



AGRICULTURAL UNIVERSITY PLOVDIV  
DEPARTMENT OF "MANAGEMENT AND MARKETING"

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**MARKETING STRATEGIES FOR MANAGING SALES OF CHEMICALS  
FOR FARMERS**

(Маркетингови стратегии за управление на продажбите на химически препарати за нуждите на фермерите)

Dissertation abstract for awarding the educational and scientific degree "doctor" in the scientific specialty "Organization and management of production" in professional direction 3.8 "Economics"

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# **I. GENERAL DESCRIPTION OF THE DISSERTATION WORK**

## **1. Relevance of the topic**

In the conditions of a market economy, enterprises achieve sustainable competitive advantages by using various competitive determinants. Pursuing a certain competitive strategy can lead to a durable market position. There are many strategies for achieving competitive advantages based on marketing, organizational, innovation or financial approaches to enterprise management. The choice of a competitive approach is determined by the entrepreneur's vision of how the business enterprise will establish itself in the market. The rapid entry of the enterprise into the market requires the use of capital on a large scale to implement a strategy to attack all flanks of the competition and quickly open the desired market segments. Attracting and concentrating capital in the business enterprise requires the entrepreneur to ensure certain levels of profitability and return on invested capital that satisfy the requirements of investors. This requires a strategic approach to the management of the enterprise, where the decision "how to combine the interests of the investors (who own the capital invested in the business model) and the customers, the users of the products offered by the business model?", takes center stage. Balancing these interests is a crucial factor for successful competitive development.

In these restrictive conditions, business leaders must use innovative management approaches to reconcile the interests of both stakeholders. Building sustainable competitive advantages requires a business enterprise to diversify its activities and thereby fully satisfy customer needs. Diversification of activities provides an opportunity to increase market power - a process directly related to the process of capital concentration. Greater diversification requires attracting more and more financial capital. Capital saturation is not an endless process, once a certain critical threshold is crossed, the effects of this process can transform and turn from factors determining competition into limiting market power.

The elasticity of capital increases with the increase in the relative share of variable costs (those costs whose size is determined entirely by the decisions of the company's management) in the amount of total costs. The reverse process occurs when the relative share of fixed costs increases in the amount of total costs. The change in the cost structure at a given volume of production begins to play an important role in managing the process of concentration of financial capital. As the concentration of capital in production increases, there is a change in the ratio between variable and fixed costs, since a higher

degree of capital saturation leads to a higher level of fixed costs (the costs that management must consider in managing you are). This effect leads to a loss of autonomy in decision-making regarding the long-term market development of the enterprise. Managers are becoming more responsive to the demands of investors, and optimizing the cost of raising capital is becoming an increasingly difficult process. At a certain point, the interest of the investors becomes the leading factor in the management of the market development of the enterprise, in which the requirements of the market are ignored. Investors require managers to focus more and more on the efficiency of the capital used in the enterprise and, on this basis, look for approaches to increase market power. and optimizing the cost of raising capital is becoming an increasingly difficult process. At a certain point, the interest of the investors becomes the leading factor in the management of the market development of the enterprise, in which the requirements of the market are ignored. Investors require managers to focus more and more on the efficiency of the capital used in the enterprise and, on this basis, look for approaches to increase market power. and optimizing the cost of raising capital is becoming an increasingly difficult process. At a certain point, the interest of the investors becomes the leading factor in the management of the market development of the enterprise, in which the requirements of the market are ignored. Investors require managers to focus more and more on the efficiency of the capital used in the enterprise and, on this basis, look for approaches to increase market power.

Another problem that the diversification process gives rise to is the increase in variable costs. Attracting financial capital for the needs of the diversification process leads to a higher level of variable costs. The relationship between capital concentration and production diversification reflects a decrease in the elasticity of capital, and inevitably managers reach a point where cost management becomes inefficient and complex. These regularities in capital management raise the question "at what levels of capital concentration does the firm reach its peak in market superiority?".

The main advantage of concentrated capital is that it enables rapid increases in market share through factors such as price leadership and product variety. Those business enterprises that have large-scale financial capital are able to perform a wider range of strategic financial activities than their competitors, which activities allow them to achieve a competitive advantage through the use of the financial factor. They create a complex organizational structure to manage their financial flows, in which structure they attract financial managers and specialists with experience in financial management, who increase the capacity of the enterprise to manage its competitiveness.

## 2. Thesis of the dissertation

In the current dissertation research, we raise the hypothesis that the marketing management of the chemical enterprise determines the level of competitiveness of its sales.

**The leading sub-hypotheses** of the study are:

- The concentration of capital in the chemical enterprise determines its potential to compete in the market and realize higher sales;
- The process of capital concentration in the chemical enterprise requires a management approach based on marketing. The implementation of this process requires consistent and full implementation of certain strategic marketing activities;
- The implementation of strategic marketing activities is determined to a significant degree by the presence of a marketing unit in the structure of the enterprise;
- The implementation of strategic marketing activities leads to an increase in the competitiveness of the chemical enterprise.

## 3. Purpose and tasks of the dissertation research

The purpose of this dissertation is to determine the influence of the enterprise's marketing unit and its strategic marketing activities on the level of sales.

In order to achieve the goal of the research, the following tasks are solved:

- (1) The essence of strategic business planning as an object of strategic management of the chemical enterprise is clarified;
- (2) Applying a conceptual framework to build a successful business strategy for better sales of chemicals for the needs of the farmers;
- (3) Application of a conceptual framework for the development of a marketing, production and financial plan of the chemical enterprise;
- (4) Implementation of a conceptual framework for evaluating the effectiveness of marketing strategies of chemical enterprises;
- (5) Analysis of the strategic marketing activities of chemical enterprises as a key supplier of chemical products to agricultural producers;
- (6) Formulation of recommendations to improve strategic marketing management as a factor for higher sales in the sector.

## 4. Object of research

The object of the scientific research are 30 enterprises from the sector of chemical processing and production of preparations for the needs of farmers, operating on the territory of the EU.

## **5. Subject of research**

The subject of research is the strategic management of the marketing activities of enterprises.

## **6. Research methodology**

The methods used in the study are:

- System analysis (object analysis presented as a system). The main goals of its application in this case are to derive and justify the main trends in the development of the investigated phenomena and processes.

- Situational analysis. Its application will be used to characterize the state of the surveyed enterprises at a certain time or for a certain period. Depending on the management's needs, a system of indicators will be used to characterize the state of competitiveness and the financial state of enterprises in the sector.

- Comparative analysis. It is used to draw certain conclusions about the place of the enterprise in the relevant sector in terms of financial status, investment activity, market presence, etc. For this purpose, comparative assessments of the main parameters of the competitiveness of enterprises in the sector are made.

- Diagnostic analysis. It is used for an in-depth study of the conditions and factors that led to the established state of the enterprise. When it is conducted, first of all, the main indicators will be determined, which give a generalized characteristic of the competitiveness of the enterprise. Next, the main factors that are considered to determine the level of competitiveness will be determined.

- *Statistical methods.* These methods are used to examine the properties of the study population and to test the research hypotheses.

- Constructive method. This method will be used to develop a structure (model) for applying certain management approaches and tools in the functioning of business units. Through this method, individual elements are assembled into a single whole, thereby creating an opportunity to realize synergistic effects.

Research period - 5 years. The indicators characterizing the state of the studied objects cover the period from 2015 to 2020 inclusive.

*Sources of information-* data from EUROSTAT, FAO, national statistical institutes, regulatory documents were used. Most of the information was collected through surveys and from the accounting documentation of the enterprises.

## **7. Structure of the dissertation work**

The dissertation work consists of an introduction, 8 sections, a conclusion, a list of used sources, in which there are 79 titles. The work is presented in 158 pages of typewritten text, 22 tables, 3 diagrams and 1 appendix.

**First section**"Essence of Strategic Business Planning" is dedicated to clarifying the basic principles, approaches and methods of business planning. The business model has been reviewed as the main tool for strategic business planning. Analyzed for the main advantages and disadvantages of business strategies and tactics known in theory and practice.

**Second section**"Business Strategy Development and Implementation" is devoted to the analysis of the business environment as a critical factor in the process of developing a successful business strategy. The main factors that make up the business environment - internal and external - are clarified.

The third section entitled "Business planning and the nature of the business plan" clarifies the nature and role of the business plan in the management of the company's sales. The main elements of the business plan are discussed.

The fourth section, "Development of an enterprise marketing plan", examines the process of goal setting in the management of the marketing activities of a business enterprise. The main approaches and methods for analyzing the marketing environment, for market segmentation and positioning of the company's products are given.

The fifth section, Developing an Enterprise Production Plan, examines the fundamental role of the production plan in enterprise sales management. A connection is made between marketing planning and production planning in the enterprise.

The sixth section, "Planning the Enterprise's Finances", examines the role of finance in the marketing management of the enterprise's sales. Basic hypotheses for managing cash flows, methods and approaches for optimizing and achieving financial stability in managing the company's sales are presented.

In the seventh section, "Business policies of the enterprise according to the individual elements of the marketing mix", the main approaches to the development of successful policies are considered in the development of the specific marketing mix of the enterprise to achieve high levels of sales.

In the eighth section "Analysis of the implementation of strategic marketing activities in chemical enterprises" an adapted methodology for the analysis and evaluation of the marketing activities of chemical enterprises is presented. An analysis of the marketing activities

was carried out using the specially adapted methodology. They formulate basic conclusions and recommendations to the marketing management of enterprises.

## II. DISSERTATION RESEARCH METHODOLOGY

To achieve the goal of the dissertation work, it is necessary to develop a methodology for researching the impact of strategic marketing activities on sales competitiveness.

Table 1 shows the statistical model by which it is verified whether there is a relationship between the implemented strategic marketing activities and the level of sales competitiveness, assessed by the indicators of market share, return on assets and return on sales.

The choice of analysis method is determined by the type of signs representing the studied phenomena. In our study, all phenomena are represented by variables located on weak measurement scales, i.e. they are qualitative signs.

This necessitates the choice of the  $\chi^2$  (chi – square) method as a method for analyzing the relationships between strategic marketing activities and indicators characterizing individual business units.

**Table 1. Statistical model for evaluating the interaction between strategic marketing activities of enterprises and their sales competitiveness**

Strategic marketing activities	Purpose of the activity	Impact on market share	Impact on return on assets	Impact on sales returns
Construction and implementation of an information system for the collection, processing and analysis of marketing information	Information provision of strategic marketing planning	H	H	H
Conducting an analysis of the internal and external marketing environment	Revealing strengths/weaknesses as well as opportunities and threats for competitive development	H	H	H
Defining strategic marketing objectives	Effectiveness in goal setting	H	H	H
Conduct marketing analysis of the enterprise	Diagnosis of the marketing state of the enterprise	H	H	H
Development and evaluation of marketing scenarios for the development of the enterprise's business model	Forecasting the business development of the enterprise	H	H	H
Formulation of a financial strategy to achieve the company's goals	Strategizing marketing activities	H	H	H
Preparation of a financial plan of the enterprise	Effectiveness in marketing planning	H	H	H
Coordination of the financial strategy and the marketing plan with the other strategies and plans in the enterprise	Rationality of marketing management	H	H	H
Resource provision for the implementation of a market strategy	Rationale of marketing management	H	H	H
Delegation of marketing tasks and responsibilities among staff	Marketing Management Competence	H	H	H
Construction and implementation of a monitoring and control system for the implementation of the financial strategy	Marketing control and information provision	H	H	H

Source: Adapted model from Van Duren, (1991)

"The Chi-Square method is suitable for studying correlation-type relationships, such as most in the socio-economic field. Through the method, an answer to the question is sought, to what extent an assumed dependence (or some other type of relationship) exists objectively, non-accidentally and manifests itself as such among the studied set of units. The use of the method presupposes a preliminary simultaneous grouping of the units according to the meanings of those signs by which the studied phenomena are indicated, i.e. to have two-dimensional, three-dimensional or multidimensional empirical frequency distributions in the form of tables. The method is constructed so that it is based on a comparison of two distributions. One – empirical, as observed in reality, and the other – theoretical, as we would have if there is no objective relationship between the studied phenomena. From the comparison of these two distributions, a criterion is constructed, on the basis of which the presence (or absence) of the investigated presumed relationship is checked." <sup>1</sup>

The next stage of the conducted analysis refers to determining the strength (tightness) of the connection i.e. how strongly the investigated phenomena interact. For this purpose (with the Chi-square method) special measuring coefficients are used <sup>2</sup>, which can be distinguished into two groups:

1) meters based on the estimated  $\chi^2_{em}$  characteristic. The most commonly used among them are Phi-square coefficient ( $\phi^2$ ); Chuprov coefficient ( $T^2$ ); Kramer coefficient ( $V^2$ ); Pearson coefficient ( $C$ )

2) meters that are not based on it. The most popular are Kendall's coefficient ( $Q$ ); Pearson coefficient ( $A$ ); Yule coefficient ( $\gamma$ ).

The selection of a coefficient by which to evaluate the strength of the relationship between the studied phenomena is mainly determined by whether or not the number of rows is equal to the number of columns in the statistical tables. Due to the fact that the number of rows is not equal to the number of columns in the tables representing the studied phenomena, the strength of the relationship will be estimated using the Kramer coefficient ( $V^2$ ). "It is based on the estimated Chi-square empirical characteristic and is recommended in cases where the number of rows and columns in the source table is not equal, i.e.  $r \neq k$ . The limits in which the coefficient changes are:  $0 \leq V^2 \leq 1$ . The main advantage of this coefficient is that it changes within the specified limits, even when the number of rows and columns is not equal. Its interpretation shows us how much of the differences in one studied phenomenon are predetermined by differences in the other. The closer the coefficient is to 1, the stronger the relationship, and conversely, the closer it is to 0, the weaker the relationship. The coefficient is estimated according to the formula:

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<sup>1</sup>Sejkova, Iv. A statistical study of dependencies. Economy, 2002. p.113

<sup>2</sup>Sejkova, Iv. A statistical study of dependencies. Economy, 2002. p.124



$$V_2 = \frac{\chi^2_{em}}{\sum \sum f_{ij} [\min(p-1) \text{ or } \min(k-1)]}$$

where:

$[\min(p-1) \text{ or } \min(k-1)]$  is the smaller of the two differences  $(p-1)$  or  $(k-1)$ .<sup>3</sup>

In parallel with the survey, an analysis of the state of certain enterprises is made and their marketing strategies are evaluated. This research allows us to reveal how financial strategy affects competitionthe capacity of individual enterprises.

In conducting the analysis, strategic marketing activities are defined as factor indicators, and change in market share, change in return on assets, and change in return on investment (assessed by the Du Pont model) are outcome indicators.

The statistical hypothesis that is tested for credibility is that the strategic marketing activities carried out by enterprises affect their degree of competitiveness.

To conduct the analysis based on the information from the conducted survey among the researchedenterprises, three statistical groupings were formed according to the studied indicators. Enterprise groups are distinguished as such on the basis of the following three characteristics - (1) presence of a financial unit; (2) start of business and (3) amount of available assets. The choice of exactly these signs for grouping the enterprises is motivated by the following logic - the separation of the organizational and management structure (including the financial unit), the age of the business model, as well as the accumulation of capital in disposable assets directly affect the ability of the enterprises to compete in the market

### III. ANALYSIS

***Degree of implementation of strategic marketing activities in the sector.*** The questions related to strategic marketing activities are 15 in number and cover the main stages in the imposition of a strategic approach to marketing management. The responses received reveal the trends in the sector regarding the marketing management of the enterprise. The first of them is that more than half of the enterprises (77.6%) have built an information system for collecting, processing and analyzing marketing information, in 12.1% this system is partially built, and 10.3% do not have one at all. This shows an underestimation of information on the part of

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<sup>3</sup>Sejkova, Iv. A statistical study of dependencies. Economy, 2002. p.125

enterprise managers as a means of sales management. Without such a system, it would be difficult to provide the necessary and reliable information, which is relevant not only for marketing activities, but also for sales management in general.

However, a significantly higher percentage (78.8%) of the surveyed enterprises answered that they analyze the marketing environment, another 12.1% perform a partial analysis and only 9.1% do not analyze the factors of the marketing environment. Comparing this result with the previous two, we can assume that this analysis in a significant number of cases is not based on systematized information and is not performed by marketing specialists.

The percentage of companies in the industry that formulate a marketing strategy is high - 93.9% give a positive answer and only 6.1% give a negative answer. Of the group that gave a positive answer, 78.8% stated that the staff were aware of and fully shared the marketing strategy, 12.1% of the staff partially followed the strategy and only 9.1% of the staff did not share the strategy. The answers determine a good level of staff motivation in following the enterprise's marketing strategy.

The following questions are related to the main elements of modern marketing planning, namely - marketing analysis and marketing scenarios. According to the answers received, 66.7% of the enterprises perform marketing analysis, 9.1% of the enterprises partially perform this analysis, and 24.2% of them do not perform it at all. Regarding the question "Do you develop marketing scenarios when planning the activity of the enterprise?" only 48.5% answered affirmatively, 21.2% answered partially, and 30.3% did not perform this activity. Regarding the development and evaluation of different marketing strategies, 54.5% of the enterprises perform this activity, 15.2% of the enterprises partially perform it and 30.3% do not perform it at all. It is clear from the structure of the answers to these questions, that a significant number of enterprises in the industry do not use one of the most important planning tools for effective management of company sales. These results can be explained by the lack of marketing specialists in these enterprises to competently carry out these activities, which lack is determined by the understanding of managers that strategic marketing activities can be delegated to external contractors and thus save resources .

To the question "Do marketing objectives have a quantitative expression and are they put in writing, as a basis for implementing marketing planning?" – 54.5% of the surveyed enterprises answered "yes"; 6.1% gave the answer "partially" and 39.4% gave the answer "no", which shows that this stage in developing a marketing strategy is neglected in a significant number of enterprises. Not setting clear and specific marketing goals sharply reduces the quality of the marketing planning and management process in the enterprise.

To the question "Does your company have a strategic marketing plan?" 69.7% of the surveyed enterprises answered that they have, 24.2% do not have such a plan, and 6.1% are partially developing such a plan. An explanation of the obtained results can be sought in the size of the enterprises - small enterprises (and there are quite a few in the sector) rarely devote time and resources to developing strategic marketing plans.

The answers to the next question show that 75.8% of the surveyed enterprises link the marketing strategy with other types of enterprise strategies, in 12.1% it is partially combined, and 12.1% do not combine it with the other strategies at all. At 84.9% of the surveyed enterprises, the marketing strategy is aimed at achieving a certain competitive advantage, at 12.1% this is not the case, and at 3% of the total surveyed enterprises, it is partially oriented. Absolutely the same structure of answers was obtained for the question "Are the necessary resources available to carry out the chosen marketing strategy?".

A high percentage of the surveyed enterprises (78.8%) also gave a positive answer to the question "Is it clear who is responsible for what and does what in the implementation of the marketing strategy?", in another 12.1% of the surveyed enterprises there is no clear delegation of rights and responsibilities in this area, and in 9.1% it is partial. The results show that difficulties are rarely encountered here, but they are there.

This is not the case with the control of the execution of the marketing strategy. A little over half of the enterprises (54.5%) have a built-in system for such control, in 15.2% it is partially built, and 30.3% do not have one, i.e. do not control the execution of their marketing strategy.

As a summary from this analysis, we can point out that there are gaps in the implementation of strategic marketing activities. Activities that are the basis of the overall process of marketing planning and management are ignored (in whole or in part), which poses barriers to the increase of marketing competitiveness in the sector. The end result of this process is a consequence of successive steps and the next one cannot be done if the previous one is missing. Based on this analysis, we predict that intercompany indebtedness and the number of bankruptcies among enterprises will increase in the coming years.

The last section of the questionnaire provides additional information about the surveyed enterprises.

To the question "What marketing monitoring systems have you implemented in your company?" - 66.7% answered that they have implemented a monitoring system that allows them to monitor the movement of marketing flows in the company. The remaining 33.3% share that they do not use such a system because they have no need for it.

To the question "What sources of funds do you use for your investment projects?" – 97% of the surveyed enterprises responded with their own funds, 57.6% used funds from EU Programs, and 36.4% used bank loans. The results show that chemical enterprises use different sources of credit, mainly due to the fact that investments in the sector in recent years have been significant and would be difficult to finance in just one of the ways.

In addition to the current situation, we have tried to find the general directions in which the enterprises of the branch intend to develop in the near future. The most frequently given answers are: improvement of marketing management; improving the raw material base and entering new markets for 84.8% of the surveyed enterprises. Increasing the qualification of personnel will be the object of investment for 60.6% of enterprises, and 57.7% foresee improvement of company management and technological renewal. More than half /51.5%/ of the surveyed enterprises will introduce a quality control system, and 54.4% will develop new products for the market.

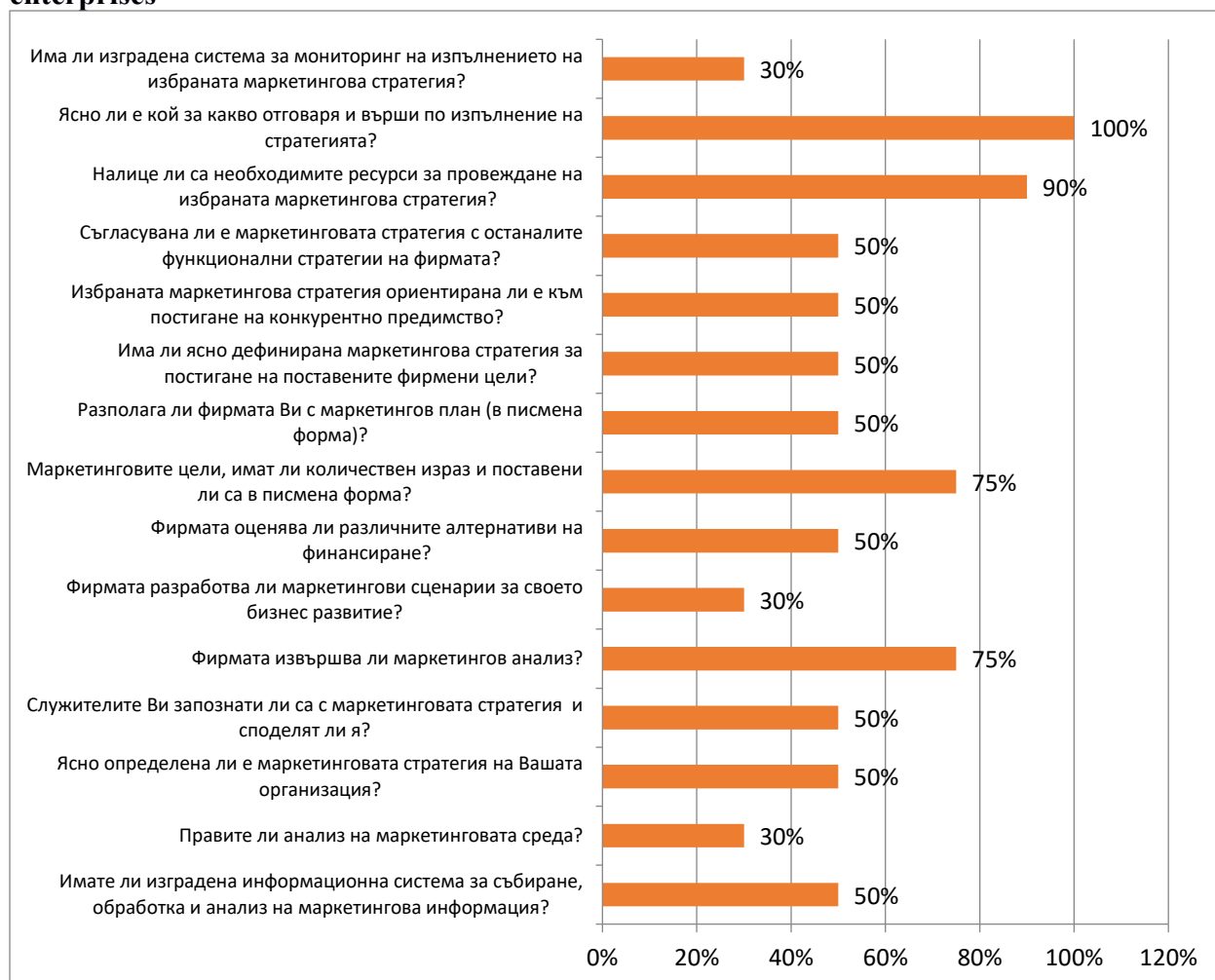
*Degree of implementation of strategic marketing activities at enterprise level.* Figure 1 shows the comparative characteristics of the strategic marketing activities performed by the 30 enterprises surveyed. The comparison is made in terms of the legal form of the chemical enterprises.

The graphical analysis shows that the strategic management of marketing competitiveness is more prevalent in joint-stock companies. In more than half of these enterprises, strategic marketing activities are performed sequentially, and thus they require a comprehensive strategic approach to managing marketing competitiveness and sales. The most neglected strategic activities in the group of joint-stock companies are: the construction of a marketing monitoring system (50% of these enterprises do not have one); the alignment of the marketing strategy with other business strategies (50% state that they do not align these factors); the development of marketing scenarios for market development of the enterprise (50% indicate that they do not perform this activity).

The most frequently implemented strategic marketing activities by joint-stock companies are: linking the marketing strategy with the available marketing resources (100% of the respondents stated that they perform this activity); the preparation of a marketing plan (100% prepare a financial plan); conducting marketing analysis (100% declare that they do this type of analysis); the familiarization of the staff with the marketing strategy (100% of the surveyed enterprises state that this is a leading activity in their management); clearly formulating the marketing strategy is also an important activity (90% of enterprises share that

this is an important principle); performing an analysis of the marketing environment - 95% of the surveyed enterprises, joint-stock companies, state that they perform this activity.

**Figure 1. Degree of implementation of strategic marketing activities in the studied enterprises**



Source: Survey of 30 enterprises, 2020-2021

In the group of enterprises that are limited liability companies, the following activities are poorly represented in strategic management: the construction of a monitoring system (30% of the enterprises state that they do not have one); the coordination of the marketing strategy with the other strategies of the enterprise (50% of the surveyed enterprises do this); orienting the marketing strategy towards achieving a competitive advantage (50% of the surveyed enterprises do not perform this activity); the formulation of a marketing strategy (50% of respondents state that they do not need such a strategy); preparation of a marketing plan (50% of respondents do not make such a plan); evaluating marketing alternatives for market development (50% do not perform this activity); the development of marketing scenarios for business development (30% of enterprises indicate that they do not do this activity); the clear

delegation of marketing tasks (50% share that they do not perform this activity); the construction of a marketing information system - 50% of the enterprises state that they do not use such a system.

The most strongly advocated marketing activities in the group of limited liability companies are the following: linking the marketing strategy with the available marketing means (90% of the respondents do it); formulation of marketing goals - 75% of surveyed enterprises set goals; performing marketing analysis - 75% of surveyed enterprises perform this activity.

***Effects of the implementation of strategic marketing activities on the competitiveness of dairy enterprises.*** The effects of the implementation of strategic marketing activities on the level of competitiveness and sales are reflected in Table 2. The analysis is carried out on questions included in the survey, analyzing the enterprises that gave the answer "YES". Using the question as a grouping feature, what are the effects of the applied strategic activities and the achieved sales competitiveness of the enterprises, measured with the market share, profitability and return indicators, are sought.

The availability of an information system for collecting, processing and analyzing marketing information has an impact on market share. Of all the companies that answered "Yes" to this question, 81% increased or maintained their market share within the scope of the conducted research. The presence and use of an information system has also significantly affected the profitability of the enterprise (81% have increased their profitability of assets).

To the next question "Do you analyze the marketing environment", 23 companies answered "Yes". Of these businesses, 79% increased their market share and 70% increased their return on assets. Data from the analysis show that performing marketing analysis has an impact on market share and return on assets, but does not significantly affect return on investment.

To the question "Is the marketing strategy clearly defined", 19 enterprises answered "Yes". Of these businesses, 77% say they have increased their market share in recent years.

**Table 2. Effects of the implementation of strategic marketing activities in enterprises**

Questions evaluating the degree of implementation of strategic marketing activities	% of enterprises, answered "Yes" that have increased or maintained their market share	% of enterprises, which have increased or maintained the profitability of the assets	% of enterprises, which have increased or maintained the profitability of the subst. capital	% of enterprises, that have increased or maintained ROI
Do you have an information system in place to collect, process and analyze marketing information?	<b>81</b>	<b>81</b>	<b>30</b>	<b>14</b>

Are you analyzing the marketing environment?	<b>79</b>	<b>70</b>	<b>58</b>	<b>35</b>
Is your organization's marketing strategy clearly defined?	<b>77</b>	<b>51</b>	<b>38</b>	<b>3</b>
Are your employees aware of and sharing the marketing strategy?	<b>51</b>	<b>77</b>	<b>24</b>	<b>2</b>
Does the company perform marketing analysis?	<b>83</b>	<b>42</b>	<b>31</b>	<b>2</b>
Does the company develop marketing scenarios for its business development?	<b>50</b>	<b>23</b>	<b>23</b>	<b>5</b>
Is the company evaluating different financing alternatives?	<b>43</b>	<b>14</b>	<b>74</b>	<b>3</b>
Are the marketing objectives quantified and written down?	<b>77</b>	<b>30</b>	<b>26</b>	<b>2</b>
Does your company have a financial plan (in writing)?	<b>98</b>	<b>49</b>	<b>37</b>	<b>2</b>
Is there a clearly defined marketing strategy to achieve the set company goals?	<b>63</b>	<b>30</b>	<b>88</b>	<b>13</b>
Is the chosen marketing strategy oriented towards achieving a competitive advantage?	<b>83</b>	<b>56</b>	<b>28</b>	<b>28</b>
Is the marketing strategy aligned with the other functional strategies of the company?	<b>64</b>	<b>32</b>	<b>7</b>	<b>7</b>
Are the necessary resources available to carry out the chosen marketing strategy?	<b>69</b>	<b>75</b>	<b>19</b>	<b>4</b>
Is it clear who is responsible for what and does what in implementing the strategy?	<b>83</b>	<b>73</b>	<b>28</b>	<b>6</b>
Is there a built-in system for monitoring the implementation of the chosen marketing strategy?	<b>91</b>	<b>45</b>	<b>75</b>	<b>9</b>

Source: Survey. More than one hole is possible in the options placed in the poll cards.

Acquainting the company's personnel with the marketing strategy is another important aspect of strategic marketing management. Regarding the implementation of this strategic marketing activity, 21 enterprises from the total respondents gave a positive answer. Of all these businesses, 77% say their return on assets has increased. These results indicate that the implementation of this strategic activity has a positive impact on the profitability of the enterprise.

To the question whether "the company carries out marketing analysis", 28 enterprises gave a positive answer. Of these enterprises, 83% declare that their market share in the last year has increased or remained the same. This gives reason to believe that marketing analysis has a positive impact on the market share of the enterprise.

The strategic activity "development of marketing scenarios for business development of the enterprise" is implemented by 22 enterprises. For 50% of these 22 enterprises, this activity has an impact on market share in a positive direction (ie, share growth is realized).

The evaluation of marketing alternatives for the development of the enterprise is carried out by 35 enterprises. Of these businesses, 74% increased their return on equity. This fact proves that the implementation of this marketing activity leads to a higher return on equity.

To the question "Are the marketing objectives quantified and written down", 30 companies answered "Yes". Of all these businesses, 77% stated that they realized an increase in their market share.

The preparation of a financial plan is done by 21 enterprises, of which 98% have increased their market share in the past year. The results indicate that the marketing plan is a critical factor in managing the marketing competitiveness of the enterprise.

Marketing strategy is another important tool for strategic management of the marketing competitiveness of enterprises. Of all surveyed enterprises, 40% stated that they develop and follow such a strategy in their market presentation. Of these businesses, 88% report that their return on equity has maintained and/or even increased over the past year. Achieving the objectives of the enterprise, by following a clearly formulated marketing strategy, has an impact on the return on equity. Marketing managers in most businesses are concerned with effective equity management.

Out of all 30 enterprises surveyed, 16 enterprises state that their marketing strategy is oriented towards achieving a well-defined competitive advantage that gives them superiority in the market. Of all these 16 businesses, 83% increased their market share using their competitive advantage.

The consistency of the marketing strategy with the other functional strategies of the enterprise is another important factor for increasing the competitiveness of the enterprise. Out of all 30 surveyed enterprises, 18 enterprises share that there is such consistency. This alignment of strategies leads to an increase in market share - 64% of the companies that said "Yes" to this question have increased their market share.

Almost all (98% of total enterprises) enterprises declare that their marketing strategy is supported by marketing means. This enables them to increase their market share (69% realized growth in their market share) and return on assets (75% increased their return on assets).

The clear distribution and proper delegation of marketing tasks is also an important touch in managing the marketing competitiveness of the enterprise. Out of all 30 surveyed enterprises, 26 enterprises state that they observe this rule in their management. Of these businesses, 83% increased market share and 73% realized increasing return on assets.

The construction of a system for monitoring and control of the implementation of the marketing strategy is a poorly represented strategic activity among the studied enterprises. Less



than half of them have such a system. The monitoring system has a positive impact on the company's market share and return on equity.

Summarizing the results of the cluster analysis, it can be concluded that the fulfillment of strategic marketing activities has positive effects on the sales competitiveness of the studied enterprises. The performance of these activities significantly affects the enterprise's market power, expressed by the market share indicator.

***Relationship between the implemented strategic marketing activities and the existence of a marketing unit, age of the business model and the size of available assets in the enterprises.*** Through the obtained frequency distributions, applying the Chi-square method, those factors that have a non-random (objective) relationship with the indicator-result (the implemented strategic marketing activities) are revealed, i.e. determine their performance. It is necessary to note that, in addition to the studied factors, the indicator-result also affects many other factors, which were not studied here due to the impossibility of covering them within the framework of only one study.

Values of the  $\chi^2$  empirical and  $\chi^2$  theoretical distributions are reported in Appendix 2, with estimates made at  $\alpha = 0.05$ .

The results of the statistical analysis show that the implementation of the 11 strategic marketing activities is related to the presence of a marketing unit in the structure of the enterprises. All other things being equal, enterprises that have a separate marketing unit perform the marketing activities set out in the study, striving to be effective in their marketing management. In a theoretical aspect, the longer the period of the enterprise's market presence, the greater the potential it has to compete, learning from the business environment's response to it. The results of the statistical analysis indicate that there is a proven relationship between the implemented strategic marketing activities and the age of the business model. In 6 out of the total of 11 investigated relationships, such a relationship is proven (see table 3). The enterprises, who have built an information system for collecting and analyzing marketing information, do marketing analysis and form a marketing strategy have the potential, through these strategic activities, to achieve a competitive advantage in the market. It is important for these enterprises to develop a detailed and justified marketing plan and to implement a system for monitoring the implementation of their marketing strategy in order to maintain their market superiority over time.

**Table 3. Statistical verification of hypotheses on the relationship between the implemented strategic marketing activities and the presence of a marketing unit; the year the business was started and the size of the company's assets**

Questions assessing the performance of strategic marketing activities	Marketing Unit	year of start of business	size of assets
Do you have an information system in place to collect, process and analyze marketing information?	having a relationship	having a relationship	missing connection
Are you analyzing the marketing environment?	having a relationship	having a relationship	having a relationship
Is your organization's marketing strategy clearly defined?	having a relationship	having a relationship	missing connection
Are your employees aware of and sharing the marketing strategy?	having a relationship	missing connection	having a relationship
Does the company perform marketing analysis?	having a relationship	missing connection	missing connection
Does the company develop marketing scenarios for its business development?	having a relationship	missing connection	missing connection
Is the company evaluating different financing alternatives?	having a relationship	missing connection	missing connection
Are the marketing objectives quantified and written down?	having a relationship	missing connection	missing connection
Does your company have a marketing plan (in writing)?	having a relationship	having a relationship	missing connection
Is there a clearly defined marketing strategy to achieve the set company goals?	having a relationship	missing connection	missing connection
Is the chosen marketing strategy oriented towards achieving a competitive advantage?	having a relationship	having a relationship	having a relationship
Is the marketing strategy aligned with the other functional strategies of the company?	having a relationship	missing connection	missing connection
Are the necessary resources available to carry out the chosen marketing strategy?	having a relationship	missing connection	missing connection
Is it clear who is responsible for what and does what in implementing the strategy?	having a relationship	missing connection	missing connection
Is there a built-in system for monitoring the implementation of the chosen marketing strategy?	having a relationship	having a relationship	having a relationship

Source: Own calculations.

In the third type of relationship between the implemented strategic marketing activities and the amount of assets, 4 activities are established that are important. These are the performance of marketing analysis, familiarization of the personnel with the marketing strategy, the orientation of the marketing strategy towards maintaining market superiority and the construction of a marketing monitoring system. The implementation of these strategic activities ensures higher efficiency in the management of sales competitiveness.

It can be summarized that strategic marketing activities are carried out in those enterprises that have a marketing unit in their structure, have gained experience in their market presence and have more assets than their main competitors

***Relationship between the implemented strategic marketing activities and the level of competitiveness.*** In conducting this analysis, strategic marketing activities are defined as indicators-factors, and change in market share, return on assets, and return on sales as outcome factors. The working hypothesis is that the implementation of strategic marketing activities leads to an improvement in sales competitiveness.

Three statistical groupings were formed. The first grouping is according to achieved market share and executed strategic marketing activities. Enterprises are grouped into three groups (with reduced market share; no change in market share; with increased market share). The statistical groupings are shown in table 3.

The second grouping of enterprises is based on achieved profitability of assets and implemented strategic marketing activities. Here, enterprises are also grouped into three groups (with reduced profitability of assets; no change in profitability of assets; with increased profitability of assets), and accordingly, for each group of enterprises, the implemented strategic marketing activities are represented by the scale - "let's implement it" ; "we partially fulfill it"; "we do not fulfill it". The statistical grouping is shown in table. 4.

**Table 4. Statistical grouping of enterprises according to achieved market share and implemented strategic marketing activities**

Strategic marketing activities	degree of performance	Market share		
		reduced	Unchanged	enlarged
Do you have an information system in place to collect, process and analyze marketing information?	Yes	2	10	16
	in part	0	1	4
	no	2	8	10
Are you analyzing the marketing environment?	Yes	2	16	18
	in part	2	2	10
	no	0	1	2
Is your organization's marketing strategy clearly defined?	Yes	2	18	26
	in part	2	0	2
	no	0	1	2
Are your employees aware of and sharing the marketing strategy?	Yes	2	16	24
	in part	2	2	4
	no	0	1	2
Does the company perform marketing analysis?	Yes	0	10	18
	in part	2	2	8
	no	2	7	4
Does the company develop marketing scenarios for its business development?	Yes	0	8	12
	in part	1	4	10
	no	3	7	8
Is the company evaluating different financing alternatives?	Yes	0	8	18
	in part	1	3	4
	no	3	8	4
	Yes	0	6	15

Are the marketing objectives quantified and written down?	in part	0	2	6
	no	4	11	9
Does your company have a marketing plan (in writing)?	Yes	0	10	18
	in part	1	0	3
	no	3	9	9
Is there a clearly defined marketing strategy to achieve the set company goals?	Yes	0	12	24
	in part	2	3	4
	no	2	4	2
Is the chosen marketing strategy oriented towards achieving a competitive advantage?	Yes	0	11	18
	in part	2	4	9
	no	2	4	3
Is the marketing strategy aligned with the other functional strategies of the company?	Yes	1	10	15
	in part	1	5	10
	no	2	4	5
Are the necessary resources available to carry out the chosen marketing strategy?	Yes	0	12	23
	in part	2	3	5
	no	2	4	2
Is it clear who is responsible for what and does what in implementing the strategy?	Yes	1	10	18
	in part	2	3	9
	no	1	6	3
Is there a built-in system for monitoring the implementation of the chosen marketing strategy?	Yes	0	7	11
	in part	2	5	3
	no	2	7	3

Source: Survey.

The third grouping of enterprises is based on achieved return on sales and implemented strategic marketing activities. Here, the enterprises are also grouped into three groups (with reduced return; no change in return; with increased return), and accordingly, for each group of enterprises, the implemented strategic marketing activities are represented by the scale - "let's do it"; "we partially fulfill it"; "we do not fulfill it". The statistical grouping is shown in table 5.

**Table 5. Statistical grouping of enterprises according to achieved sales profitability and implemented strategic marketing activities**

Strategic marketing activities	degree of performance	Profitability of sales		
		reduced	Unchanged	increased
Do you have an information system in place to collect, process and analyze marketing information?	Yes	2	5	26
	in part	0	1	3
	no	1	18	20
Are you analyzing the marketing environment?	Yes	1	12	28
	in part	2	2	2
	no	0	11	6
Is your organization's marketing strategy clearly defined?	Yes	2	12	16
	in part	2	0	0
	no	0	1	3
Are your employees aware of and sharing the marketing strategy?	Yes	2	6	29
	in part	2	2	2
	no	0	1	1
Does the company perform marketing analysis?	Yes	0	20	38
	in part	2	2	2
	no	2	7	2
Does the company develop marketing scenarios for its business development?	Yes	0	8	22
	in part	1	2	2

	no	3	7	18
Is the company evaluating different financing alternatives?	Yes	0	18	18
	in part	1	3	3
	no	3	5	4
Are the marketing objectives quantified and written down?	Yes	0	6	15
	in part	0	2	6
	no	4	10	6
Does your company have a marketing plan (in writing)?	Yes	0	10	38
	in part	1	0	0
	no	3	9	9
Is there a clearly defined marketing strategy to achieve the set company goals?	Yes	0	12	22
	in part	2	3	3
	no	2	4	12
Is the chosen marketing strategy oriented towards achieving a competitive advantage?	Yes	0	11	31
	in part	2	4	19
	no	2	4	4
Is the marketing strategy aligned with the other functional strategies of the company?	Yes	1	10	25
	in part	1	5	5
	no	2	4	2
Are the necessary resources available to carry out the chosen marketing strategy?	Yes	0	12	33
	in part	2	3	3
	no	2	2	2
Is it clear who is responsible for what and does what in implementing the strategy?	Yes	1	10	17
	in part	2	3	2
	no	1	6	3
Is there a built-in system for monitoring the implementation of the chosen marketing strategy?	Yes	0	7	20
	in part	2	5	13
	no	2	7	7

Source: Survey.

Applying the Chi-square method to the data grouped in this way reveals those factors that have a non-random (objective) relationship with the result indicators (market share, profitability of assets and return on investments). It is necessary to note that, in addition to the studied factors, the indicators-result also have an impact on many other factors that were not studied here due to the impossibility of covering them within the framework of only one study. The results of the applied Chi-square method are presented in the table. 6.

Values of the  $\chi^2$  empirical and  $\chi^2$  theoretical distributions are reported in Appendix 3, with estimates made at  $\alpha = 0.05$ .

Table 6 shows that the implementation of 3 strategic marketing activities (carrying out a marketing analysis; preparing a marketing plan; providing the marketing strategy with the necessary resources) are related to the achieved market share, and other 2 activities - (1) clearly defining the marketing strategy and (2) clearly delegating tasks and instructing staff affect sales profitability. The return on investment is affected by the performance of the following two marketing activities – (1) conducting marketing analysis and (2) coordinating the marketing strategy with the rest of the company's strategies.

**Table 6. Statistical grouping of enterprises according to achieved return on investment and implemented strategic marketing activities**

Strategic marketing activities	degree of performance	Return on investment		
		reduced	Unchanged	increased
Do you have an information system in place to collect, process and analyze marketing information?	Yes	12	5	13
	in part	0	1	1
	no	1	18	1
Are you analyzing the marketing environment?	Yes	1	12	9
	in part	2	2	3
	no	0	15	3
Is your organization's marketing strategy clearly defined?	Yes	2	12	12
	in part	2	0	0
	no	0	1	0
Are your employees aware of and sharing the marketing strategy?	Yes	2	9	13
	in part	2	2	2
	no	1	1	1
Does the company perform marketing analysis?	Yes	0	20	28
	in part	2	2	2
	no	2	2	2
Does the company develop marketing scenarios for its business development?	Yes	0	18	12
	in part	1	2	2
	no	3	7	18
Is the company evaluating different financing alternatives?	Yes	0	11	13
	in part	1	3	1
	no	3	5	5
Are the marketing objectives quantified and written down?	Yes	0	6	6
	in part	0	0	3
	no	4	10	4
Does your company have a marketing plan (in writing)?	Yes	0	10	12
	in part	1	0	0
	no	3	6	9
Is there a clearly defined marketing strategy to achieve the set company goals?	Yes	0	6	10
	in part	2	3	2
	no	2	2	9
Is the chosen marketing strategy oriented towards achieving a competitive advantage?	Yes	0	2	14
	in part	2	4	11
	no	4	4	4
Is the marketing strategy aligned with the other functional strategies of the company?	Yes	1	11	15
	in part	1	15	5
	no	2	1	1
Are the necessary resources available to carry out the chosen marketing strategy?	Yes	0	10	11
	in part	2	3	1
	no	2	2	1
Is it clear who is responsible for what and does what in implementing the strategy?	Yes	1	10	16
	in part	2	3	1
	no	1	6	2
Is there a built-in system for monitoring the implementation of the chosen marketing strategy?	Yes	0	7	15
	in part	2	5	10
	no	2	3	2

Source: Survey.

The results of the performed statistical analysis indicate that the clear formulation of the marketing strategy, as well as the clear delegation of tasks for following this strategy, is a key success factor. Performing periodic marketing analysis and aligning the marketing strategy with the other functional strategies in the enterprise is another critical factor for business success.

Table 7 provides the summary statistical evaluation testing the relationship between strategic marketing activities performed and the level of sales competitiveness achieved. From the statistical analysis carried out, 5 strategic marketing activities clearly stand out, which have an impact on the level of sales competitiveness, these are: (1) conducting a marketing analysis, (2) preparing a marketing plan, (3) formulating a marketing strategy, (4) orientation of the marketing strategy to achieve a competitive advantage and (5) the provision of resources for the implementation of the marketing strategy. These strategic marketing activities have an impact on market share dynamics, return on assets and return on sales.

**Table 7. Statistical testing of hypotheses on the relationship between the implemented strategic marketing activities and the achieved market share, return on assets and return on investment of the enterprise**

Strategic marketing activities	Market share	Return on assets	Return on sales
Do you have an information system in place to collect, process and analyze marketing information?	missing connection	missing connection	missing connection
Are you analyzing the marketing environment?	missing connection	missing connection	missing connection
Is your organization's marketing strategy clearly defined?	missing connection	missing connection	missing connection
Are your employees aware of and sharing the marketing strategy?	missing connection	missing connection	missing connection
Does the company perform marketing analysis?	<b>having a relationship</b>	<b>having a relationship</b>	<b>having a relationship</b>
Does the company develop marketing scenarios for its business development?	missing connection	missing connection	missing connection
Is the company evaluating different financing alternatives?	missing connection	missing connection	missing connection
Are the marketing objectives quantified and written down?	missing connection	missing connection	missing connection
Does your company have a marketing plan (in writing)?	<b>having a relationship</b>	missing connection	missing connection
Is there a clearly defined marketing strategy to achieve the set company goals?	<b>having a relationship</b>	<b>having a relationship</b>	<b>having a relationship</b>
Is the chosen marketing strategy oriented towards achieving a competitive advantage?	<b>having a relationship</b>	missing connection	<b>having a relationship</b>
Is the marketing strategy aligned with the other functional strategies of the company?	missing connection	missing connection	<b>having a relationship</b>
Are the necessary resources available to carry out the chosen marketing strategy?	<b>having a relationship</b>	missing connection	<b>having a relationship</b>
Is it clear who is responsible for what and does what in implementing the strategy?	<b>having a relationship</b>	<b>having a relationship</b>	missing connection
Is there a built-in system for monitoring the implementation of the chosen marketing strategy?	missing connection	missing connection	missing connection

Source: Survey.

## IV. CONCLUSIONS

- The factors guaranteeing market success in the sector are: (1) the quality of the manufactured products and (2) the diversification of the product portfolio, which explains the investments made in the renewal of technological equipment;
- The studied enterprises use different sources of marketing funds, mainly due to the fact that the investments in the sector in recent years are significant and would be difficult to finance in only one of the ways, ie. they seek to diversify marketing risk. Most businesses state that they are seeking finance to invest in technological innovation and

in the implementation of quality systems to increase their sales competitiveness. This proves that marketing planning and management will be even more important in the future to achieve competitive advantages in the sector;

- The surveyed enterprises generally encounter serious problems in the search for marketing personnel (1/3 of the surveyed enterprises share this opinion). A significant proportion of chemical enterprises indicate that their marketing specialists need training in the formation of strategic marketing management skills;
- Enterprises are provided with marketing organizational-management resources in two ways - (1) through the construction and development of their own marketing unit and (2) through the use of marketing outsourcing. Mainly joint-stock companies have the marketing unit in their organizational-management structure, which performs strategic marketing activities. Limited liability companies use financial outsourcing to strategically manage their marketing competitiveness;
- Concentration of financial capital in joint-stock companies determines the identification of the marketing unit as leading in the implementation of strategic marketing activities;
- There are gaps in the implementation of strategic marketing activities. Activities that are the basis of the overall process of marketing planning and management are ignored (in whole or in part), which poses barriers to the increase of marketing competitiveness in the sector.
- The strategic approach in the management of marketing competitiveness is imposed most significantly and systematically in the group of enterprises that are joint-stock companies. These enterprises invest efforts in strategic marketing planning and, on this basis, achieve a competitive advantage in the industry;
- The implementation of strategic marketing activities has an impact on the market power of enterprises and on their profitability (measured on the basis of assets and equity). The majority of the studied group of enterprises have a separate marketing unit (or specialist) that carries out strategic marketing activities. These enterprises are also defined as having a higher achieved competitiveness in contrast to those that delegate the implementation of all or part of the strategic marketing activities to external companies (or marketing consultants);
- The constructed statistical model for verifying the reliability of the researched dependence between the implemented strategic marketing activities and achieved competitiveness proves that such a dependence exists



#### **IV. DISSERTATION CONTRIBUTIONS**

The following contributions can be highlighted in the dissertation work:

- The essence of strategic business planning as an object of strategic management of the chemical enterprise has been clarified;
- A conceptual framework is proposed for building a successful business strategy for better sales of chemicals for farmers' needs;
- A conceptual framework for evaluating the effectiveness of marketing strategies of chemical enterprises is presented;
- An analysis of the strategic marketing activities of chemical enterprises as a key supplier of chemical products to agricultural producers was carried out;
- Recommendations are formulated to improve strategic marketing management as a factor for higher sales in the sector.

#### **V. PUBLICATIONS**

1. Limani, V. (2021). The role of landscape in the multifunctionality of the development of the social community. Modernization between prosperity and destruction, vol.14(1), 283-296. ISBN: 978-86-85985-48-5
2. Limani, V. (2022). Chemometric analysis of the water of Sitnica river. Journal of Chemical Problems. Vol. 12 (1). 305 – 316, ISSN 2221-8688
3. Limani, V. (2022). Establishing a Career Building Decision - Making Process. International Journal of Recent Research in Arts and Sciences - MIT University, Skopje, vol.15 (1). 504-519. ISSN: 1857-8128
4. Limani, V. (2022). The family business as a driver for the development and survival of the family household. Journal of Bio-based Marketing, vol. 3-1, 25-35, ISSN 2683-0825