

МЕНЕДЖМЕНТ ТА БІЗНЕС-АДМІНІСТРУВАННЯ

DOI: <https://doi.org/10.35774/econa2024.02.086>

JEL classification: O32

UDC: 005.342:658.8

Yevhen AFANASIEV

Doctor of Sciences (Economics),
Professor,
Department of Management and Administration,
Kryvyi Rih National University, Ukraine
ORCID ID: 0000-0002-1524-2120

Dmytro FROLOV

PhD Student,
Department of Management and Administration,
Kryvyi Rih National University, Ukraine
ORCID ID: 0009-0001-3926-3348

SUBSTANTIATION OF MAKING COMPETITIVE INNOVATIVE DECISIONS TO IMPROVE COMPANY SALES POTENTIAL MANAGEMENT CONSIDERING RISKS

ABSTRACT

Introduction. Due to intensification of competition in the market space of a modern company, the timely use of innovative tools for managing its sales potential provides the company with the opportunity to adjust or create the up-to-date models of market behavior of the key target consumers, counterparties and competitors, and, as a result, to create (predict) realistic conditions for preventing negative consequences of emergency risks. This results from high dynamics of transformation of the modern market business environment, its selectivity and heterogeneity, which makes the company management solve a whole set of urgent tasks to substantiate competitive innovative decisions aimed at improving sales potential management.

Purpose. Improvement of theoretical and methodological approaches to the innovation aspect in substantiating competitive decisions in sales potential management considering risks.

Methods. The theory of managerial decision making under conditions of uncertainty is used involving the systemic and integrated approaches to substantiating competitive innovative decisions aimed at improvement of sales potential management at an agricultural company considering risks.

Results. The article highlights the topical problem of rational substantiation for making competitive innovative decisions aimed at improving sales potential management at a company under conditions of uncertainty. Theoretical and methodical approaches to economic substantiation of strategic managerial decisions to ensure the maximum possible level of using the company's sales potential considering risks are proposed. The criteria for managerial decision making under conditions of uncertainty for individual components of the integrated indicators of assessment and substantiation of possible managerial decision-making alternatives regarding key aspects of sales potential management considering risks are determined.

© Yevhen Afanasiev, Dmytro Frolov, 2024

Received: 02.05.2024

Accepted: 12.05.2024

Published: 29.05.2024



This is an Open Access article, distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 license, which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite as: Afanasiev, Y., and Frolov, D. (2024). Substantiation of making competitive innovative decisions to improve company sales potential management considering risks. *Economic analysis*, 34 (2), 86-93. DOI: <https://doi.org/10.35774/econa2024.01.086>

The practical use of the proposed theoretical and methodological approaches is demonstrated by an example of economic activities of agricultural companies.

Keywords: sales potential; uncertainty; conflict; risk; innovative decision; company.

Introduction

Successful activities of a company as an economic entity, focused on the current target market and its potential expansion, require continuous improvement of the system of rational managerial decision making in the context of a thorough analysis of the state of its both internal and external environment. Under such conditions, by improving the sales management system, the company is certainly able to maintain a sufficient level of its economic activity efficiency.

Since a certain number of issues related to organization of efficient management of marketable product and/or service sales to increase and/or ensure a sufficiently high level of competitiveness of a modern company remain understudied, the problem of improving sales potential management of the company in the context of ensuring the appropriate level of its competitiveness is one of the foundations in determining promising ways of its improvement.

Despite considerable research into various aspects of company competitiveness management [1-8] in the context of managing its sales potential, little attention is paid to ensuring its competitiveness, especially considering the innovative decision-making risk factor.

The purpose of the article

Improvement of theoretical and methodological approaches to substantiating competitive innovative decisions to improve sales potential management considering risks on the example of an agricultural company.

Material presentation

Solution of the issues of substantiating competitive innovative decision making aimed at improving sales potential management considering risks is based on the need to conduct an appropriate analysis in order to develop and apply complex theoretical and methodological approaches to economic substantiation of strategic managerial decisions to ensure the maximum possible level of the use of sales

potential, to constantly monitor efficiency of sales of products and services, to systematically and promptly adjust management of economic performance of the company as a whole.

Within the context of the research, some key tasks of sales management are considered on the example of the small private enterprise “Eridon company”, which operates in the agricultural sector of Ukraine’s economy providing the population with food products and the industry with raw materials. “Eridon company” is an independent economic entity that produces agricultural products to meet agricultural producers’ needs, and sells them for profit. At the same time, a significant role here is played by sales potential management which is carried out under intensive competition in the target market and requires innovative approaches from the company management when substantiating and making managerial decisions.

One of the priorities of agricultural companies is to reach the planned level of marketable product sales, which provides conditions for retaining and growing the target market and therefore sufficiently high profitability, and contributes to updating their portfolio and developing new types of competitive products.

In other words, an agricultural company can invest significantly in development of high-quality and modern products, have a perfect logistics system, but do not pay timely and sufficient attention to the sales management process – as a result, all its efforts can be nullified, in particular: the company may fail to achieve the planned performance indicators (e. g. profitability can decrease critically), or it can lose a certain share of target markets.

Previous generalization of certain key aspects of the theory and methodology of managerial decision making under conditions of uncertainty (MDMCU) [9] and formulation of the tasks of the present research permit singling out a certain set of relevant criteria for further development of theoretical and methodological approaches to the systemic complex modelling of integrated assessment of competitiveness of innovative

decisions to improve sales potential management considering risks.

The MDMCU criteria for the components of integrated indicators for assessing (substantiating) probable alternatives for making managerial decisions regarding key aspects of the research include the following.

I. Innovativeness of decisions (regarding introduction of new types of products) to improve sales potential management of a company

$$B^+(x_{k_o}, p) = \max_{x_k \in X} \left\{ p_j \sum_{j=1}^n f_{kj}^+ \right\}, \text{ where } p_j = \frac{1}{n}; \quad k = \overline{1, m}; \quad j = \overline{1, n}. \quad (1)$$

2. The research is carried out according to the concept of "potential probability distribution" at a set of economic environment states θ (Khomeniuk

$$B^+(x_{k_o}, p) = \max_{x_k \in X} \left\{ \sum_{j=1}^n f_{kj}^+ p_j \right\},$$

$$\text{where } p_j = \frac{\sum_{k=1}^m (\max_{x_k \in X} f_{kj}^+ - f_{kj}^+)}{\sum_{j=1}^n \sum_{k=1}^m (\max_{x_k \in X} f_{kj}^+ - f_{kj}^+)}; \quad k = \overline{1, m}; \quad j = \overline{1, n}. \quad (2)$$

The use of the principle of potential probability distribution at a set of competitive economic environment states enables considering the specific feature of passive counteraction of the environment, when the environment counteracts to a greater extent (with greater probability) in those of its states from the set θ where the value of the contribution to all solutions $x_k \in X$ and states θ in the total value of the assessment functional F^+ is less in comparison with similar other values.

II. Antagonism of the competitive economic environment (active counteraction to achievement of positive results of the company's activities).

In such circumstances, the main goal of an agricultural company is to ensure guaranteed levels of efficiency values for the sales of marketable products. At the same time, the assessment functional with a positive ingredient ($F = F^+$) is studied according to proneness to extreme pessimism in accordance with the maximin principle, where the optimal solution is a quantitative indicator calculated by the formula (according to the Wald criterion [9]):

considering the risk of passive counteraction of the competitive economic environment.

The assessment functional ($F = F^+$) can be studied in accordance with two aspects of managerial decision substantiation and making.

1. The research is carried out according to the principle of "insufficient reason" by applying the Bernoulli-Laplace criterion, where the optimal solution satisfies the condition:

criterion [9]), where the optimal solution satisfies the condition:

$$\tilde{f}_{k_o}^+ = \max_{x_k \in X, \theta_j \in \theta} \min \{f_{kj}^+\}, \quad (3)$$

where $k = \overline{1, m}; j = \overline{1, n}; f_{kj}^+$ are quantitative values of the assessment functional; θ_j is the states of the economic environment.

That is, the optimal solution is the one where the best value of the assessment functional is chosen from the worst ones.

An important point in assessing intensity of competition that affects activities of a company is dynamics of its target markets [10]. In view of the above, the share of participation of an individual company in forming the general level of competition intensity in the target market should be determined depending on distribution of market shares of participants in this market. In this case, for an individual company, based on the dynamics of changes in its share in the target market (t_{ds_i}), the rates of this dynamics are calculated by the formula:

$$t_{ds_i} = \frac{S_{i_{0+1}} - S_{i_0}}{S_{i_0}} + 1, \quad (4)$$

where $S_{i_{0+1}}$ is the volume of the company's

share at the end of the period under analysis; S_{i_0} is the volume of the company's share at the beginning of the period under analysis.

Then, based on the assumption that recommended annual rational boundaries of the market growth rate make 70 – 140%, it is advisable to use the following formula:

$$D_{S_i} = \frac{1.4 - t_{ds_i}}{0.7}, \quad (5)$$

where D_{S_i} is an indicator of the share of participation of an individual company in formation of the general level of competition intensity in the target market.

If $t_{ds_i} > 1.4$, then $D_{S_i} = 0$. That is, the company is quite active in the target market when forming the general level of competition intensity.

$$f_{BL_W_{k_0}}^+ = \max_{x_k \in X} \left\{ \frac{1}{2} \left[(1 - \lambda) \sum_{j=1}^n \frac{f_{kj}^+}{n} + \lambda \left(\min_{\theta_j \in \Theta} f_{kj}^+ \right) + (1 - D_S) \right] \right\}. \quad (6)$$

Using a similar approach, an integrated indicator is developed based on the concept of "potential probability distribution" at a set of

$$f_{PPD_{k_0}}^+ = \max_{x_k \in X} \left\{ \frac{1}{2} \left[(1 - \lambda) \sum_{j=1}^n \frac{f_{kj}^+ \sum_{k=1}^m (\max_{x_k \in X} f_{kj}^+ - f_{kj}^+)}{\sum_{j=1}^n \sum_{k=1}^m (\max_{x_k \in X} f_{kj}^+ - f_{kj}^+)} + \lambda \left(\min_{\theta_j \in \Theta} f_{kj}^+ \right) + (1 - D_S) \right] \right\}. \quad (7)$$

It should be noted that in (6) and (7), the integrated criterion of "cautious extreme optimism" is obtained if $\lambda = 0$, and the pessimistic integrated criterion is received if $\lambda = 1$. When calculating, it is recommended to use normalized values of partial indicators, which are involved in determining integrated indicators, relative to "1".

The use of the proposed methodological

If $t_{ds_i} > 0.7$, then $D_{S_i} = 1$, which indicates its low activity in the target market and adverse consequences of competition intensity.

Corresponding integrated indicators are formed on the basis of the determined MDMCU criteria for the components of integrated indicators for assessing (substantiating) probable alternatives of managerial decision making.

To solve problems of assessing innovativeness of decisions (regarding introduction of new products) to improve sales potential management of a company, considering the risk of passive counteraction of the competitive economic environment and adhering to the principle of "insufficient reason" (applying the Bernoulli-Laplace criterion), the following integrated indicator ($f_{BL_W}^+$) is formed:

economic environment states (f_{PPD}^+):

approaches is demonstrated on the example of three competing agricultural companies.

Table 1 shows the previously determined shares of the target agricultural market of products of the "LNZ" LLC, the "Spectr-Agro" LLC, the SPE "Eridon Company" and corresponding normalized values of their relatively better states during the retrospective period under analysis.

Table 1

Company	Market share					
	%			Normalized value		
	2018	2019	2020	2018	2019	2020
"LNZ" LLC	4.3	5.4	6.7	0.642	0.806	1.000
"Spectr-Agro" LLC	4.8	5.4	6.5	0.738	0.831	1.000
SPE "Eridon Company"	21.2	19.3	20.1	1.000	0.910	0.948

Data of market shares of the participants of the target agricultural market given in Table 1 enables

calculating quantitative values of the rate of market share dynamics (t_{ds_i}) and the indicator of

their share of participation in formation of the general level of competition intensity in this

market. The dynamics of the calculated indicators is shown in Fig. 1.

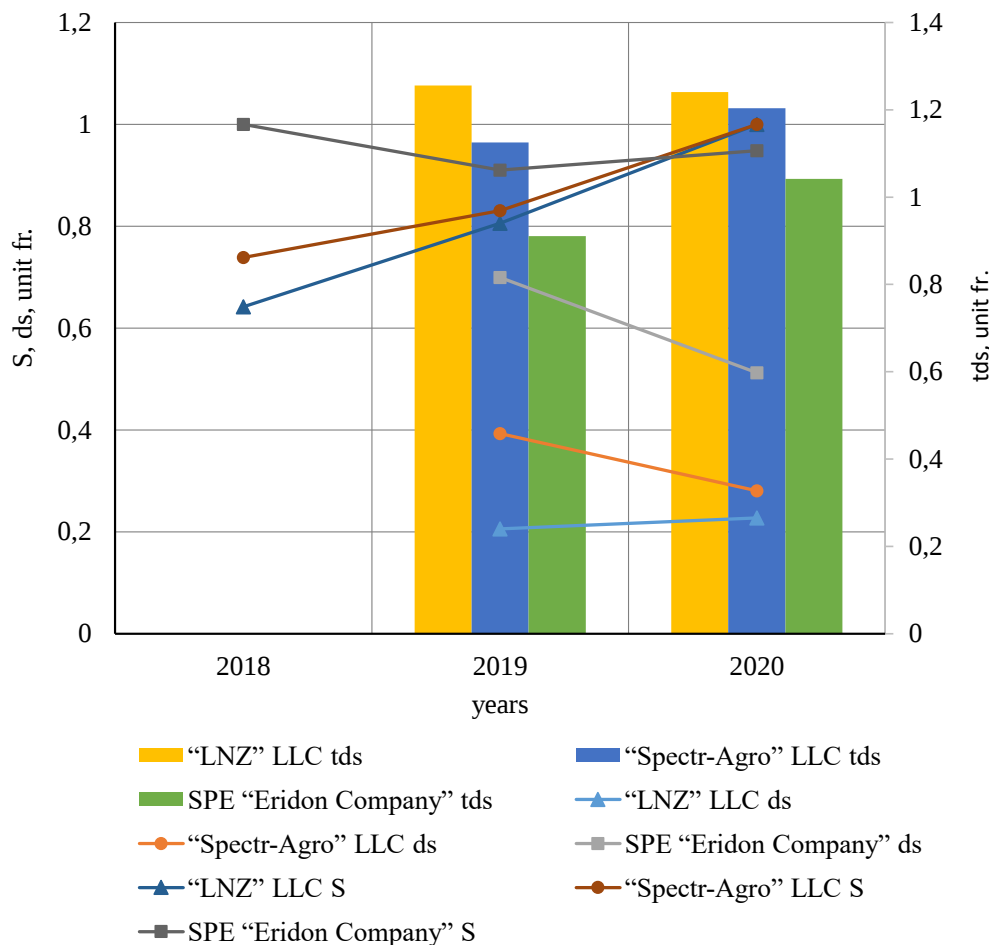


Fig. 1. Dynamics of the size of market shares, their rates and the indicator of the share of participation of the agricultural companies in formation of the general level of market competition intensity

Formulas (6) and (7) enable building dependencies of the values of the integrated criterion indicators $f_{BL_W}^+$ and f_{PPD}^+ on the coefficient λ for the agricultural companies under analysis (Fig. 2).

As for the quantitative analysis of the dependency of the values of the integrated criterion indicators $f_{BL_W}^+$ and f_{PPD}^+ (Fig. 2), it should be noted that the SPE "Eridon Company" is in a relatively more stable state. Nevertheless, the "LNZ" LLC and the "Spectr-Agro" LLC are characterized by better quantitative values of these indicators.

Analysis of dynamics of the size of market shares, their change rates and the indicator of the share of the companies' participation in forming the general level of competition intensity in the target market (Fig. 1) enables a generalized assessment of their sales potential effectiveness. At the same time, the use of methodological approaches to calculating integrated criterion indicators and in substantiating competitive innovative decision making to improve sales potential management makes it possible to consider both the intensity of competition in the target market and proneness of the company management to risk.

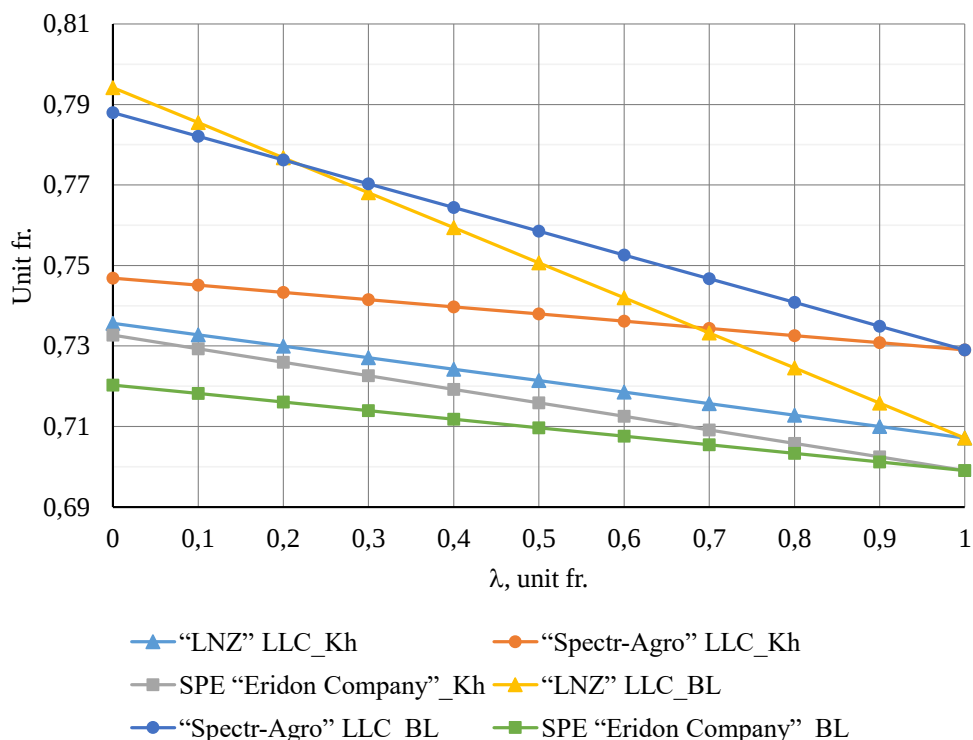


Fig. 2. Dependencies of the values of the integrated criterion indicators (designation "BL") and (designation "Kh") on the coefficient λ for the agricultural companies under analysis

Conclusions

In the context of qualitative changes in the world economy caused by intensification of competition at all its levels, intensive development of the scientific and technological progress, introduction of innovations and efficient flexible management of companies are becoming the key to high competitiveness of the national economy. At the same time, creation of competitive advantages for an agricultural company in the target markets is a strategic priority of its economic activity. Despite a significant number of factors that in one way or another affect competitiveness of a company, its ability to produce competitive products and provide conditions for their promotion to the market remains the main and decisive one.

Thus, it should be stated that under current conditions, competitiveness of an agricultural company in the market is the key criterion for efficiency of its economic activity and assessment of the management efficiency of the company as a whole.

The proposed methodological approaches to

forming criteria for managerial decision making under conditions of uncertainty for the components of integrated indicators of assessment and substantiation of probable alternatives for making innovative decisions regarding key aspects of managing the sales potential of an agricultural company considering risks can be successfully adapted and used in economic activities of companies in other sectors of the national economy.

REFERENCES

1. Burtsev, V. V. (2009). Analysis of the company's sales results: methodology and practical example. *Sales Management*, (5), 278-287.
2. Varaksina, O. V., Ishcheykin, T. E., & Onupko, O. M. (2020). Management of enterprise competitiveness: theoretical aspect. *State and Regions*, 5(116), 24-28.
3. Dyachun, O. D. (2016). Selling in the marketing system: nature, functions and types. *Bulletin of the Ternopil National Economic University*, (3), 106-112.
4. Orlov, P. A., Kholodny, G. O., Borysenko, M. A., et al. (2008). Sales activity of industrial enterprises: theory and directions of development. Kharkiv: Khneu.
5. Makaliuk, I. V., & Lindaev, D. V. (2019). The essence of the enterprise's sales activity and the methodological sequence of evaluating its effectiveness. *Modern Problems of Economy and Entrepreneurship*, (23), 140-148.
6. Novatsky, S. V. (2016). Enterprise sales management: a theoretical approach. *Scientific Bulletin of RDSU*, 7(29), 103-109.
7. Spilnyk, I. V., & Zagorodna, O. M. (2016). Analysis of sales performance. *Economic Analysis*, 24(2), 130-140.
8. Štefanych, D. (2016). Sales management, its functions and object orientation. *Bulletin of the Ternopil National Economic University*, (2), 124-132.
9. Afanasiev, Y., Kapitula, S., Afanasiev, I., Afanasieva, M., & Demchenko, P. (2020). Selected aspects of modeling the process of evaluating business strategies for sustainable economic development of iron ore enterprises. *International Journal of Innovative Technologies in Economy*, 2(29), 18-26.
10. Pyatnytska, G. T. (2006). Enterprise management in the era of globalism. Kyiv: Logos.

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

1. Бурцев В. В. Аналіз результатів продаж компанії: методологія і практичний приклад. *Управління продажем*. 2009. № 5. С. 278-287.
2. Вараксіна О. В., Іщейкін Т. Є., Онупко О. М. Управління конкурентоспроможністю підприємства: теоретичний аспект. *Держава та регіони*. 2020. № 5 (116). С. 24-28.
3. Дячун О. Д. Продаж у системі маркетингу: природа, функції та види. *Вісник Тернопільського національного економічного університету*. 2016. Вип. 3. С. 106-112.
4. Орлов П. А., Холодний Г. О., Борисенко М. А. Збутова діяльність промислових підприємств: теорія та напрями розвитку. Харків: ХНЕУ, 2008. 232 с.
5. Макалюк І. В., Ліндаєв Д. В. Сутність збутової діяльності підприємства та методологічна послідовність оцінювання її ефективності. *Сучасні проблеми економіки і підприємництва*. 2019. Вип. 23. С. 140-148.
6. Новацький С. В. Управління продажами підприємства: теоретичний підхід. *Науковий вісник РДГУ*. 2016. Вип. 7 (29). С. 103-109.
7. Спільник І. В., Загородна О. М. Аналіз ефективності збутової діяльності. *Економічний аналіз: зб. наук. праць*, 2016. Вип. 24. № 2 С. 130-140.
8. Штефанич Д. Управління продажем, його функції та об'єктна орієнтація. *Вісник Тернопільського національного економічного університету*. 2016. Вип. 2. С. 124-132.

9. Afanasiev Yevhen, Kapitula Serhiy, Afanasiev Ihor, Afanasieva Mariia, Demchenko Pavlo. Selected aspects of modeling the process of evaluating business strategies for sustainable economic development of iron ore enterprises. *International Journal of Innovative Technologies in Economy*. 2020. № 2 (29). С. 18-26.

10. П'ятницька Г. Т. Управління підприємством в епоху глобалізму: монографія. Київ: Логос, 2006. 568 с.

Євген Афанасьєв, доктор економічних наук, професор, кафедра управління та адміністрування, Криворізький національний університет, Україна

Дмитро Фролов, аспірант, кафедра управління та адміністрування, Криворізький національний університет, Україна

Обґрунтування прийняття конкурентно-інноваційних рішень для покращення управління збутовим потенціалом компанії з урахуванням ризиків

Анотація

Вступ. Завдяки загостренню конкуренції на ринковому просторі сучасної компанії своєчасне використання інноваційних інструментів управління збутовим потенціалом дає їй можливість коригувати або створювати сучасні моделі ринкової поведінки ключових цільових споживачів, контрагентів і конкурентів, і, як наслідок, створити (прогнозувати) реальні умови для запобігання негативним наслідкам ризиків надзвичайних ситуацій. Це зумовлено високою динамікою трансформації сучасного ринкового бізнес-середовища, його вибірковістю та неоднорідністю, що змушує керівництво компанії вирішувати цілий комплекс актуальних завдань щодо обґрунтування конкурентоспроможних інноваційних рішень, спрямованих на покращення управління збутовим потенціалом.

Мета. Удосконалення теоретико-методологічних підходів до інноваційного аспекту в обґрунтуванні конкурентних рішень в управлінні збутовим потенціалом з урахуванням ризиків.

методи. Використано теорію прийняття управлінських рішень в умовах невизначеності із залученням системного та комплексного підходів до обґрунтування конкурентоспроможних інноваційних рішень, спрямованих на вдосконалення управління збутовим потенціалом аграрної компанії з урахуванням ризиків.

Результати. У статті висвітлюється актуальна проблема раціонального обґрунтування прийняття конкурентоспроможних інноваційних рішень, спрямованих на вдосконалення управління збутовим потенціалом підприємства в умовах невизначеності. Запропоновано теоретико-методичні підходи до економічного обґрунтування стратегічних управлінських рішень щодо забезпечення максимально можливого рівня використання збутового потенціалу підприємства з урахуванням ризиків. Визначено критерії прийняття управлінських рішень в умовах невизначеності для окремих складових інтегральних показників оцінки та обґрунтування можливих альтернатив прийняття управлінських рішень щодо ключових аспектів управління збутовим потенціалом з урахуванням ризиків. На прикладі господарської діяльності сільськогосподарських компаній продемонстровано практичне використання запропонованих теоретико-методологічних підходів.

Як цитувати: Афанасьєв Є., Фролов Д. Обґрунтування прийняття конкурентно-інноваційних рішень для покращення управління збутовим потенціалом компанії з урахуванням ризиків. *Економічний аналіз*. 2024. Том 34. № 2. С. 86-93. DOI: <https://doi.org/10.35774/econa2024.02.086>