SECTION 2. SOCIAL AND ECONOMIC PROBLEMS OF EDUCATION AND SCIENCE DEVELOPMENT IN THE 21st CENTURY

of a weak personnel policy, an ineffective staff motivation system, insufficient awareness, lack of an in-house training system and career opportunities for employees, heterogeneity of the organizational culture of the organization, as well as the consequence of attracting employees who do not conform to its culture to vacant positions, may be a violation of personnel safety standards, manifested in various forms of employee resistance to norms, values and requirements organizations. An effective organizational culture contributes to the formation of employee behavior that meets the goals of the organization, creates a favorable socio-psychological climate and social comfort. It is a powerful strategic tool that allows you to orient all structural divisions of the organization and its individual employees to common goals.

References

- Wang, H. Corporate Culture in China: Insights from a Multinational Corporation / H. Wang // Journal of Business and Management. – 2017. – № 9(2). – P. 10–21.
- 2. Organizational culture: studies. and practicum / V.G. Smirnova. M. : Yurayt Publishing House, 2023. 306 p.
- Zhang, Y. The Impact of Organizational Culture on Job Satisfaction and Organizational Commitment among Employees in Chinese Companies / Y. Zhang, Y. Chen // International Journal of Business and Management. – 2016. – № 11(2). – P. 151–161.
- Zinoviev, F. V. Diagnostics of organizational culture / F. V. Zinoviev // Economics of construction and environmental management. – 2022. – № 1–2 (82–83). – P. 70–77.

UDC 339.138:004.77

ТҮРЕЅ OF ANALYTICS: HOW TO APPLY THEM IN A BUSINESS ВИДЫ АНАЛИТИКИ: КАК ИХ ПРИМЕНЯТЬ В ЛЮБОМ БИЗНЕСЕ

Vardomatskaya E.U. Vitebsk State Technological University, Belarus e-mail: elena101.vard@gmail.com Вардомацкая Е.Ю. Витебский государственный технологический университет, Республика Беларусь

Keywords: data analytics, descriptive analytics, diagnostic analytics, predictive analytics, plan/act analysis, geoanalytics, LFL-analysis, cohort analysis, analysis of illiquid, penetration, boston matrix, «What-if» modeling,

ABC-analysis, XYZ-analysis, and ABC-XYZ analysis, RFM-analysis, FMR-analysis, multivariate statistical analysis methods.

аналитик Ключевые слова: данных, описательная аналитика, диагностическая аналитика, предиктивная (прогнозная) аналитика, предписывающая аналитика, анализ план/факт, геоаналитика, LFLанализ, когортный анализ, анализ неликвидов, пенетрация, бостонская матрица, моделирование «Что-если», АВС-анализ, ХҮZ-анализ, АВС-ХҮZ RFM-анализ. FMR-анализ. методы многомерного анализ. статистического анализа.

Abstract. The article discusses the types of analytics used in business, their benefits for business, and assesses the effectiveness of their implementation in the organization's business processes.

Аннотация. В статье рассмотрены виды аналитик, применяемых в бизнесе, их преимущества для бизнеса, и выполнена оценка эффективности их внедрения в бизнес-процессы организации.

Most successful businesses around the world, despite their field of operation, are those whose analysts constantly strive to grasp and analyze what occurred in the past, what is happening now, and what might occur in the future.

Most businesses gather data on a routine basis, but that data holds no meaning in its raw state. What matters is how the collected information is put to use.

Data analytics is the act of scrutinizing raw data to detect patterns, trends, and insights that can yield valuable information about a specific aspect of a business. Subsequently, these data-driven insights are employed to make managerial decisions [1].

It is customary to classify data analytics into four types, which differ in the complexity of working with information and the level of human involvement [2]:

1. Descriptive Analytics (What happened?)

2. Diagnostic Analytics (Why did this happen?) The primary objective is to uncover anomalies in the received data and react to them with any new data sources that may provide more information about the reasons behind the changes. This offers the analyst a clue to understand what the issue is.

3. Predictive Analytics (What will happen in the future?) is grounded in the development of predictive mathematical models, and although it can never be 100% accurate, it dispels numerous assumptions and aids in making informed business decisions and determining the best course of action.

4. Prescriptive Analytics (How to act best?) – relies on the utilization of optimization models, models for deciding on a strategy in conflicts.

Cognitive analytics is a subfield of prescriptive analytics that endeavors to mimic the human brain by drawing inferences from existing data and patterns based on existing knowledge bases, and then reintegrating the information back into the knowledge base for future inferences, essentially implementing a learning feedback loop. When making business decisions, the following types of analytics are highly sought after.

Plan/Act Analysis. Enables you to conduct an exhaustive analysis of plan implementation: to oversee the dynamics of plan implementation, to obtain a forecast of plan implementation.

Geoanalytics. Enables the evaluation of a business's effectiveness in individual settlements, regions, or districts of the city, considering, among other factors, the presence of competitors and partners.

LFL-analysis (Like for Like). Allows for an in-depth analysis of indicators for each object of interest to the entrepreneur and the identification of both specific shortcomings leading to profit decline and general issues of the trading network.

Cohort analysis [3]. A cohort is a group/segment of users who share the same characteristics, attributes, and experience during the same time period. The concept behind cohort analysis is to divide users into groups based on similar characteristics or attributes in order to track their behavior over time.

Analysis of illiquid assets and Analysis of turnover. The direction characterizing the economic efficiency of the marketing strategy, as it permits the identification of a list of goods that are in stock but have had zero sales during the analyzed period [4].

Penetration (share of goods in the total assortment) [5]. Provides the opportunity to observe the potential opportunities of the buyer and predict likely sales growth for products.

Boston matrix [6]. The Boston Consulting Group (BCG) matrix. The primary purpose of the model is to determine priorities in the development of the company's assortment units and pinpoint key areas for future investments. As a result of combining these two indicators, positions are categorized into four roles:

- Stars (high sales growth and high market share).
- Cash cows (low sales growth, high market share).
- Problem children (high growth rates, low market share).
- Dogs (low growth, low market share).

Joint purchases. An assortment analysis method that uncovers the connections between products formed due to their mutual complementation in satisfying the needs or consistent buying behavior of customers who acquire these items simultaneously.

«What-if» Modeling. This involves analyzing the impact of altering the values of certain initial data on the outcome of formula calculations. In other words, it serves as a kind of calculator that allows for predicting, for instance, income changes depending on Price, Cost, and Number of sales.

ABC analysis, XYZ analysis, and ABC-XYZ analysis.

- ABC-analysis is a tool that permits the examination of the product range, ranking goods according to specified criteria, and identifying the portion of the

range that delivers the maximum effect - from very significant goods (group A) to the least valuable (group C).

- XYZ-analysis is a tool that classifies products based on the stability of sales and the level of consumption fluctuations – from products with low sales fluctuations (Category X) to products with high sales fluctuations (Category Z).

The combination of ABC and XYZ analyses reveals the clear leaders (AX group) and underperformers (CZ).

RFM analysis and FMR analysis.

RFM analysis allows for the segmentation of buyers based on behavioral factors such as purchase frequency and amount.

FMR analysis – permits the analysis of the product range by circulation/collection frequency, identifying three groups of goods:

category F – the most frequently requested goods (up to 80 %);

- category M – less frequently requested goods (up to 15 %);

- category R - rarely requested goods (up to 5 %).

- KPI – Key Performance Indicator. Designed for the analysis of the enterprise's main performance indicators.

Multivariate Statistical Analysis Methods:

- Correlation and regression analysis.

- Analysis of variance.
- Discriminant Analysis.

- Factor analysis – a multivariate method used to examine the relationship between variable values. In this case, it studies the influence of the main factors on Income.

- Cluster analysis and others.

Today, data analytics is in demand in nearly every realm of human activity. The highest demand for data analytics is observed in advertising, marketing, insurance and lending, industry, finance and security, sociology, medicine, etc. The simplest tool for each of these analytical methods is typically a spreadsheet such as MS Excel, but with time, MS Excel ceases to meet business requirements and prompts consideration of process automation, the use of specialized statistical programs, artificial intelligence algorithms, deep learning and machine learning, AI and IT methods – solutions grounded in data processing and analysis technologies via cloud services. By selecting the appropriate analysis type, all types of businesses and organizations can harness their data to make better decisions, invest more wisely, enhance internal procedures, and ultimately boost their chances of success.

References

1. Что такое аналитика данных? Режим доступа:
https://www.oracle.com/ru/business-analytics/what-is-analytics.html.Дата доступа – 17.04.2023.

- 2. Какая аналитика нужна вашей компании. Режим доступа: https://iot.ru/promyshlennost/kakaya-analitika-nuzhna-vashey-kompanii. – Дата доступа – 17.04.2023.
- 3. Пенетрация в маркетинге и продажах: как измерить и увеличить. Режим доступа: https://romi.center/ru/learning/article/market-penetration -the-true-measure-of-success. – Дата доступа – 2.04.2023.
- 4. Матрица Бостонской Консалтинговой Группы: подробный обзор. Режим доступа: http://powerbranding.ru/biznes-analiz/bcg. Дата доступа 2.04.2023.
- 5. Яшева, Г. А., Вардомацкая, Е. Ю. Анализ и планирование ассортимента в табличном процессоре MS Excel. Журнал «Плановоэкономический отдел». – № 3 (129). – 2014. – с. 47–57.
- 6. Яшева, Г. А., Вардомацкая, Е. Ю. Информационно-правовая система Бизнес-Инфо, БД Экономисту, раздел: Аналитические материалы. 2014.

UDC 339.138

MARKETING ANALYTICS AND ITS TOOLS МАРКЕТИНГОВАЯ АНАЛИТИКА И ЕЁ ИНСТРУМЕНТЫ

Zaytseva E.N.^{*}, Kasayeva T.V. Vitebsk State Technological University, Belarus e-mail: eugenia.zaitceva01@gmail.com^{*} Зайцева Е.Н.^{*}, Касаева Т.В. Витебский государственный технологический университет, Республика Беларусь

Keywords: Internet marketing, marketing analytics, market research, marketing analytics tools.

Ключевые слова: интернет-маркетинг, маркетинговая аналитика, исследование рынка, инструменты маркетинговой аналитики.

Abstract. Today, one of the most important parts of Internet marketing is marketing analytics. At the same time, in science and practice, there is no unity of points of view regarding the category of "marketing analytics" itself It allows you to collect and study information about the current advertising campaign, determine its effectiveness and, based on this, modernize the old one or propose a new strategy. Every day there are more and more marketing analytics tools to improve the efficiency of this process, each of them has its advantages and disadvantages. This report attempts to summarize opinions on the essence of marketing analytics and provides a brief description of those of its tools that will suit most firms wishing to track their advertising campaign.