Enhancing Filipino SMEs and Non-Profits: The Empowering Role of No-Code Data Visualization Tools

By:

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In the rapidly evolving digital landscape, Small and Medium Enterprises (SMEs) and non-profit organizations in the Philippines face the challenge of making informed decisions amidst vast amounts of data. Visualizing complex data sets is paramount for these entities to gain insights and drive strategic actions. However, the technical barrier of coding has often hindered their capacity to leverage data visualization effectively.

NEW DEVELOPMENTS

Instead of relying on computer science and IT graduates to create data visualizations to communicate ideas, employees and business owners of small and medium enterprises and non-profits may now produce strong, visually appealing, and high-impact interactive data visualizations on their own or within their teams.

Data visualizations for SMEs and Non-profits have many benefits and applications. Here are just a few:

• Kamaruddin (2020) emphasizes using a real-time data visualization dashboard to optimize performance and decision-making in SMEs.

• Al-Kassab (2014) demonstrates how information visualization supports management decisions and improves business performance, using a case study of a European apparel retailer

• Larsson (2017) focuses on manufacturing SMEs and provides guidelines for visualizing performance measures, emphasizing simplicity, consistency, and the importance of combining visualizations with oral presentations.

• Hege (2021) emphasizes that data visualization is crucial for exploring and analyzing today's vast data. It aims to convey hidden information to users.

• González (2003) discusses how information visualization systems provide key benefits to administrative data analysts, mainly when they engage in creative discovery processes.

• Arns (1999) explores the advantages of an immersive environment for statistical visualization, showing improved performance in structure detection tasks compared to traditional desktop systems.

• Dzemyda (2019) reviews methods and software for multidimensional data visualization, emphasizing the role of visualization in enabling sophisticated analysis and decision-making.

This white paper will share how Filipino Data Analysts from Small and Medium Enterprises and Non-Profits can leverage readily available technologies to create powerful interactive graphics and visualizations today with limited or no programming ability.

As a practicing data analyst, I would categorize that, in general, data visualization technologies come into two main groups based on their functionalities, use cases, and the level of expertise required:

• *Traditional Data Visualization Tools* are well-established software applications designed to create static charts, graphs, and dashboards. They often require some programming or scripting skills, making them suitable for data analysts and professionals with a coding background. They use the data visualization tools D3.js, Plotly (JavaScript/Python), Bokeh (Python). Matplotlib, ggplot2, and Altair. These tools offer a range of capabilities for creating sophisticated visualizations but typically require users to write code or scripts to define the visualization specifications. They are well-suited for data analysts and scientists who are comfortable with programming and want fine-grained control over the appearance and interactivity of their visualizations.

• *No-code/Low-Code Data Visualization Tools* are designed for users with limited or no programming skills. These platforms provide intuitive interfaces, drag-and-drop functionality, and pre-built templates, allowing individuals to create visualizations without writing code. They are using the data visualization tools Tableau, Power BI, Google Data Studio, Datawrapper, ChartBlocks, Infogram, Domo, Zoho, Flourish, Qlik, and Visme. These tools are designed to empower users who may not have programming skills to easily create compelling visualizations for data analysis, reporting, and communication. They benefit business professionals, marketers, and individuals who need to quickly translate data into visual insights without delving into code.

We will cover the No-Code/Low-Code Data Visualization Tools. We will discuss how employees and owners of SMEs and Non-Profits can utilize technologies in this category to create data visualizations with very little investment of time to learn the ins and outs of the technologies.

THE NO-CODE/LOW-CODE DATA VISUALIZATION TOOLS

Starting with visualizations is simplest when done through zero-code systems. The platform that most closely resembles "no-code" is Microsoft Excel, which enables the creation of numerous charts and graphs using a particular set of data cells.

The main difference between other No Code/Low-Code Data Visualization tools from Excel is their interactivity, complexity, and connection capability to other web-based platforms.

These tools let you create visual representations of data without writing any code. They are also user-friendly and typically come with a drag-and-drop interface, making them accessible to people regardless of their technical background.

Here are some popular no-code data visualization tools:

- **Tableau:** Super popular in the industry. Offers a variety of charts and graphs. Drag-and-drop interface for easy visualization creation. Rich set of visualization options, including dashboards and interactive charts. Integrates with various data sources for real-time updates. Has a feature-rich free version called Tableau Public.

- **Microsoft Power BI**: Great for integrating with other Microsoft products. Offers customizable dashboards. Intuitive interface for report and dashboard creation.Supports a wide range of data connectors. Has a strong community for support.

- **Google Data Studio:** Free to use with a Google account. Seamless integration with other Google services like Google Analytics and Google Sheets. Cloud-based platform with easy sharing capabilities. Integration with various Google services. Customizable dashboards with interactive features. Real-time data collaboration.

- **Datawrapper:** Simple and user-friendly interface. Offers a variety of chart types. No coding is required for chart creation.

- **ChartBlocks:** Drag-and-drop chart creation. Customization options for colors and styles. Embedding charts on websites.

- **Infogram:** Intuitive drag-and-drop editor. Extensive library of templates and visuals. Collaboration features for team projects.

- **Domo:** Centralized platform for business intelligence. Real-time data monitoring and alerts. Integration with various data sources.

- **Zoho Analytics:** Good for small to medium businesses. Offers AI-powered assistant for generating reports. Intuitive interface for data analysis. Customizable dashboards and reports. Collaboration and sharing features.

- **Flourish:** Web-based tool for data visualization. Offers templates for various chart types.Animation and storytelling features.

- **Qlik:** Focuses on interactive and personalized reports. Has a robust associative data model, which helps in uncovering trends. Associative data model for in-depth exploration. Drag-and-drop interface for dashboard creation. Advanced analytics and integration capabilities.

- **Visme:** Versatile platform for visual content creation. Drag-and-drop editor for infographics, presentations, and charts. Collaboration features for teams.

ADVANTAGES OF THE NO-CODE/LOW-CODE DATA VISUALIZATION TOOLS

No-code data visualization tools offer several advantages over traditional coding methods, including:

Accessibility and Ease of Use: Without the requirement for coding knowledge, no-code solutions enable data visualization to be used by a broader range of users, including analysts, business users, and non-technical people. These tools make creating charts, graphs, and other visualizations easier by offering pre-built templates and drag-and-drop interfaces.

Faster Development and Iteration: Users can explore data insights and effectively enhance their representations by quickly creating and iterating on data visualizations, thanks to the intuitive nature of no-code tools. This quick development cycle speeds up the process of deriving insights from data.

Collaboration and Sharing: Team members may collaborate more efficiently and share ideas more easily when using no-code tools to create data visualizations and other projects. This cooperative strategy facilitates information exchange and improves decision-making.

Affordability and Cost-Effectiveness: No-code tools are cost-effective for businesses of all sizes since they usually have price structures that are more reasonable than those of traditional coding solutions. Furthermore, many no-code solutions offer cheap or free editions for non-profits, academic institutions, and students.

Free No-Code Data Visualization Tools for Students and Academics: Tableau Public, Google Data Studio,Microsoft Power BI Desktop, Qlik Sense Desktop

Free No-Code Data Visualization Tools for Non-Profits: Tableau for Non-Profits, Google Data Studio for Non-Profits, Microsoft Power BI Desktop for Non-Profits, Domo for Non-Profits

These tools offer a range of features and capabilities, enabling students, academics, and non-profits to create informative and impactful data visualizations without coding expertise.

IN CONCLUSION

The article emphasizes the significance of data visualization for Filipino SMEs and non-profit organizations, advocating the use of no-code data visualization tools to facilitate informed decision-making. It underscores the advantages and diverse applications of data visualization, while also comparing the benefits of no-code tools over traditional coding methods. Additionally, the article provides a list of accessible and cost-effective data visualization tools suitable for businesses of all sizes, along with free options for students, academics, and non-profits. Overall, it highlights the accessibility and potential impact of leveraging data visualization tools for organizations in the Philippines.

RECOMMENDATIONS

Based on the information provided in the article, I would recommend the following:

- Filipino SMEs and non-profit organizations should consider incorporating no-code data visualization tools into their decision-making processes to improve their ability to analyze and understand data.

- Organizations should explore the list of accessible and cost-effective data visualization tools provided in the article and choose the ones that best suit their specific needs and budget constraints.

- Students, academics, and non-profits can take advantage of the free options for data visualization tools mentioned in the article to enhance their data analysis capabilities without incurring additional costs.

- It is important for organizations to invest time in learning how to effectively use these data visualization tools to maximize their benefits and impact on decision-making.

- Overall, the article provides valuable insights and recommendations for organizations in the Philippines to leverage data visualization tools for informed decision-making.

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