.1. Analysis of the current state of business

Analysis of the current state of business is a defining element of the process of formulating strategic integration decisions. It provides a comprehensive view of the internal and external factors that influence the success of the company and serves as a basis for developing effective strategies. Through systematic and in-depth analysis, companies identify their strengths and opportunities for growth and address their weaknesses and threats, ensuring better chances for successful integration and sustainable development.

3.1.2. Methods for assessing internal and external factors

The analysis of internal and external factors is a key process for strategic planning and business integration. Each method has its advantages and disadvantages and is suitable for different contexts and purposes. To ensure a comprehensive and accurate assessment, organisations should use a combination of methods and take a critical approach to interpreting the results. Combining different methods would provide a deeper understanding of internal and external factors and help formulating effective integration strategies.

3.1.3. Using business models and simulations

Using business models and simulations is essential for strategic planning and formulating effective horizontal and vertical integration strategies. Business models provide a framework for understanding the key elements of a business and their interrelationships, while simulations allow organisations to test different scenarios and predict the potential consequences of their implementation. Despite some disadvantages such

as complexity and dependence on data quality, these tools provide significant benefits, including reducing risk and improving the process of decision making. The combined usage of business models and simulations can assist organizations in adapting to dynamic business environments and formulating successful integration strategies.

3.1.4. Implementation of data management technology platforms

DMP implementation is a key element for successful horizontal and vertical integration and strategic business planning. DMPs provide significant benefits including data centralization, improved data accuracy and reliability, fast and efficient analysis, increased security and improved decision making. Despite challenges such as high start up costs and integration complexity, successful DMP implementation has the potential to deliver significant competitive advantages and improved operational efficiencies.

3.2. A comprehensive methodology for formulating strategic solutions for business integration

3.2.1. Technology for formulating an integration strategy

Formulating an integration strategy in the contemporary business context is essential for the successful functioning and competitiveness of organisations. We have chosen the name “*SMART Integra*” in order to highlight the key principles that the strategy follows and to provide clarity and structure to the development and implementation process. The name SMART is an acronym that identifies five main criteria: Specific, Measurable, Achievable, Relevant, Time-bound. These criteria provide a framework for formulating effective objectives and measures that are essential for successful business integration.

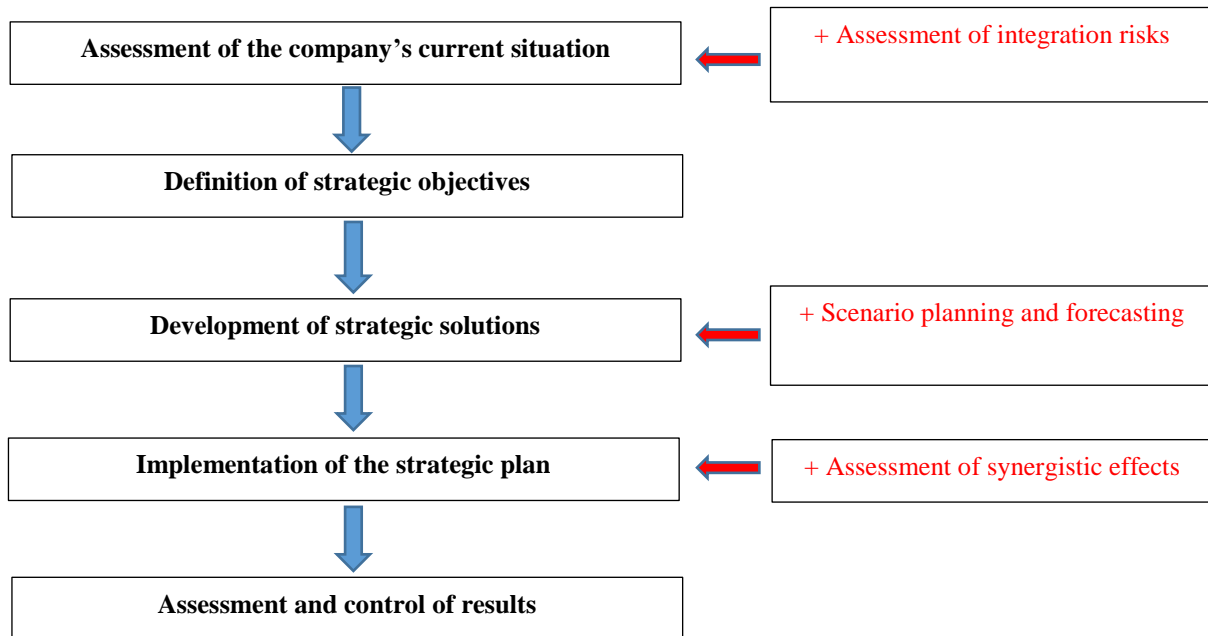


Fig. 1. SMART Integra technology for formulating integration strategies.

3.2.2. Methods for assessing integration risks

Business integration, whether horizontal or vertical, has risks that need to be systematically and thoroughly assessed. In this part of the study, we will present different methods and tools to assess the risks of business integration. The key points are: risk identification; probability and impact analysis; risk matrices and mapping; scenario analysis; use of risk management tools; stakeholder communication and engagement.

3.2.3. Scenario planning and forecasting

Scenario planning and forecasting is a powerful tool for managing uncertainty and risks in the business environment. Regarding Class 24.2 and Class 24.3 metalworking companies, these tools can be decisive for achieving sustainable growth and adapting to future challenges and opportunities.

3.2.4. Assessment of synergistic effects

Among the metalworking companies studied, synergy effects may be particularly significant in the following aspects: optimisation of production processes; shared resources and technologies; stronger market penetration.

3.2.5. Results of fragmentary approbation

The final results of the approbation show with a high degree of confidence that the SMART Integra methodology has the potential to be transformed into an effective integration tool in companies of the metalworking sub-sector regarding Class 24.2 and Class 24.3, but requires further improvements to increase efficiency and flexibility.

3.3. Management impact on key performance factors

3.3.1. Identifying the key success factors

The identification of key success factors is essential for managing business integration and achieving strategic goals, such factors typically include: market position and customer satisfaction; operational efficiency and production processes; financial performance and sustainability; innovation and technological development; human resource management.

3.3.2. Change management in organisational structure

Change management in organisational structure is a complex process that requires well-developed plans and strategies, as well as active involvement and support from management teams and staff.

3.3.3. Influence of leadership and corporate culture

Leadership and corporate culture are fundamental elements for the successful management and achievement of the company's strategic goals. Both leadership and corporate culture are important in shaping organisational identity and achieving sustainable success.

3.3.4. Improving communication flows

Improving communication flows within the organization is a pivotal element in effectively managing key performance factors. Through clear strategies, supported by advanced technology and a proactive communications culture, Class 24.2 and Class 24.3 companies can strengthen their internal collaboration, accelerate their processes and improve their overall market performance.

3.3.5. Measures to improve employee motivation

Improving employee motivation is essential for the successful formulation of the horizontal and vertical business integration strategy.

Improving employee motivation and productivity is a complex process that requires a complex approach and the integration of different strategies and measures. By planning and implementing the above strategies carefully, organisations can create a stimulating and supportive environment for their employees, leading to higher effectiveness and successful market performance.

3.5. Business Process Reengineering

3.5.1. Fundamentals of Business Process Reengineering

BPR is a powerful tool to improve the competitiveness and adaptation of the organization to the contemporary market requirements. Using a tailored approach and proper change management, companies can achieve significant improvements in operational efficiency and customer satisfaction.

3.5.2. Strategies for business process optimization

Business process optimization is an important strategy for achieving competitive advantage and sustainable company development. By systematically applying the indicated strategies and approaches organizations can increase their efficiency and adaptability to the dynamic conditions of the contemporary market.

3.4.3. Tools and techniques for reengineering

The selection of appropriate BPR tools and techniques depends on the specific needs and goals of the organization. Combining the above tools with proper change management and staff adaptation is the key to successfully implementing change and achieving significant improvements in organizational performance and competitiveness.

3.4.4. Criteria for assessing reengineering results

The evaluation of the results of business process reengineering needs to be systematic and objective. The evaluation criteria should be defined in advance and be measurable in order to establish the real impact of the changes on the organisation. That will help the SMT to make informed decisions and continue to improve horizontal and vertical integration processes in the future.

CONCLUSION

The achieved results confirm the thesis that the methodologically based formulation of horizontal and vertical integration strategies, combined with the consideration of sector-specific influencing factors, helps to overcome complex problems in product-market and technological innovation, and business expansion. Such an approach is supportive of achieving growth, sustainable development or business recovery in the metalworking industry (Class 24.2 and Class 24.3).

III. REFERENCE OF SCIENTIFIC AND SCIENTIFIC-APPLIED CONTRIBUTIONS IN THE DISSERTATION

First. Based on the empirical research (through in-depth interview) conducted in the companies of the metalworking industry (Class 24.2 and Class 24.3) in Bulgaria, the leading arguments “for” and “against” the integration strategy are highlighted. Furthermore, the results show that the hierarchical approach to corporate planning is the most suitable for use in companies of the metalworking industry in our country considering their specificity.

Second. An empirical study has been conducted with a transparent and well-grounded methodology (using the survey method) and logical linkage to the aims and tasks of the dissertation, respectively covering the methodology and tools for formulating integration strategies, managerial influence and key factors in integration, organizational integration and process management, interrelationships and mutual influence of business integration and reengineering. Based on the resulting data, a better understanding of business integration management in Bulgaria, analysis of decision-making challenges, creation of a reference bank for business leaders, more effective collaboration and interaction, and overall improvement of competitiveness, are achieved.

Third. A comprehensive methodology for developing SMART Integra strategic solutions is suggested, including structured steps such as current state analysis, goal identification, action plan development and continuous monitoring. Its capabilities are also tested and directions for its further improvement are highlighted.

IV. LIST OF PUBLICATIONS OF THE DOCTORAL STUDENT

Articles:

1. D. Petropoulos, M. Chipriyanov, **Hr. Vasilev**. Contemporary plan-oriented digital tools and competences and skills for working with them, E Journal VFU, issue 18, 2022, 1-14, ISSN 1313-7514
2. **Vasilev, Hr.** Approaches for integration business strategies development, Annual Almanac Scientific Research of Doctoral Students, Volume XV, Book 18, “Tsenov” Academic Publishing House, 2022, pp. 502-514, ISSN 1313-6542
3. **Vasilev, Hr.** Strategic planning for business integration, E Journal VFU, issue 20, 2023, p. 163-183, ISSN 1313-7514

Papers:

1. **Vasilev, Hr.** Business models for organizational development. Jubilee international scientific and practical conference “Challenges for finance and economic accounting in conditions of multiple crises“, 9-10 November 2023, Tsenov Academy Publishing House, Svishtov, 425-430, ISBN 978-954-23-2426-3
2. **Vasilev, Hr.** Major alternatives in strategic business integration. Jubilee international scientific and practical conference “Challenges for finance and economic accounting in conditions of multiple crises“, 9-10 November 2023, Tsenov Academy Publishing House, Svishtov, 431-435, ISBN 978-954-23-2426-3
3. **Vasilev, Hr.** SMART Integra – technology for developing integration strategies. International scientific forum “Global and national business transformations – proactive management, financial-accounting and planning solutions“, 25-26 October 2024, Tsenov Academic Publishing House, Svishtov, 273-277, ISBN 978-954-23-2513-0

V. RERENCE OF MEETING THE MINIMUM NATIONAL REQUIREMENTS FOR OBTAINING THE EDUCATIONAL AND SCIENTIFIC DEGREE OF DOCTOR UNDER THE REGULATIONS ON THE IMPLEMENTATION OF THE LAW ON ACADEMIC STAFF DEVELOPMENT IN THE REPUBLIC OF BULGARIA

National requirement in number of points: 30,00

Number of **articles**, published in non-refereed peer-reviewed journals or published in edited collective volumes: 3

Number of points for the author: **23,33**

Number of **papers**, published in non-refereed peer-reviewed journals or published in edited collective volumes: 3

Number of points for the author: **30,00**

Total points: **53,33**

VI. DECLARATION OF ORIGINALITY OF THE DISSERTATION

The presented dissertation in a total volume of 272 pages on the topic: “Formulating horizontal and vertical integration strategies in business” is an original author’s work.

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3. The scientific results obtained, described and/or published by other authors are duly cited in the text and included in the bibliography.

18 December 2024

Doctoral Student:.....

(Hristo Vasilev)