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A Study on the Design and Development of an Interactive Financial Performance Dashboard for Management Decision-Making

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ABSTRACT: Financial data plays a crucial role in organizational decision-making. However, traditional financial reports often contain complex numerical information that is difficult for management to interpret quickly. With the growing need for data-driven decision-making, organizations increasingly rely on interactive financial dashboards to visualize financial performance and monitor key performance indicators (KPIs). This study focuses on the design and development of an interactive financial performance dashboard for management decision-making using financial analytics and visualization tools. The research examines financial indicators such as revenue trends, expense patterns, profitability ratios, and liquidity measures to design a dashboard that simplifies financial data interpretation. Visualization tools such as Microsoft Excel and Power BI are utilized to transform raw financial data into meaningful graphical representations. The study demonstrates how interactive dashboards can improve reporting efficiency, enhance transparency, and support strategic management decisions. The dashboard allows decision-makers to monitor financial performance in real time and identify trends, opportunities, and potential risks more effectively. The findings highlight that financial dashboards significantly improve financial analysis efficiency and help management gain better insights into business performance. The study concludes that integrating financial analytics with interactive dashboards can strengthen strategic decision-making and improve organizational financial management.

KEYWORDS: Financial Dashboard, Financial Analytics, Business Intelligence, Data Visualization, Decision-Making.

I. INTRODUCTION

In the modern business environment, organizations generate enormous volumes of financial data through their daily operational activities. Every transaction, investment, expense, and revenue stream contributes to the accumulation of financial information that must be analyzed and interpreted to evaluate organizational performance. Financial information plays a crucial role in assessing the financial health of a company, supporting strategic planning, and ensuring sustainable growth. Managers, investors, and stakeholders rely heavily on financial data to make informed decisions regarding resource allocation, investment opportunities, cost management, and operational efficiency.

Traditionally, financial information has been presented through static financial statements such as the income statement, balance sheet, and cash flow statement. These financial reports provide detailed information about an organization's profitability, financial position, and cash management over a specific period of time. Although these reports are essential for financial analysis, they often contain large volumes of numerical data that can be difficult for managers to interpret quickly. The process of analysing traditional financial statements typically requires advanced financial expertise and considerable time, which may delay critical decision-making processes.

In recent years, the rapid development of digital technologies and data analytics has transformed the way organizations manage and interpret financial data. Businesses are increasingly adopting modern data analytics tools that enable them to process large datasets efficiently and generate valuable insights in real time. One of the most significant developments in this area is the use of financial dashboards as a tool for business intelligence and performance monitoring.

A financial dashboard is an interactive visualization tool that consolidates financial data and presents it in a graphical format through charts, graphs, key performance indicators (KPIs), and summary metrics. Unlike traditional financial reports, dashboards provide a visual overview of financial performance, allowing users to quickly identify trends, patterns, and potential risks. These dashboards integrate multiple financial indicators into a single interface, enabling managers to monitor business performance in real time.

Objectives of the study

- To analyse the financial performance indicators of the organization.
- To design and develop an interactive financial performance dashboard.
- To evaluate key financial metrics such as revenue, expenses, profitability, and liquidity.
- To transform financial data into visual insights using dashboard tools.
- To improve management decision-making through financial data visualization.

II. REVIEW OF LITERATURE

Few (2013), Stephen Few emphasized that effective dashboard design should present critical information in a clear, concise, and visually intuitive manner to support quick decision-making. The study highlights that well-designed dashboards enable managers to monitor key performance indicators (KPIs) efficiently and make informed decisions without information overload.

Eckerson (2011), Wayne W. Eckerson explained that performance dashboards serve as powerful tools for measuring, monitoring, and managing organizational performance. The research suggests that dashboards integrate data from multiple sources and provide real-time insights, thereby enhancing managerial decision-making and operational efficiency.

Yigitbasioglu & Velcu (2012), Ogan M. Yigitbasioglu and Otilia Velcu reviewed the role of dashboards in performance management and found that dashboards significantly improve data visualization, communication, and strategic alignment. Their study also indicates that dashboards help organizations track performance metrics effectively and support better decision-making processes.

III. RESEARCH METHODOLOGY

For this study, a descriptive research design has been adopted. For this study, data has been collected from primary data and secondary sources. In this study, convenience sampling has been adopted. The sample of the study is 100. The main tools used in this study include: Microsoft Excel. Simple percentage analysis and chi square has been used in this study.

Data analysis and interpretation

Table No. 1 Frequency of Financial Report Usage

Frequency	Respondents	Percentage
Daily	35	35%
Weekly	30	30%
Monthly	20	20%
Rarely	15	15%

Interpretation

The above table shows that 35% of respondents review financial reports daily, while 30% review them weekly. About 20% review them monthly, and 15% rarely review financial reports. This indicates that financial reports are frequently used for monitoring financial performance and decision-making.

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Table No. 2 Ease of Understanding Financial Reports

Option	Respondents	Percentage
Very Easy		2828%
Easy		3232%
Moderate		2525%
Difficult		1515%

Interpretation

The table indicates that 32% of respondents find financial reports easy to understand, while 28% consider them very easy. However, 25% feel they are moderately understandable, and 15% find them difficult, suggesting the need for improved financial visualization tools.

Table No. 3 Financial Reports Provide Quick Insights

Option	Respondents	Percentage
Always		3030%
Often		3535%
Sometimes		2020%
Rarely		1515%

Interpretation

The above table shows that 35% of respondents believe financial reports often provide quick insights, while 30% believe they always do. Around 20% think insights are provided only sometimes, and 15% believe they are rarely useful, indicating the limitations of traditional financial reporting.

Table No. 4: Impact of Dashboards on Financial Management

Particulars	Strongly Agree	Agree	Neutral	Disagree
Dashboards improve reporting accuracy	35 (35%)	37 (37%)	18 (18%)	10 (10%)
Dashboards improve efficiency of financial reporting	36 (36%)	34 (34%)	20 (20%)	10 (10%)
Dashboards help in cost monitoring	38 (38%)	32 (32%)	20 (20%)	10 (10%)
Dashboards improve financial transparency	40 (40%)	33 (33%)	17 (17%)	10 (10%)
Dashboards improve budget monitoring	37 (37%)	34 (34%)	19 (19%)	10 (10%)

Source: Primary Data

Interpretation

The above table indicates that dashboards have a strong positive impact on various aspects of financial management. A majority of the respondents (37%) agree that dashboards improve reporting accuracy, while 35% strongly agree, reflecting overall positive perception.

With regard to efficiency in financial reporting, 36% of the respondents strongly agree and 34% agree, indicating that dashboards enhance reporting efficiency. Similarly, 38% of the respondents strongly agree that dashboards help in cost monitoring, showing their usefulness in financial control.

Further, 40% of the respondents strongly agree that dashboards improve financial transparency, which is the highest among all factors, highlighting their importance in promoting clear financial visibility. In terms of budget monitoring, 37% strongly agree and 34% agree, indicating that dashboards play a crucial role in tracking and managing budgets effectively.

Overall, the findings reveal that dashboards significantly contribute to improving accuracy, efficiency, cost monitoring, transparency, and budget management in financial reporting.

Table No. 4.5: Role of Dashboards in Financial Decision-Making

Particulars	Strongly Agree	Agree	Neutral	Disagree
Dashboards improve management decision-making	42 (42%)	30 (30%)	18 (18%)	10 (10%)
Dashboards improve communication of financial information	38 (38%)	34 (34%)	18 (18%)	10 (10%)
Dashboards help identify financial risks	36 (36%)	32 (32%)	20 (20%)	12 (12%)
Dashboards help track Key Performance Indicators (KPIs)	40 (40%)	33 (33%)	17 (17%)	10 (10%)
Dashboards support strategic planning	37 (37%)	35 (35%)	18 (18%)	10 (10%)

Source: Primary Data

Interpretation

The above table shows that dashboards play a significant role in enhancing financial decision-making processes. A majority of the respondents (42%) strongly agree that dashboards improve management decision-making, indicating their importance in managerial effectiveness.

Further, 38% of the respondents strongly agree that dashboards improve communication of financial information, suggesting that dashboards facilitate better information flow within the organization. In terms of risk identification, 36% strongly agree and 32% agree, showing that dashboards are useful in identifying financial risks.

Additionally, 40% of the respondents strongly agree that dashboards help track Key Performance Indicators (KPIs), highlighting their effectiveness in performance monitoring. With respect to strategic planning, 37% strongly agree and 35% agree, indicating that dashboards support long-term planning and decision-making.

Overall, the findings reveal that dashboards positively influence decision-making, communication, risk identification, performance tracking, and strategic planning within the organization.

**CHI-SQUARE ANALYSIS
RELATIONSHIP BETWEEN FREQUENCY OF FINANCIAL REPORT USAGE AND DASHBOARDS
IMPROVE MANAGEMENT DECISION-MAKING
HYPOTHESIS TESTING**

Null hypothesis (H01)

There is no significant relationship between frequency of financial report usage and dashboards improving management decision-making.

Alternative hypothesis (H02)

There is a significant relationship between frequency of financial report usage and dashboards improving management decision-making.

Chi-Square Tests

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.836	9	.554
Likelihood Ratio	8.092	9	.526
Linear-by-Linear Association	.219	1	.640
N of Valid Cases	100		

Note: 16 cells (80.0%) have expected count less than 5. The minimum expected count is 1.5.

INTERPRETATION

As per the above table, the P-value is 0.554, which is greater than the 5% (0.05) significance level. Therefore, the result is not significant. The minimum expected count is 1.5. Hence, the null hypothesis is accepted, and it is concluded that there is no significant relationship between frequency of financial report usage and dashboards improving management decision-making.

IV. SUGGESTIONS

- Organizations should adopt advanced business intelligence tools such as Power BI, Tableau, and Excel dashboards to develop interactive financial dashboards. These tools provide powerful data visualization capabilities that enable organizations to analyze financial data more effectively.
- Financial dashboards should be integrated with real-time data sources to provide up-to-date financial information. Real-time dashboards allow managers to monitor financial performance continuously and make timely decisions based on the latest data.
- Employees involved in financial analysis should receive training in data analytics and dashboard development. Training programs can help financial analysts develop the skills required to design dashboards and interpret visual financial data effectively.
- Financial dashboards should be designed with simplicity and clarity in mind. Overly complex dashboards may reduce usability and confuse users. Effective dashboards should focus on presenting key financial indicators in a concise and intuitive manner.

V. CONCLUSION

This study examined the design and development of an interactive financial performance dashboard for management decision-making, using the case study of Agilisium. The research focused on evaluating the effectiveness of financial dashboards in transforming financial data into meaningful visual insights.

The findings of the study indicate that financial dashboards play a crucial role in improving financial reporting, performance monitoring, and decision-making processes. Dashboards enable organizations to visualize financial indicators, identify trends, and monitor key performance metrics more efficiently.

The study also demonstrates that dashboards enhance communication of financial information within organizations and support collaborative decision-making among stakeholders. Visualization techniques such as charts, graphs, and KPI indicators make financial data more accessible and understandable.

Overall, the research confirms that financial dashboards are powerful tools for modern financial management. By integrating financial analytics with data visualization technologies, organizations can improve financial transparency, enhance strategic planning, and achieve better business outcomes.

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