

A Study on Using Power BI in Financial Performance Dashboard

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ABSTRACT

The increasing volume of financial data has created a need for effective tools that can analyze, visualize, and communicate financial information for better decision-making. Traditional financial reporting methods, particularly spreadsheet-based reporting, can be time-consuming and difficult to interpret when data is obtained from multiple sources. Microsoft Power BI provides Business Intelligence capabilities that enable organizations to integrate data, create interactive dashboards, visualize Key Performance Indicators (KPIs), and monitor financial performance efficiently. This study examines the use of Microsoft Power BI in developing financial performance dashboards and evaluates its usefulness in financial reporting, data visualization, and decision-making.

The study adopted a quantitative research methodology. Primary data was collected through a structured questionnaire from 54 respondents using Google Forms. The respondents included students and individuals having knowledge of financial reporting, finance, business analytics, and Power BI. The collected data was analyzed using frequency and percentage analysis, descriptive statistics, Cronbach's Alpha, Chi-square test, Spearman's Rank Correlation, and One-Way ANOVA. The reliability test produced a Cronbach's Alpha value of 0.955, indicating excellent reliability. The descriptive results showed positive perceptions towards Power BI, with most perception statements receiving mean scores above 4.00. Spearman's correlation identified a moderate positive and statistically significant relationship between ease of dashboard development and improvement in financial reporting quality ($\rho = 0.583$, $p < 0.001$). The study concludes that Power BI is an effective tool for financial performance dashboard development and can support efficient

INTRODUCTION

With the fast evolution of digital technologies, the process of collection, processing, analyzing, and presenting business information has changed significantly. Financial information is essential for decision-making processes in organizations since it provides managers with information about revenues, expenses, profitability, financial position, and performance in general. That is why organizations need effective mechanisms for translating financial information into easily understandable forms.

A financial performance dashboard is a graphical summary of critical financial metrics. Examples of financial metrics could include revenues, costs, profitability, financial ratios, key performance indicators (KPI), trends, and any other performance measures. Graphs, charts, tables, KPI cards, filters, and slicers provide an opportunity for users to analyze financial data interactively.

This research paper deals with "A Study on Using Power BI in Financial Performance Dashboard". This study attempts to investigate the awareness level of Power BI usage and perceptions of respondents towards the efficiency of using Power BI in the process of financial dashboard creation, financial reporting, data visualization, and decision-making.

The primary purpose of this research is to evaluate the application of Power BI in developing an interactive financial performance dashboard and the contribution of Power BI to financial reporting and decision-making. Additionally, this research investigates the benefits of using the dashboards over traditional reporting.

financial reporting, visualization, monitoring, and data-driven decision-making.

Keywords: Power BI, Business Intelligence, Financial Performance, Dashboard, Financial Reporting, Data Visualization, Decision-Making.

RESEARCH METHODOLOGY

The quantitative research methodology was utilized in the research in order to analyze respondents' awareness, use, knowledge and perception of Power BI and financial performance dashboards.

Sample and Sampling Technique

There was a sample size of 54 respondents that took part in this research. The respondents include MBA students, finance sector individuals, accountants, business analysts, and individuals having knowledge on financial reporting and Power BI. The method used in selecting the respondents is convenience sampling because the respondents were accessible and willing to answer questions.

Data Collection

Both primary and secondary sources of data were used in the study. The primary data collected through structured questionnaires via Google forms. The questionnaire had demographic questions, questions regarding the awareness and usage of Power BI, and perception questions which were to be answered by five-point Likert scale.

The questionnaire had four parts:

Part A: Demographic questions

Part B: Awareness and usage of Power BI

Part C: Perception of Power BI for dashboarding and reporting of finances

Part D: Perception of Power BI for visualization of data and decision-making

Statistical Tools Used

The gathered data was analyzed using frequency and percentage distribution, means and standard deviations, Cronbach's Alpha, Chi-square test, Spearman's Rank Correlation, and One-way ANOVA.

This study focused on the use of Microsoft Power BI for financial performance reporting and dashboard creation. This study did not involve financial

REVIEW OF LITERATURE

Elgendy and Elragal (2020) examined the role of Business Intelligence and Big Data Analytics in creating business value. Their work highlighted how BI and analytics can help organizations transform large volumes of data into useful information for better managerial decision-making. This supports the importance of BI tools in financial analysis and reporting.

Sharda, Delen and Turban (2020) discussed Business Intelligence, analytics, and data science from a managerial perspective. Their work emphasized the use of BI systems to convert organizational data into meaningful information and support evidence-based managerial decisions. Singh, Kumar, Singh and Kaur (2023) studied data visualization for developing effective performance dashboards using Power BI. The study highlighted Power BI's ability to present large datasets through interactive visualizations, including charts, maps, tables, and other graphical features, making information easier to understand and analyze.

Silva (2021) examined Power BI as a Business Intelligence tool for analyzing financial statements and presenting economic and financial indicators through dashboards. The study showed that Power BI can support financial performance analysis by calculating financial indicators and presenting them through dashboards.

DATA ANALYSIS AND INTERPRETATION

The research was carried out among 54 respondents where 27 were male and 27 were female. Most of the respondents were postgraduates (75.47%) and students (72.22%). Majority had 0-1 year of experience (72.22%), hence this indicated that most respondents had been at the initial stage of their careers.

In terms of awareness of Power BI, 75.9% of the respondents were aware of Power BI. However, the regular use of Power BI was relatively low where 16.7% of the respondents used Power BI frequently while 31.5% used Power BI rarely and 29.6% occasionally. Financial reporting was the leading use of Power BI (42.6%) followed by data analysis (25.9%). Chart was the most used

valuations, investment analysis, artificial intelligence, and machine learning.

FINDINGS

- ✓ 75.9% of respondents were familiar with Power BI.
- ✓ Power BI received a positive effectiveness score of 4.13.
- ✓ Charts and graphs were the most preferred visualization tool, with a mean score of 4.22.
- ✓ Ease of dashboard development had a significant positive relationship with financial reporting quality ($p = 0.583$, $p < 0.001$).
- ✓ The questionnaire showed excellent reliability, with a Cronbach's Alpha value of 0.955.

SUGGESTIONS

- ✓ Offer useful Power BI training to increase technical skills of the users.
- ✓ Motivate users to use Power BI on a regular basis through relevant projects and datasets from the finance field.
- ✓ Integrate Power BI training within finance education to teach industry-specific skills in data analytics.
- ✓ Enhance knowledge about effective use of charts, KPIs, filters, and slicers in dashboards.
- ✓ Support data-driven decision making through use of Power BI dashboards in finance.

REFERENCES

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- ✓ Sharda, R., Delen, D., & Turban, E. (2020). Business Intelligence, Analytics, and Data Science. Pearson.
- ✓ Singh, J., Kumar, A., Singh, G., & Kaur, J. (2023). Data Visualization for Developing Effective Performance Dashboard with Power BI.
- ✓ Silva, L. C. (2021). Business Intelligence: Power BI as a Tool for Analyzing Financial Statements.

visualization function (50%) followed by table (24.1%) and KPI card (18.5%).

Most of the respondents had good knowledge of Power BI whereby 48.1% had excellent knowledge and 33.3% good knowledge of Power BI. In terms of the perception analysis, there was a positive perception about Power BI whereby most of the major statements had a mean score greater than 4.00. Improving the understanding of financial information through charts and graphs had the highest mean score of 4.22 while interactive filters and slicers had 4.20. Perception that Power BI was an effective tool for developing financial performance dashboard was 4.13.

The reliability test done on the questionnaire through Cronbach's Alpha yielded an impressive value of 0.955.

Chi-square analysis did not find any significant correlation between Power BI knowledge and the belief that the use of financial dashboards reduces reporting time ($\chi^2 = 6.640$, $p = 0.880$). Likewise, there is no significant correlation between years of experience and the belief that Power BI increases the quality of financial reporting ($\chi^2 = 4.985$, $p = 0.546$).

The result of Spearman's Rank Correlation test is an indication of no significant relationship between years of experience and the level of perceived increase in the quality of financial reporting ($\rho = -0.041$, $p = 0.767$). On the other hand, there is a moderately positive and significant relationship between ease of developing dashboards and perceived increase in the quality of financial reporting ($\rho = 0.583$, $p < 0.001$).

One-way ANOVA test failed to show any significant difference among the perceptions in relation to respondents' knowledge of Power BI ($F = 1.720$, $p = 0.175$).

In conclusion, it can be said that there is a positive perception of Power BI for financial performance dashboards despite the lack of regular practical usage.

WEB LINKS

- [Microsoft Power BI](#)
- [Microsoft Power BI Documentation](#)
- [Microsoft Learn – Power BI Training](#)
- [Microsoft Power BI Community](#)