Knowledge Management Tool - Analysis of Power BI

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Abstract

This paper focuses on Power BI, a knowledge management tool, which provides an analysis of its definition, benefits, challenges, overall performance, design and interface, cost-benefit. Power BI is a popular data visualization and business intelligence application that benefits companies to transform their raw data into actionable information. This paper highlights the applications capabilities, through a recent literature review. This paper discusses the challenges that companies, small or medium-sized, face with advanced features. Despite the challenges, Power BI is an effective application that addresses the company's challenges through data-driven decisions.

Keywords: Power BI, Knowledge Management Tool, Interface, Data Integration, Performance.

Introduction

The concept of knowledge plays a crucial role in the development of society, particularly during the transition from agrarian to industrial society. Knowledge management is often linked to personal experiences, values, and intellectual insights. Converting raw data into insightful information can be achieved through various knowledge management tools (Merlo, 2022). Power BI is a collection of software services that work together to transform unrelated data sources into visually appealing insights for businesses. Whether the data is stored in Excel or a cloud-based warehouse, Power BI easily connects to these sources and extracts important information that can be shared with anyone, from everywhere.

The ability to visualize data effectively enhances decision-making processes, allowing organizations to identify trends and patterns that may otherwise go unnoticed. Moreover, in today's dynamic economy businesses rely heavily on data-driven strategies, tools like Power BI facilitate collaboration and communication among teams, fostering a culture of transparency. By harnessing the power of knowledge management, organizations can not only improve their operational efficiency but also drive innovation and competitive advantage.

This literature review will explore the following aspects of Power BI: its definition, benefits, challenges, overall performance, design and interface, cost-benefit analysis.

Literature Review

Definition of Power BI

Power BI consists of various software services, applications, and connectors that collaborate to transform disparate data sources into coherent, visually engaging, and interactive insights. Data could come from Excel spreadsheets or data warehouses. With Power BI, it can effortlessly connect to data sources, allowing users to visualize and identify critical information

and share findings. The primary functions of Power BI are Data Modeling, Collaboration, Data Connectivity, Data Visualization (Goncalves 2023).

Benefits of Power BI

According to Goncalves, clearly visualizing real-time data analysis allows decision-makers to enhance an organization's efficiency (Goncalves 2023). Power BI is highly effective at linking a wide range of data sources and delivering real-time analysis. This is key to support organizations to improve their strategies and efficiency. This is useful for fast paced environments, financial sectors, where quick responses are crucial for businesses to succeed. Power BI has a user-friendly interface that is easy to navigate, which makes it simple for users to create and work with visualizations. It offers a no-code environment, while featuring a full set of panels and pre-built tools for easier navigation (Parthe 2023). Research indicates that organizations implementing accessible business intelligence (BI) tools often see increased user engagement and quicker decision-making.

Challenges of Power BI

While Power BI integrates data from various sources, data security remains a critical concern. Since Power BI manages sensitive user information, it is essential for organizations to prioritize the secure handling of customers' sensitive data. Implementing robust access controls and conducting compliance checks at each stage are essential to mitigate risks and safeguard customer data from potential breaches. Integrating multiple data sources can sometimes pose as a challenge. Most small to medium sized companies often rely on multiple data sources, such as Excel spreadsheets, external databases and legacy systems. While this feature is offered in Power BI, connecting and transforming data from multiple can be complex, which will necessitate

technical knowledge. This can be difficult for small to medium sized companies, without technical knowledge, to embrace and deploy Power BI (Ahmadi 2023.).

Another major challenge is associated with cost, which is significant. There is a free version of Power BI, but as the features get more advanced, such as real-time sharing, the cost significantly increases. For companies that are on a budget this can be prohibitive, especially when considering onboarding, training and maintenance.

Overall Performance

Power BI's feature to connect complex datasets from multiple sources of data, including excel, databases, etc. Companies in retail, finance leverage Power BI to assist in analyzing data across multiple departments. It allows for rapid processing of data, which is important for handling variety and a high volume of data. Power BI was used to analyze data from a gaming industry across different locations (Palma-Ruiz 2022). The author(s) performed data visualization with Power BI's tool kit to identify patterns and predict future trends. This paper mentioned Power BI exceeded in processing large datasets from different locations to create financial reports, market trends, and social media analytics. Power BI has strong processing power and can handle real-time data and predict forecasts using historical data.

Design and Interface

The design concept mainly offers highly customizable and interactive interface that offers its' users to easily navigate (Palma-Ruiz 2022). Power BI's drag-and-drop functionality simplifies the process of customizing dashboards and reports. The intuitive interface is highly likable for non-technical users to generate meaningful dashboards, reports without needing extensive knowledge about technical concepts associated with Power BI.

The author emphasizes the flexibility of Power BI's data visualization features for the users in the gaming industry, where data, trends or patterns, needs to be presented to key stakeholders. The logical structure of Power BI's interface is easily navigated to perform day-to-day activities, which contributes to the business' performance.

Cost-Benefit

Power BI is a cost-effective tool, especially when compared to other data visualizations tools like Tableau (Parthe 2023). Power BI and Power BI Premium are offered at monthly subscriptions for larger companies in need of collaboration. Power BI Pro, which costs per user, contains additional features such as collaboration, and sharing reports. Power BI Premium is for users who need to handle large datasets, execute AI driven analytics, and extend storage space. While this subscription costs significantly more than Power BI Pro, it provides great advantage when handling large amounts of real-time data.

The advanced analytics, real-time data availability, and user-friendly interface of Power BI can contribute to the company enhancing business decisions, which can reduce time and cost in the future. As companies grow, they have a option to start with a free version of Power BI and later upgrade to paid versions making it versatile and cost-effective.

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Conclusion

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In conclusion, Power BI is a well-established knowledge management tool that helps companies boost their performance and revenue. This tool has many features that enable users, from technical to non-technical, to explore and perform activities. There are challenges associated with Power BI, especially for small and medium sized companies that have a limited budget. The cost of advanced features is significantly high so it may pose a challenge to access these features. Despite the challenges, Power BI's overall capabilities ensure real-time data processing,

customizable dashboards, and easier navigation across the platform. Power BI is an essential tool that plays an important role in navigating companies to advance and gain a competitive advantage. Moving forward, Microsoft should address the limitations of Power BI to ensure that it is scalable, cost-effective, and accessible to any sized companies.

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