BG Pulse Journal USA
ISSN:1947-2536 http://www.bgpulseusa.com/index.php/bg

POWER BI DESKTOP SWOT ANALYSIS

Mangitova Maryam Saylaubayevna
Kimyo International University in Tashkent. Associate Professor
e-mail: kosbergenova.marina@gmail.com, +998990528228

Аннотация. В данной статье рассматривается применение методологии SWOT-анализа для оценки экосистемы Power BI, являющейся лидером на рынке систем бизнес-аналитики. В рамках исследования системно проанализированы сильные и слабые стороны платформы, а также возможности ее развития и потенциальные внешние угрозы. Результаты анализа предоставляют организациям практические рекомендации по оптимизации системы принятия решений на основе данных и снижению рисков, связанных с лицензированием и техническими ограничениями.

Ключевые слова: экосистема Power BI, SWOT-анализ, бизнес-аналитика (BI), сильные и слабые стороны, визуализация данных.

Abstract. This article examines the application of the SWOT analysis methodology to evaluate the Power BI ecosystem, a leader in the business intelligence market. Within the framework of the research, the strengths and weaknesses of the platform, as well as its development opportunities and potential external threats, are systematically analyzed. The results of the analysis provide organizations with practical recommendations for optimizing the data-driven decision-making system and mitigating risks associated with licensing and technical limitations.

Keywords: Power BI ecosystem, SWOT analysis, business intelligence (BI), strengths and weaknesses, data visualization.

Introduction

Power BI Desktop is a desktop application developed by Microsoft, used for **conducting business analysis and** visualising **data**. As part of the Power BI ecosystem, the application enables users to integrate data from multiple sources— —and create interactive reports that facilitate data modelling and decision-making [1].

Let us now list the key features of the Power BI ecosystem**.**

1. **Importing and integrating data:** the ability to work with various data sources (Excel, CSV, SQL Server, Azure, SharePoint, as well as support for cloud services). [1]. 2. **Data modelling and analysis:** you can establish relationships between tables,
use DAX (Data Analysis Expressions) for calculations and statistical analysis,
and create regression and predictive models [2,3].
3. **Data visualisation:** interactive charts, graphs and dashboards make it easier to
identify patterns and anomalies in the data [1,2].
4. **Forecasting and statistical functions:** descriptive statistics can be utilised, meaning data can be analysed over a period of time, and integration with R and Python is available for advanced analysis [3]. 5. **Collaboration and publishing:** the ability to create reports in the Power BI
service for real-time data updates and sharing [1].

The main advantages of the Power BI ecosystem include the following:

- ✓ A free desktop version for small and medium-sized businesses.
- ✓ High-level integration with Microsoft products (Excel, Teams, Azure).
- ✓ Support for methods of analysing statistical and predictive data.

✓ The ability to create interactive reports without advanced programming skills [2].

A number of systematic limitations apply when working in the Power BI environment. These include the following.

The capabilities of the free version are limited (in terms of data model size and integration with other sources).

It requires the installation of the Windows operating system, which is a limitation for users of other platforms.

Difficulty in mastering DAX and complex data model features [2].Power BI Desktop is **a powerful tool for visualising, analysing and modelling** this **data**, and is used both in corporate environments and for individual analysis. Its functionality, integration with Microsoft and statistical analysis capabilities make it one of the leading solutions in the field of business analytics [1,2,3].

According to data on **Power BI usage statistics** cited in open sources, **approximately 97% of Fortune 500 companies** use the Power BI platform, which indicates that BI solutions based on Power BI have become virtually ubiquitous in the corporate sector [4]. Furthermore, Power BI has **tens of millions of active monthly subscribers,** including **over 30 million active users** per month, reflecting the tool's widespread adoption among corporate and individual analysts [4]. Currently, companies ranging from small businesses to large multinational corporations (**over 250,000 organisations)** use Power BI for business analysis [5]. Furthermore, Power BI accounts for **approximately 30% of the market share in the analytics and BI platforms segment**, indicating that it is one of the leaders among modern BI tools [4]. Microsoft (with Power BI and other analytics solutions) has consistently held a leading position for over 15 years. **Its leadership in the Gartner Magic Quadrant for Analytics and BI Platforms** confirms that this platform is recognised by the expert community [5].

The widespread adoption of Power BI in large organisations has made it virtually ubiquitous, demonstrating its strategic importance for business analysis [4]. With tens of millions of active users per month, this tool demonstrates the high demand for it in both business and academic contexts [4]. With a market share of over 30%, Power BI is one of the world's most popular analytics tools [4]. The platform's long-standing leadership in Gartner's rankings attests to its reliability, functionality and effectiveness for analytical tasks [5].

A SWOT analysis was used to evaluate the Power BI platform. SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is a classic method of strategic analysis, enabling the assessment and identification of internal and external factors affecting the subject of the study. In particular, in the context of information technology and BI tools, SWOT analysis enables an understanding of the product's current capabilities, its limitations, and future development directions [2,3]. Power BI Desktop is used to visualise and analyse data, and it also integrates with other Microsoft products. It supports a number of data sources and enables the use of advanced analysis methods incorporating DAX and AI functions [1].

The SWOT analysis was conducted using the following open-source materials: official Microsoft documentation [1], case studies [2,3,5], educational materials and GitHub repositories [4].

1. Strengths: Strengths provide a strategic advantage in making decisions based on timely and relevant information, and enhance the organisation's transparency [7]

• **Power BI Desktop** enables organisations of all sizes to implement this tool without significant investment, thereby reducing barriers to entry for start-ups and educational institutions [6].

• **Integration with the Microsoft ecosystem** (Excel, Azure, SharePoint) ensures seamless data exchange and simplifies the scale of enterprise-level analytics [6,8].

• **Powerful visualisations and interactive dashboards** enable in-depth analysis through the visual presentation of data, which improves the accuracy of management decisions [7].

• **Support for multiple data sources** ensures flexibility: from SQL databases to cloud platforms and files on local disks, which is crucial for multi-source analysis [9].

2. Weaknesses. Weaknesses highlight internal constraints that hinder the scalability of analysis within large organisations and necessitate the planning of strategic resources.

• **The complexity of implementing advanced features** (DAX, complex data models) requires training and preparing specialists, which may increase implementation costs [7].

• **Limitations of the free version**, in particular, restricted collaboration features and the inability to automatically update data, may reduce team productivity [6].

• **The Windows dependency** restricts the use of Power BI Desktop on other operating systems, which reduces the flexibility of the IT infrastructure [10].

• **Working with large volumes of data** is constrained by local computer resources, which necessitates optimising models or utilising the Power BI service [8].

3. Opportunities. Opportunities reflect external favourable factors that can be utilised to drive the organisation's strategic growth, improve the effectiveness of data analysis, and enhance competitiveness in the market.

• **There is a growing demand for self-service analytics:** a key trend in modern BI is to transfer part of the analytical function to end users, which increases the value of Power BI [7].

• **The development of cloud-based solutions and integration with the Power BI service** enables enhanced collaboration, automation and real-time access to data [6].

• **The implementation of artificial intelligence and automation** enables the execution of predictive analyses, the identification of hidden patterns, and the automation of recurring reports [7,10].

4. Threats. Threats represent external risks that must be taken into account when strategically planning the implementation and scaling of Power BI Desktop within an organisation.

• **Competition in the BI tools market:** Tableau, Qlik and other platforms are actively developing, which could reduce Power BI Desktop's market share
[10].

• **Security and privacy requirements**: these restrict the ability to work with sensitive data and require compliance with regulations (GDPR, local standards) [11].

• **Rapid technological development:** the need to constantly update staff skills and adapt to new tools [7].

SWOT analysis method

Based on the SWOT analysis method, the following strategic recommendations can be provided to organisations implementing Power BI Desktop:

1. Capitalise on your strengths

• **Maximise the use of free features:** Use Power BI Desktop to prototype reports and dashboards before implementing the paid Power BI service [6,9].

• **Integration with the Microsoft ecosystem:** make active use of Excel, SharePoint and Azure connections to automate data processing and synchronise reports [6,8].

• **Visualisation expansion:** use interactive dashboards and visualisations to clearly present key performance indicators (KPIs) and support management decisions [7].

2. Minimising weaknesses

• **Staff training:** Organising courses and training sessions on DAX and data modelling to reduce the barrier to adopting advanced features [7].

• **Using cloud solutions:** Switch to the Power BI service, which improves efficiency and collaboration when working with large volumes of data [8].

• **Cross-platform solutions:** Use these for users of operating systems other than Windows, whether in Windows virtual environments or cloud workstations, thereby reducing dependence on Windows [10].

3. Utilising external capabilities

• **Implementing self-service analytics:** delegating part of the analysis to end users, reducing the workload on the analytics team, and accelerating decision-making [7].

• **Leverage artificial intelligence and automation:** utilise built-in AI capabilities, predictive analytics and automated reporting to improve forecast accuracy and reduce manual tasks [7,10].

• **Cloud integration:** Leverage Power BI Service capabilities to collaborate, publish interactive reports and automatically update data in real time [6].

4. Minimising risks

• **Competitor monitoring:** Keeping track of developments in Tableau, Qlik and other BI tools to adapt the strategy for using Power BI Desktop and demonstrate competitive advantages [10].

• **Compliance with security regulations:** Implementing a security and data protection policy that meets GDPR and local requirements to minimise risks [11].

• **Provide ongoing training for staff:** ensure that users' ability to adapt to new features and technologies is continuously developed [7].

The second stage of the SWOT analysis enables us to move from identifying factors to implementing practical strategies, ensuring the systematic management of opportunities and risks. This approach enhances the value of Power BI Desktop as a business analysis tool and supports the sustainable development of the organisation's BI system. **The strategic advantage of Power BI Desktop** lies in the fact that it is free, flexible and integrated with the Microsoft ecosystem, making it a convenient tool for both small businesses and large organisations [6,8]. **Its weaknesses**, such as the difficulty in mastering advanced features and the limitations of the free version, may reduce implementation efficiency, particularly in large organisations with a high number of users [7,10]. **Opportunities include** cloud services, selfserviceservice-oriented architecture and AI, enabling organisations to significantly improve the quality of management decisions and accelerate data processing [6,7,10]. **Challenges** include competition from other BI tools, security requirements and the need for continuous training. These factors require a strategic approach to the implementation and use of Power BI Desktop [10,11]. **Recommendations for improving adoption include** training Power BI Desktop users, optimising workflows, and implementing cloud capabilities and AI, which enables organisations to minimise internal constraints and external threats.

A SWOT analysis of Power BI Desktop highlights its strategic strengths in business analysis, including accessibility, integration and data visualisation. However, its weaknesses and threats require careful planning of resources, staff training and data security. Cloud solutions and AI-related capabilities create opportunities for strategic growth and competitive advantage for organisations using Power BI Desktop.

List of references

1. Power BI statistics and facts (2025) — An overview of Power BI Desktop capabilities and applications. URL: https://electroiq.com/stats/power-bi-statistics/
2. Which companies use Power BI? – Key points: use within organisations, and capabilities for analysis and integration. URL: https://www.thebricks.com/resources/guide-how-many-power-bi-users-are-there
3. Advanced training. The Power BI statistics you need to know (2025)— statistical analysis, forecasting and integration with Python/R. URL: https://www.acuitytraining.co.uk/news-tips/power-bi-statistics-you-need-to-see- 2025
4. Power BI statistics and facts (2025) – Power BI usage statistics: Fortune 500 coverage, active users, market share. URL: https://electroiq.com/stats/power-bistatistics/
5. How many companies use Power BI? – The Bricks – Information on the number of companies and Power BI's role in the BI ecosystem, as well as leadership in the Gartner Magic Quadrant. URL: https://www.thebricks.com/resources/guidehow-many-power-bi-users-are-there 6. Microsoft. Power BI Desktop: Getting Started. Microsoft Learn. URL: https://learn.microsoft.com/ru-ru/power-bi/fundamentals/desktop-getting-started
7. Studocu. SWOT analysis of Power BI and IBM Cognos. URL: https://www.studocu.com/my/document/universiti-teknologi-mara/informationsystem-engineering/ict500-individual-assignment-1-swot-analysis-of-power-biibm-cognos/130871872
8. Group D. What is Power BI and how to use it. URL: https://www.thedgroup.com.my/articles/power-bi-meaning-how-to-use
9. GitHub. Power BI book (Russian version) — Maksim Uvarov. URL:https://github.com/maxim-uvarov/PowerBI-book-ru
10. WebAIE. Power BI and its competitors. URL: https://www.webaie.com/powerbi-vs-competitors
11. Canvas business model. SWOT analysis templates. URL:https://canvasbusinessmodel.com/products/preset-swot-analysis