

**ASSESSING BI MATURITY AND  
DEVELOPING A BI DASHBOARD FOR  
FREE PENTECOSTAL FELLOWSHIP IN  
KENYA**

SANDRA BUSIEKA-666867  
WILL KIMETO-667648  
SUZETTE VANESSA-667707

SANDRA BUSIEKA-666867

<b>Table of Contents .....</b>	<b>1</b>
<b>Executive Summary .....</b>	<b>3</b>
<b>1.0 Introduction .....</b>	<b>5</b>
<b>2.0 Organisation background .....</b>	<b>8</b>
<b>3.0 BI Maturity Assessment .....</b>	<b>9</b>
3.1 Assessment of Free Pentecostal Fellowship in Kenya .....	12
3.1.2 BI Strategy .....	13
3.1.3 Data Management .....	13
3.1.4 Technology and Tools .....	14
3.1.5 People and Skills.....	14
3.1.6 Processes and Culture .....	14
<b>4.0 BI Project and Dashboard Design .....</b>	<b>15</b>
4.1 Solutions used for dashboard reporting .....	15
4.1.1 Google sheets for BI Maturity Dashboard .....	15
4.1.2 Power BI for BI Dashboard .....	15
4.1.3 Functionality of the BI Dashboard.....	15
4.1.4 Component 1: Contribution Analysis.....	15
4.1.5 Component 2: Expenditure Analysis .....	16
4.1.6 Component 3: Beneficiary Insights .....	16
4.1.7 Overall Functionality.....	16

<b>5.0 Contribution Analysis .....</b>	<b>17</b>
5.1 Monthly Contribution .....	18
5.2 Yearly new membership trends by church .....	19
5.3 Contribution frequency by location and church.....	18
5.4 Sum of new members by year and church location .....	19
5.4 Donation Amounts Per Month .....	19
<b>6.0 Expenditure analysis.....</b>	<b>22</b>
6.1. Average project expenses by church and category ?.....	18
6.2 Yearly project expenses by church .....	19
6.3 Project expenses by date .....	20
6.4 Recommendations.....	22
<b>7.0 Beneficiary insights .....</b>	<b>26</b>
7.1 Service provision quantities .....	26
7.2 Service provision trends per year (2019-2022).....	27
7.3 Church location and service distribution .....	29
7.4 Yearly new membership trends by church .....	29
<b>8.0 Fund utilization rate .....</b>	<b>31</b>
8.1 Key influencers of income allocation .....	31
8.2 Utilization rate of churches .....	32
8.3 Summary and Recommendations .....	33
<b>9.0 Integration of business intelligence into the SME.....</b>	<b>35</b>
<b>10.0 Manual and user interface .....</b>	<b>40</b>
<b>11.0 Conclusion.....</b>	<b>42</b>
<b>12.0 References .....</b>	<b>46</b>
<b>13.0 Appendices .....</b>	<b>48</b>

## EXECUTIVE SUMMARY

The goal of this business intelligence (BI) project is to improve Free Pentecostal Fellowship in Kenya's (FPPK) decision-making procedures by putting in place a BI framework that will expedite data analysis and produce useful insights. Given the significance of data-driven strategies for SMEs, this project provides FPPK tools to enhance service delivery, optimize financial management, and match strategic objectives with operational choices.

Previously, FPPK, a nationwide evangelical church with a large branch network, handled data manually and struggled with consistency, quality, and accessibility. Building rapport with FPPK leadership and learning about the organization's operating framework were the first steps in the engagement process. We carried out a BI maturity evaluation that covered topics including data management, technology, process culture, and employee capabilities using questionnaires, interviews, and data simulations based on records that were provided. Key possibilities to optimize data management, apply BI tools, and fill skill gaps in data interpretation were identified by this assessment.

Using a simulated dataset and exploratory data analysis, we were able to model trends in membership, contributions, and donations. We created an interactive Power BI dashboard with an easy-to-use interface that shows KPIs for service delivery by church branch and region, project expenses, and financial donations. Through the dashboard, FPPK leaders can promptly evaluate performance, spot patterns, and decide how best to allocate resources.

A thorough BI report and user manual that was customized to FPPK's requirements and included insights, suggestions, and actions to maintain and improve the BI system were the project's final products. Adopting a central data repository, providing personnel with continual training on data literacy and BI technologies, and doing routine data quality checks are some of the main recommendations. A PowerPoint presentation illustrating the BI system's possible influence on FPPK's mission and long-term objectives was one of the final deliverables.

With the help of this BI project, FPFK is now in a position to make data-driven, strategic decisions that maximize contributions, improve operational efficiency across its branches, and increase community participation. With the help of this fundamental BI system, FPFK is able to expand sustainably and adjust to new demands.

## 1.0 INTRODUCTION

This goal of this project is to develop a practical and valuable BI report that can be easily implemented by the company to improve their decision-making capabilities in selecting church projects, streamline donation allocations to appropriate church projects, and foster growth in terms of contributions allocated to the church. In this project we are to use concepts and methodologies learnt in class which are to provide us with valuable practical skills which are to also applicable at industry level.

Business Intelligence (BI) is crucial for SMEs as it assists business owners in a variety of ways namely: making smarter decisions backed by data analysis with key insights onto areas where they are not optimizing fully. With Business Intelligence a business is able to: cut costs, streamline operations and improve customer service by understanding the needs of their customers.

BI gives a business a competitive advantage by giving the business on top of current market trends and showing key insights on how they can have an edge on their competitors . BI also assists in tracking company growth and gives the business the ability to forecast their growth based on their data and plan how to effectively attain the level of growth that they desire. In summary BI helps businesses and SMEs run smoothly, stay ahead of their competition and have a steady and uniform growth.

Our project objectives are:

1. Initiate Communication with Free Pentecostal Fellowship in Kenya: Reach out to key representatives via email or phone to introduce the project. Explain the goals and objectives, and request a preliminary meeting to discuss collaboration.

2. **Gather Requirements and Conduct Interviews:** Arrange interviews with stakeholders to gather insights into the organization's current business processes, data management practices, and operational goals. Document findings to build a foundational understanding of their business operations.
3. **Design and Implement a BI Maturity Assessment Survey:** Create a survey to evaluate the organization's BI maturity level, covering aspects like data quality, analytical capabilities, technology infrastructure, and decision-making processes. Administer the survey to relevant staff and compile responses for analysis.
4. **Evaluate BI Maturity and Develop a Comprehensive Report:** Analyze the survey responses to determine the organization's BI maturity level. Develop a detailed report highlighting strengths, areas for improvement, and potential BI growth opportunities.
5. **Conduct Data Exploration and Analysis on Sales Data:** Perform exploratory data analysis (EDA) on available sales data to uncover trends, patterns, and insights. Utilize statistical methods and data visualization to build a predictive model for financial contributions and donations.
6. **Design and Develop an Interactive BI Dashboard in Power BI:** Using insights from the data analysis, build a comprehensive BI dashboard in Power BI that visualizes key performance indicators (KPIs) and supports data-driven decision-making. Upload the final dashboard to GitHub for access and version control.
7. **Create a BI Report Aligned with the Organization's Objectives:** Develop a report that highlights insights from the data analysis and aligns with the organization's goals, such as improving financial transparency, tracking donations, and forecasting future contributions.
8. **Present Findings and Recommendations to Stakeholders:** Share the BI report, dashboard, and other key findings with the organization's leadership. Discuss proposed solutions and BI strategies for potential implementation, addressing how these can enhance their operational efficiency.
9. **Develop Comprehensive BI Documentation and User Manual:** Write a user-friendly manual detailing how to use the BI dashboard and report. Include instructions for accessing, interpreting, and navigating the dashboard, ensuring staff can utilize it effectively.

10. Present Findings to Class in a PowerPoint Presentation: Summarize the project journey, key findings, data insights, and recommendations in a PowerPoint presentation. Present the work to the class, demonstrating the BI system's impact on supporting the organization's goals.



## 2.0 ORGANIZATION BACKGROUND

The Free Pentecostal Fellowship in Kenya (FPFK) is an evangelical church registered in Kenya. It operates in 34 regions in Kenya and has 258 local churches and over 1,200 branches, with a combined membership of over 250,000. FPFK was established independently by the Norwegian and Swedish missionaries in the 1950s and 1960s respectively. The missionaries from the two Scandinavian countries operated independent of each other until 1997 when their operations were merged and FPFK as a Kenyan national church came into being.

Nationally, FPFK is headed by a National Board, which is the principal policy making body. A national secretariat headed by the General Secretary who is also the secretary to the National board is responsible for the day-to-day operations of the church at the national level. The regional councils are responsible for managing and coordinating the activities of the churches in the region level.

The organization aims to make significant impacts to the community that they are located in together with increasing their donations received. Their target audience are NGOs, well-wishers and international charities.

Our group was able to contact the organization through Jackie who has a mutual connection to our instructor. We sent the official letter from the school to express interest in their business processes, data and BI maturity levels. Through calls, emails, and texts, we learned about the business's history, operations, challenges, and goals. We also sent a questionnaire and conducted a phone interview to gain insight into their BI maturity level.

For the data the organization had all their data physically which was a challenge in terms of intergrating their data onto analysis systems (Excel). Due to time constraints we were forced to simulate their data based on a summary that we were provided on how their data looks like, their variables and features.

### 3.0 BI MATURITY ASSESSMENT

Because of its structured, multi-dimensional approach to evaluating BI capabilities within businesses, we chose Gartner's BI Maturity Model to evaluate the Business Intelligence (BI) maturity level of Free Pentecostal Fellowship in Kenya (FPFK). The Gartner model is well known for its ability to be applied to a wide range of businesses and for offering a clear, step-by-step plan for increasing BI maturity. This model is ideal for evaluating the technological and strategic facets of FPFK's BI capabilities since it concentrates on a number of fundamental BI factors, including as data management, technology, processes, people, and culture.

An organization's BI capabilities are evaluated using the Gartner BI Maturity Model at five different levels: Unaware, Opportunistic, Standards, Enterprise, and Transformational. From fundamental data awareness to sophisticated data-driven decision-making incorporated into corporate culture, each level represents an increasing level of sophistication in BI techniques.

The thorough approach to BI assessment, the model's flexibility to different organizational sizes and industries, and its focus on establishing a clear roadmap for BI growth are some of its advantages. By using this model to match BI strategies with their operational goals, organizations may increase data reliability, cultivate a data-centric culture, and facilitate effective decision-making. In addition, the Gartner model promotes the creation of strong data governance procedures, which are necessary for the scalability and integrity of BI projects.

Business intelligence (BI) capabilities are categorized into five progressive tiers by the Gartner BI Maturity Model. At the Unaware Level, organizations make decisions mostly based on intuition, use data sparingly, and have little formal BI processes in place. Organizations start to see BI's potential at the opportunistic level and occasionally employ data for particular initiatives or choices. Spreadsheets and other simple tools may be utilized in this situation, but data access is still restricted and BI procedures are not standardized.

BI procedures are standardized across divisions at the Standards Level, where uniform metrics and data quality requirements are established. Systematic data consumption is made possible by the documentation of data management procedures. With a focus on data governance, quality,

and accessibility, BI is integrated throughout the whole business to support strategic decision-making across functions at the enterprise level. This enables decisions to be informed by dependable, consolidated information. At the Transformational Level, advanced analytics and predictive modeling are integrated into fundamental operations, creating a culture that is fully data-driven. This makes BI essential to proactive business planning and continuous improvement.

The Free Pentecostal Fellowship in Kenya (FPFK) is presently operating at the Opportunistic Level in accordance with Gartner's BI Maturity Model. This classification is supported by a number of important features. First of all, FPFK's capacity to consistently and successfully analyze data is constrained by the absence of a clear BI strategy and the absence of specified BI tools or procedures used throughout the company.

Furthermore, there is little data integration because the organization mostly uses physical documents, which are rarely updated. This makes data accessibility challenging and leads to inconsistent and frequently inaccurate information. Notwithstanding these drawbacks, FPFK's leadership has demonstrated an openness to BI procedures and tools, occasionally incorporating data into operational choices, suggesting a preliminary interest in implementing more formal BI projects. This degree of transparency points to a basis for BI development in the future.

It is advised that FPFK take a few crucial actions in order to reach the Standards Level of BI maturity. First, the firm will have direction and purpose for its BI initiatives if it develops a BI strategy with specific goals, KPIs, and timetables. FPFK will be able to automate data analysis and reporting by implementing basic BI tools, beginning with accessible solutions like Excel and progressing to more powerful platforms like Power BI. This will improve accessibility and produce preliminary insights. While data governance procedures will aid in preserving accuracy and consistency, centralizing and digitizing data storage will improve data quality and accessibility. In order to enable workers to use data in their jobs and promote a data-driven culture, it is also crucial to train them on data literacy and BI tool usage. Finally, monitoring BI progress using KPIs will enable FPFK to track advancements, pinpoint improvement areas, and refine its strategy to ensure continued BI maturity growth.

In conclusion, applying Gartner's BI Maturity Model has provided valuable insights into FPFK's current BI capabilities. FPFK has taken preliminary steps toward recognizing BI's value and demonstrates openness to developing more structured processes. By implementing a formal BI strategy, centralizing data, and promoting data literacy, FPFK can progress to the Standards Level, enhancing its ability to make data-informed decisions and improve operational efficiency across its various branches.

### 3.1 ASSESSMENT OF FREE PENTECOSTAL FELLOWSHIP IN KENYA

Four main BI process areas were examined in the evaluation of the Free Pentecostal Fellowship in Kenya (FPFK): revenue allocation efficiency, beneficiary insights, expenditure analysis, and contribution analysis. We created a series of focused assessment questions for every category in order to appraise FPFK's present procedures and pinpoint areas in which BI has to be improved.

In Contribution Analysis, we evaluated the church's capacity to monitor and examine patterns in donations across time and between regions. We looked at how well FPFK tracks seasonal trends in contributions, how well donation channels work, and how reliable contributor data is. We looked at how the church tracked project costs, categorized spending, and matched spending to program goals in the area of expenditure analysis. This category concentrated on how well the company was able to examine spending trends and manage expenses.

FPFK was evaluated in the Beneficiary Insights category for its ability to comprehend and track the effects of its services, including food distribution and education initiatives, on the community. We assessed the amount of information gathered on recipients and whether or not the findings were being applied to enhance the program. Lastly, FPFK's ability to divide money between program-specific costs and operational requirements was examined in the Revenue Allocation Efficiency category. Transparency in budget allocation and the capacity to allocate funds for high-impact initiatives were evaluated as part of this.

Each assessment question earned a current maturity rating based on FPFK's present practices, coupled with a target grade targeted at helping the church grow to the next level of BI maturity. This evaluation gives FPFK a methodical way to enhance their BI capabilities in important operational and impact-driven domains, which will eventually allow for better resource management and data-driven decision-making.

### 3.1.2 BI STRATEGY

This refers to an organization's plan and objectives for implementing BI. A BI strategy outlines the purpose, scope, and goals for BI initiatives, aligning BI activities with the organization's mission. It includes assessing the BI needs, defining success metrics, and establishing timelines for achieving BI maturity.

As per the responses of the organization it was noted that they do not have a formal BI Strategy in place and that they also do not incorporate data driven insights into their decision making processes at the organization. They also do not have any key KPIs that they actively monitor. This shows that the business does not use any BI tools in their day to day activities thus cannot provide any insights on it.

### 3.1.3 DATA MANAGEMENT AND USAGE

This category involves how data is collected, stored, maintained, and utilized within the organization. Effective data management ensures data quality (accuracy, consistency, and completeness) and accessibility for analysis, making it easier to derive insights.

Through the questionnaire it was noted that they stored their data in other means namely; physically in books, they also rarely update and review their data. This means that the quality of their data is also poor. This shows that their data has low accuracy, completeness and consistency.

### 3.1.4 TECHNOLOGY AND TOOLS

This category covers the BI platforms, software, and infrastructure that support data analysis and reporting. The technology component encompasses everything from data visualization tools to advanced analytics software that transforms data into actionable insights.

Through the questionnaire it was noted that the organization does not use any BI tool, they do not automate their process of generating reports and also their employees find it difficult to assess their data to get insights to be used for decision making.

### 3.1.5 PEOPLE AND SKILLS

This includes the expertise and competencies of the personnel involved in BI. It assesses whether employees have the required skills in data analysis, BI tools, and data literacy, as well as the extent of BI-related training and support offered. Skilled staff members are essential for interpreting BI data and turning insights into action.

Through the questionnaire we noted that their employees do not have the skills required to perform data analysis using BI tools, they also do not provide training for their employees to perform data analysis and BI. However, it was noted that they do use data to make decisions at a high level but not as intensive as it would be with BI involved.

### 3.1.6 PROCESSES AND CULTURE

BI processes are the workflows and protocols in place for collecting, analyzing, and using data to make decisions. The culture element reflects how much an organization values and encourages data-driven decision-making. It also considers stakeholder involvement and the organization's openness to change and innovation in BI.

Through the questionnaire it was noted that they use both data and intuition to make decisions. The organization however lacks the resources to effectively adopt BI into their processes but they are open to involve BI in their decision making process.

## 4.0 BI PROJECT REPORT AND DASHBOARD DESIGN

### 4.1 SOLUTIONS USED FOR DASHBOARD REPORTING

#### 4.1.1 GOOGLE SHEETS FOR BI MATURITY DASHBOARD

Google Sheets was used to create the BI Maturity Dashboard for FPFK because of its cost-effectiveness, accessibility, and collaborative capabilities. With the help of this cloud-based solution, stakeholders without technical knowledge may easily engage with the data by updating input data in real-time and seeing BI metrics through tables and charts. Google Sheets was chosen because it met FPFK's requirements for an adaptable and user-friendly tool for monitoring and evaluating BI maturity.

#### 4.1.2 POWER BI FOR BI DASHBOARD

Because of its sophisticated visualization features and compatibility with FPFK's data requirements, Power BI was also used to develop a more powerful BI Dashboard. Key data, such as contribution and expenditure patterns, can be explored more easily with the use of Power BI's interactive and aesthetically appealing dashboards. This solution is perfect for providing BI findings to many stakeholders within FPFK because it facilitates easy sharing and real-time data updates.

#### 4.1.3 FUNCTIONALITY OF THE BI DASHBOARD

The Power BI dashboard for FPFK is designed to analyze contributions, expenditures, and other critical metrics across church locations, providing insights that support data-driven decision-making. It includes sections for Contribution Analysis, Expenditure Analysis, and Beneficiary Insights.

#### 4.1.4 COMPONENT 1: CONTRIBUTION ANALYSIS

The Contribution Analysis section visualizes donation trends by location, date, and type, helping FPFK track seasonal patterns, identify high-contribution regions, and detect any changes in



donor behavior. Scorecard charts display monthly and yearly contributions, and line graphs show fluctuations over time.

#### 4.1.5 COMPONENT 2: EXPENDITURE ANALYSIS

In the Expenditure Analysis section, users can monitor project-related expenses, categorize spending by type (e.g., administrative, program-specific), and evaluate how financial resources are distributed. Bar and pie charts represent expense breakdowns, enabling FPFK to assess the effectiveness of resource allocation in meeting program objectives.

#### 4.1.6 COMPONENT 3: BENEFICIARY INSIGHTS

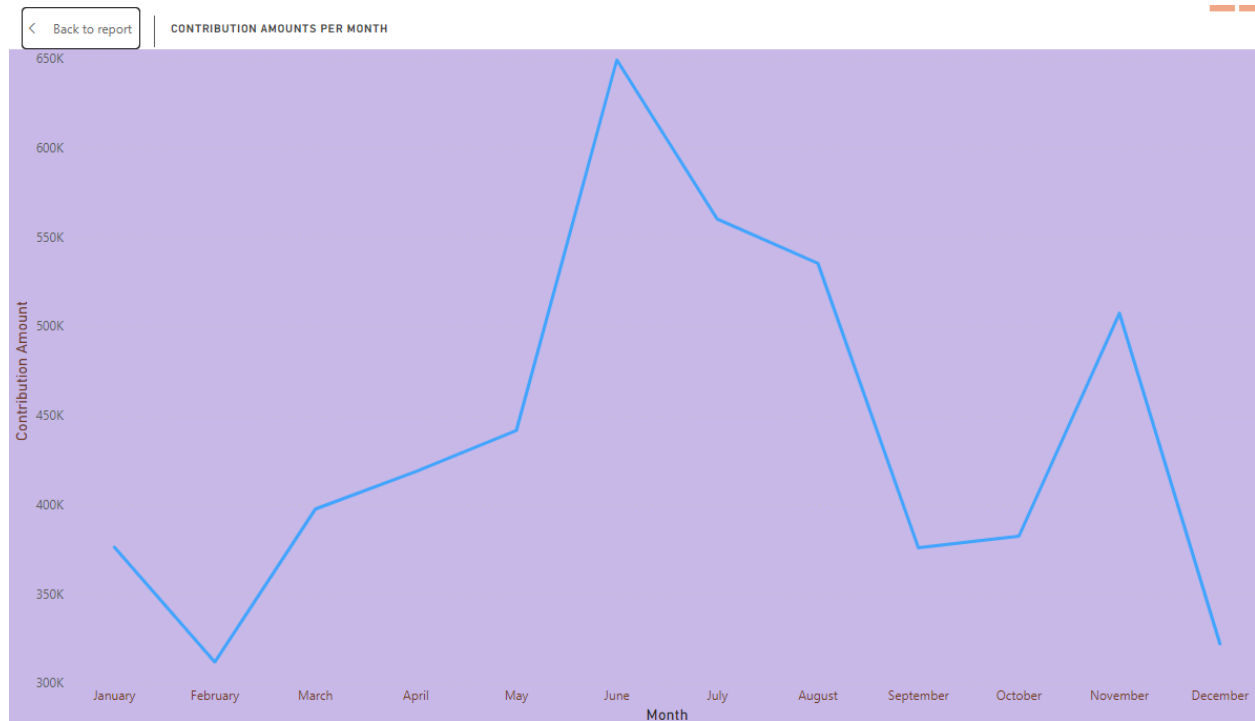
The Beneficiary Insights component analyzes the impact of church services (e.g., food distribution, education) on local communities. By visualizing service provision patterns across locations and years, this section allows FPFK to identify service gaps, track program reach, and plan for resource reallocation to underserved areas.

#### 4.1.7 OVERALL FUNCTIONALITY

The BI Dashboard developed in Power BI provides FPFK with a comprehensive tool to analyze contribution trends, optimize expenditure, and measure service impact. This interactive platform enhances FPFK's ability to make data-driven decisions, improving transparency in financial reporting, program efficiency, and community engagement. Now, let's do a step by step analysis of the dashboard

## 5.CONTRIBUTION AND DONATION ANALYSIS

### 5.1 MONTHLY CONTRIBUTION AMOUNT



This analysis aims to find out months in which there are peaks in contribution so as to find out what incentivizes church goers to give contributions at that time and to figure out when to have campaigns to encourage contributions. The variables we used in these analysis include months(dates) and contribution amounts. We observed that the trend indicates that the monthly contributions fluctuate throughout the year. A peak is observed around June, indicating a significant increase in contributions, while the lowest points occur in February and December.

Some insights that can be gotten from these are that seasonal or special events might drive higher contributions in mid-year months. The trend suggests that July might coincide with annual fundraisers or other events encouraging higher donations.

Some recommendations we give include further analysis so as to explore the factors contributing to the June peak, such as church events, campaigns, or community involvement activities. Identifying these factors could help replicate the success in other months.

### 5.3 YEARLY NEW MEMBERSHIP TRENDS BY CHURCH

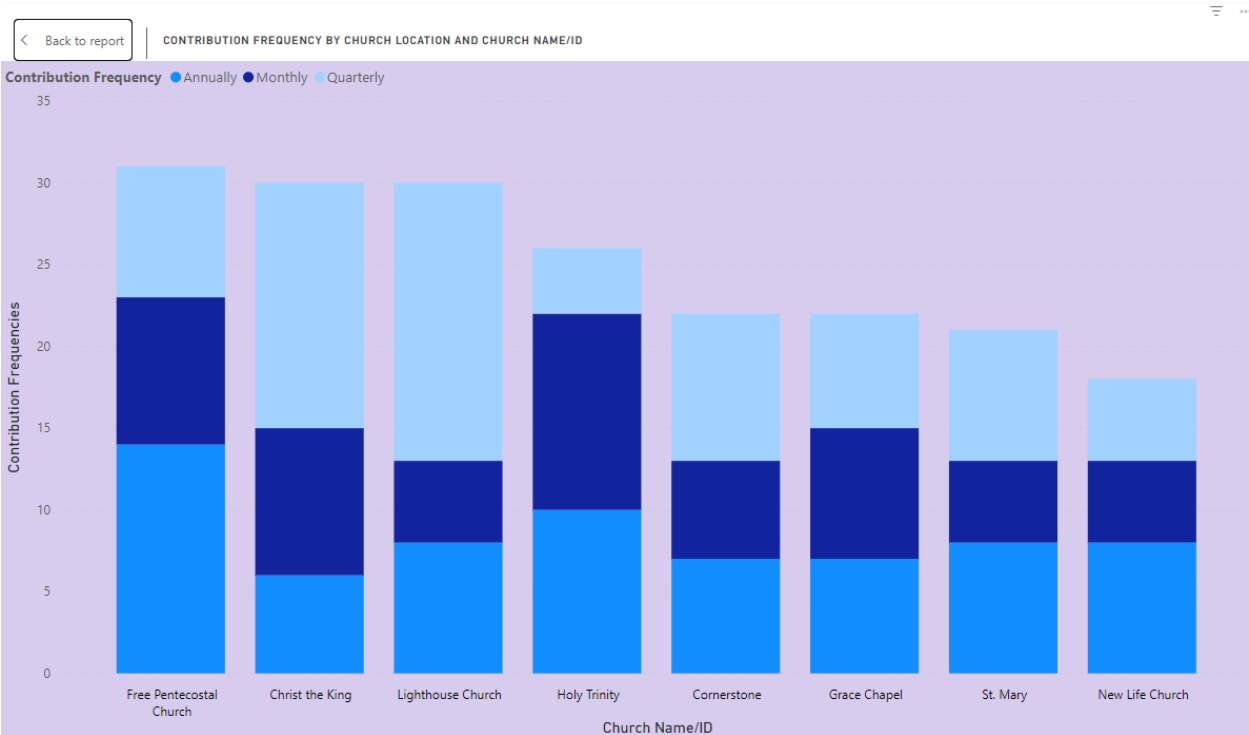


Here, we trying to figure out the rate at which different churches gain new members so as to emulate their success rates to other churches which might not have higher numbers. We also are trying to figure out the factors that lead to a higher turn up in some churches. The variables we used in this analysis include years(dates) and number of new members. Some observations are that most churches under FPFK show a generally steady or slightly declining trend in new memberships over the years. "Christ the King" and "Cornerstone" churches show a gradual decline in new members, while "Free Pentecostal Church" and "Grace Chapel" have maintained low but stable membership levels.

It is implied that the decline in membership for certain churches could indicate a need for engagement initiatives or retention programs to attract and retain members.

We recommend that churches experiencing membership decline should consider targeted outreach programs, community involvement activities, or membership drives to revitalize interest and participation.

### 5.4. CONTRIBUTION FREQUENCY BY LOCATION AND CHURCH



Here, we’re trying to figure out which churches have the highest contribution frequencies and whether we can attribute that to their locations. The frequencies of locations are subdivided into annually, monthly and quarterly.

From our analysis, the frequency of contributions varies across locations, with some regions (e.g., Nairobi, Machakos) showing a more balanced distribution across various church names. Certain churches like the branch "Christ the King" have higher contribution frequencies across multiple locations, suggesting strong engagement in those areas.

This visual provides insights into which church entities have stronger donor bases in different regions. It could also reflect the presence and influence of each church within these communities.

We would recommend that churches with lower contribution frequencies should further look at their community outreach strategies. Successful practices could be identified and potentially applied to other areas in high-contribution regions.

### 5.5 SUM OF NEW MEMBERS BY YEAR AND CHURCH LOCATION

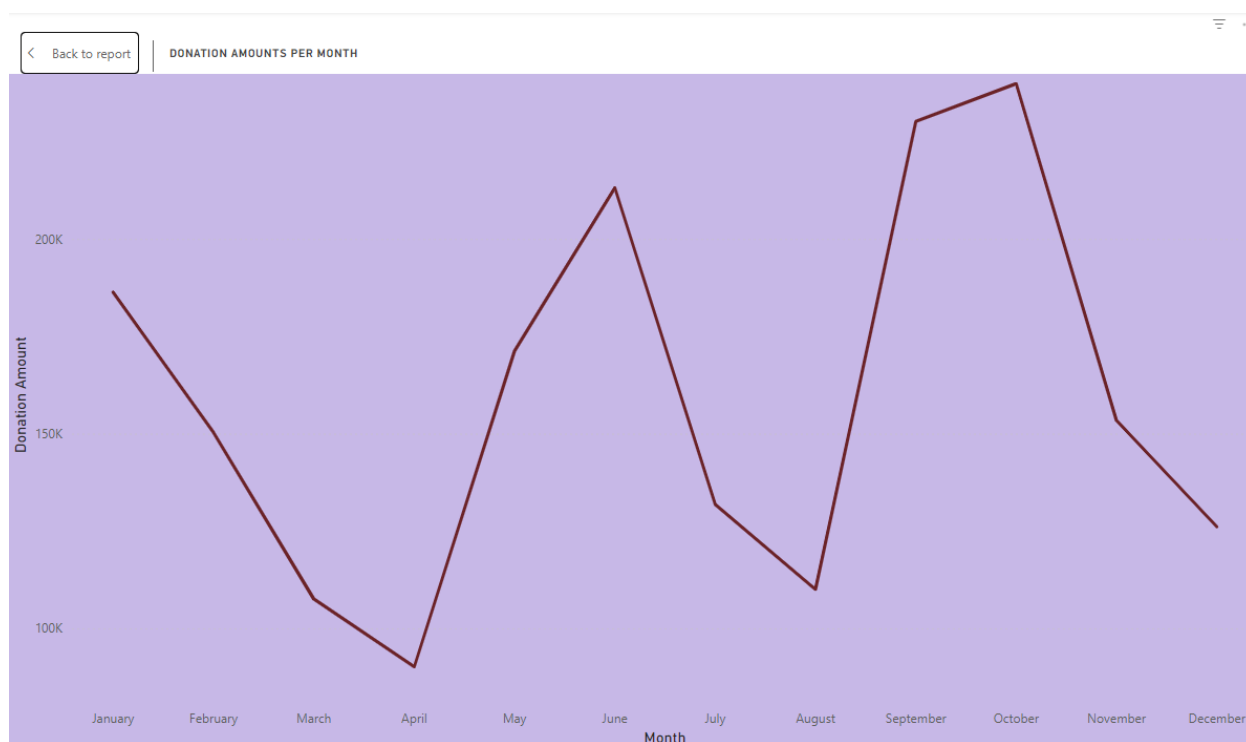


In trend analysis, the visual indicates fluctuations in new member registrations across locations and years, with some locations experiencing noticeable increases or decreases. The presence of "Increase," "Decrease," and "Other" categories suggests that the data tracks membership changes by specific categories.

Our interpretation is that locations showing consistent increases in membership may be used to model growth strategies. Conversely, locations with declines in membership might benefit from revitalized community programs and engagement activities.

We recommend that developing targeted recruitment strategies for regions with declining new members could stabilize or improve the overall growth rate.

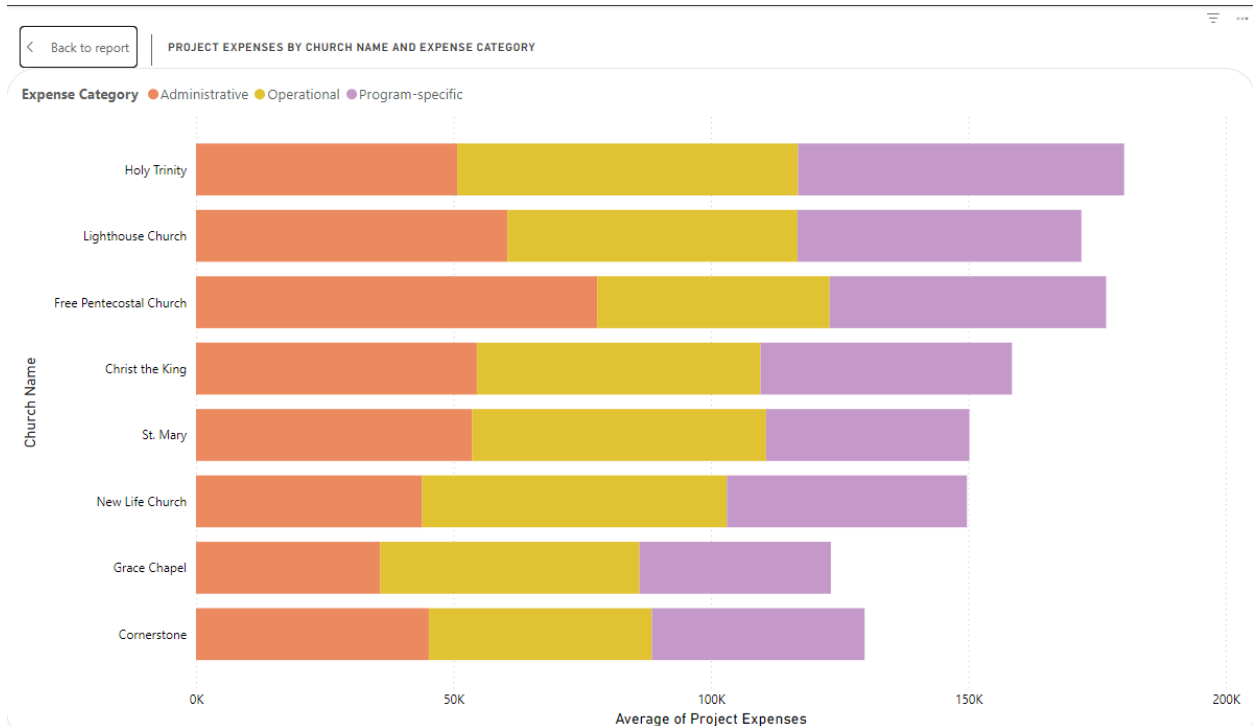
## 5.6 DONATION AMOUNTS PER MONTH



In this trend analysis, the visual depicts fluctuations in donation amounts over the months of the year. The graph highlights periods of growth and decline, indicating potential seasonality or external factors influencing donation patterns. Months with consistently higher donation amounts, such as June and October, could provide insights into effective fundraising strategies or successful campaigns during those times. Conversely, months with lower donations, such as February and July, may benefit from targeted outreach or promotional activities to encourage increased contributions. Recommendations include analyzing factors contributing to high-donation months and replicating those strategies in lower-performing periods. Additionally, addressing barriers or challenges specific to low-donation months could help stabilize or enhance the overall donation trend.

## 6. EXPENDITURE ANALYSIS

### 6.1 AVERAGE PROJECT EXPENSES BY CHURCH AND CATEGORY

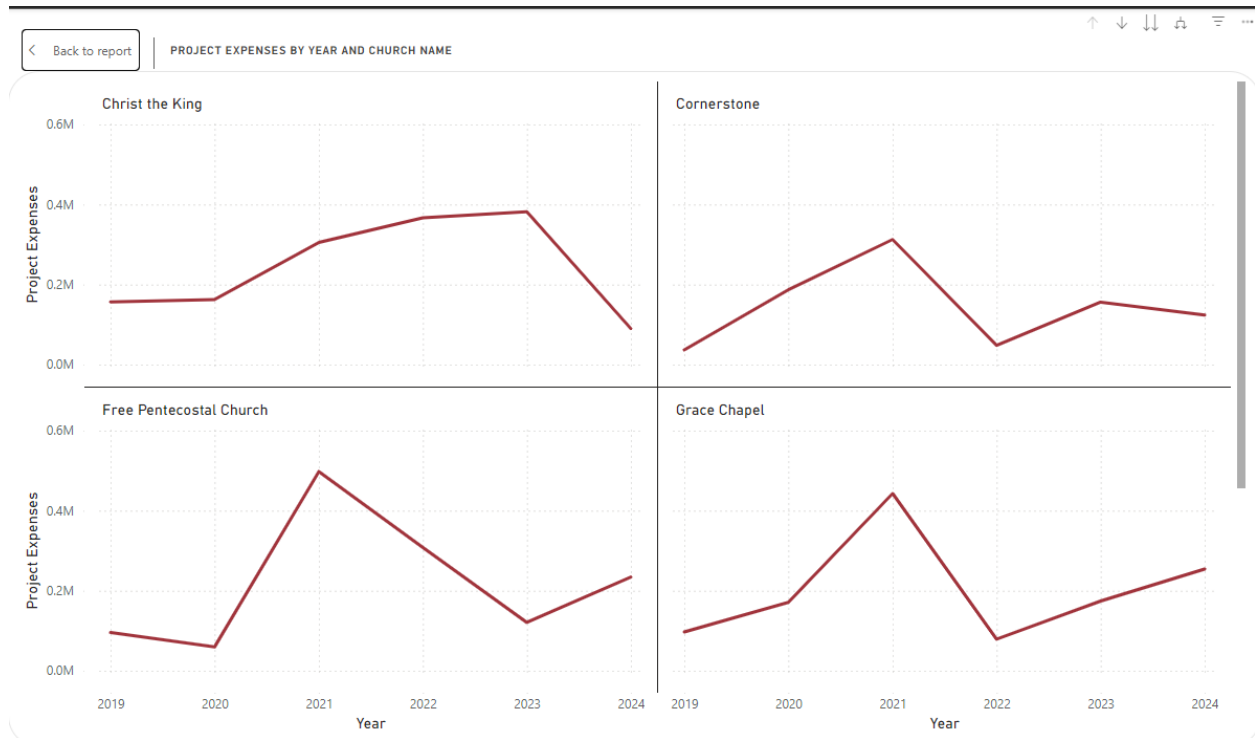


Project expenses are categorized into "Administrative," "Operational," and "Program-specific" expenditures, with "Program-specific" expenses generally being the highest.

We found that church branches such as "Free Pentecostal Church" and "Grace Chapel" allocate a substantial portion of their budget to program-specific expenses, indicating a strong focus on program initiatives. In contrast, "New Life Church" and "Christ the King" show a more balanced distribution across categories. A higher program-specific expenditure often signals a prioritization of direct service delivery over operational or administrative costs.

We recommend that churches with lower program-specific expenses should evaluate the effectiveness of their spending in engaging and serving their community. Adjusting allocations to focus more on impactful programs might enhance member satisfaction and community outreach.

## 6.2 YEARLY PROJECT EXPENSES BY CHURCH

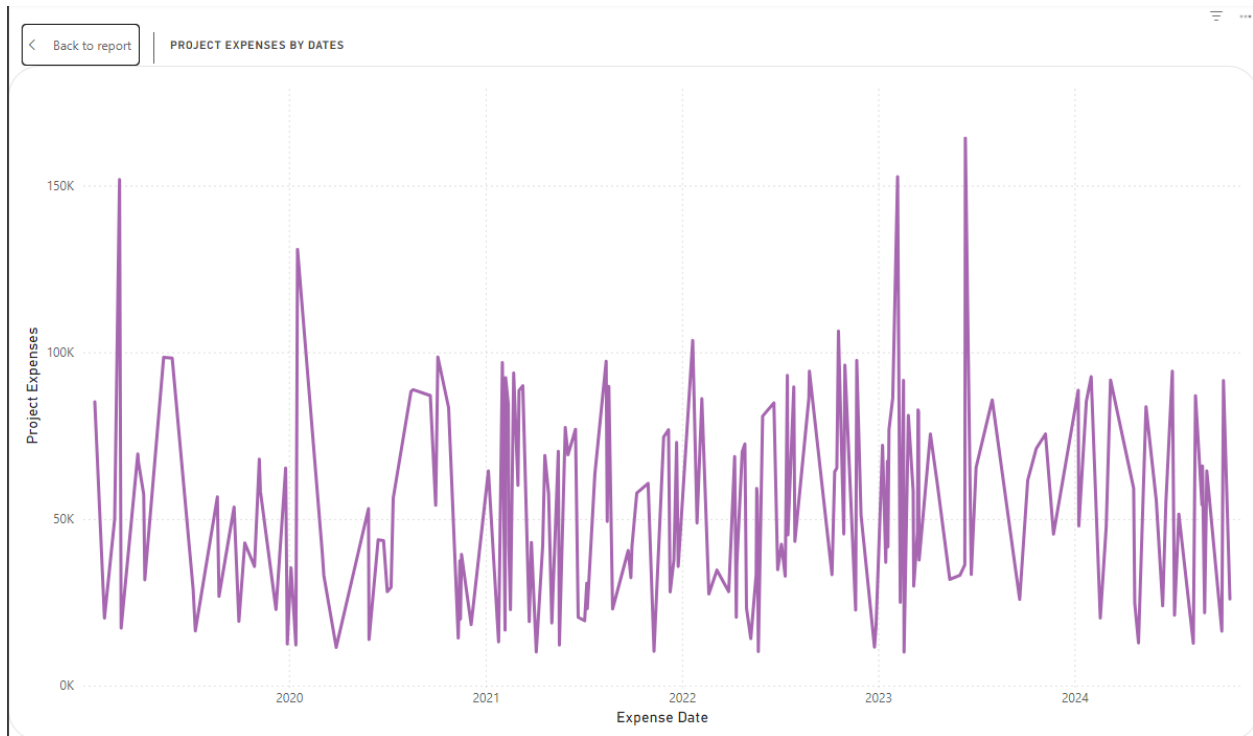


Church branches like "Christ the King" and "Free Pentecostal Church" show an overall increase in project expenses until around 2022, followed by a slight decrease. "Cornerstone" and "Grace Chapel" also demonstrate fluctuating expenses, indicating possible adjustments in project funding or budgetary constraints. The rising expenses in earlier years followed by a decline might show budget reallocations or shifts in project priorities over time.

It could also be a response to changing funding availability or a strategic choice to focus on specific programs. We recommend that the church conduct a thorough evaluation of project outcomes in years of high expenditure. If high spending correlates with positive community impact, these initiatives may warrant continued or increased funding.



## 6.3 PROJECT EXPENSES BY DATE



The line graph illustrates daily or weekly project expenses over multiple years. The frequent spikes indicate periodic high expenditures, which could align with specific projects or event-based spending. The periodic peaks could relate to project implementation timelines, seasonal activities, or annual events. Understanding the exact dates associated with these spikes could provide insight into major expense drivers.

By analyzing project expenses relative to outcomes, churches can identify which time-bound expenses yield the highest returns. Strategic planning could concentrate high-impact spending during these periods.

## 6.4 RECOMMENDATIONS

### 1. **Member Engagement and Retention**

Given the gradual decline in membership for some churches, introducing member engagement programs or community-building events could stabilize or increase membership numbers.

### 2. **Enhanced Financial Planning**

Churches with fluctuating project expenses should conduct a detailed analysis to determine the effectiveness of previous high-expense years. Aligning future spending with successful outcomes could optimize the impact of financial resources.

### 3. **Data-Driven Decision-Making**

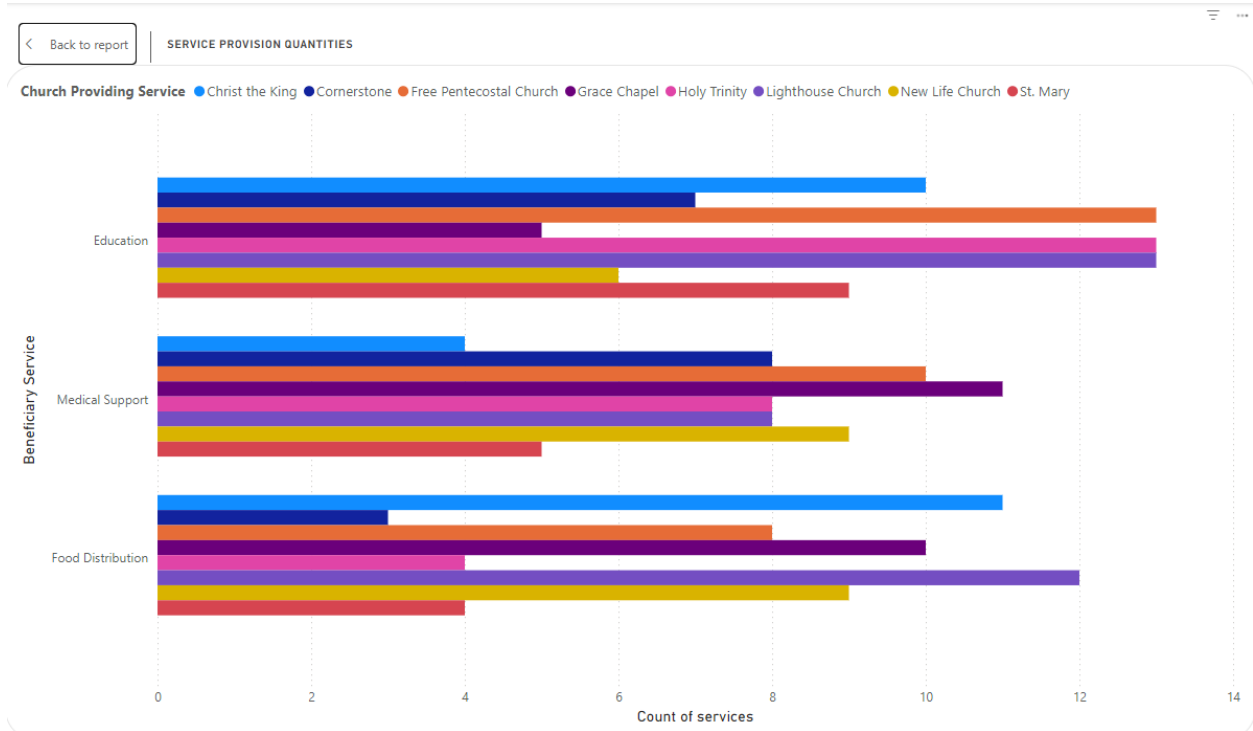
Insights from this analysis should be periodically updated and reviewed to track progress. Regular monitoring can help adjust strategies as needed, ensuring that both contribution and expenditure patterns align with each church's mission and goals.

### 4. **Targeted Regional Strategies**

Identifying the strengths of churches in high-donation regions and applying similar strategies to lower-performing areas may increase engagement and contributions across all locations.

## 7. BENEFICIARY INSIGHTS

### 7.1 SERVICE PROVISION QUANTITIES



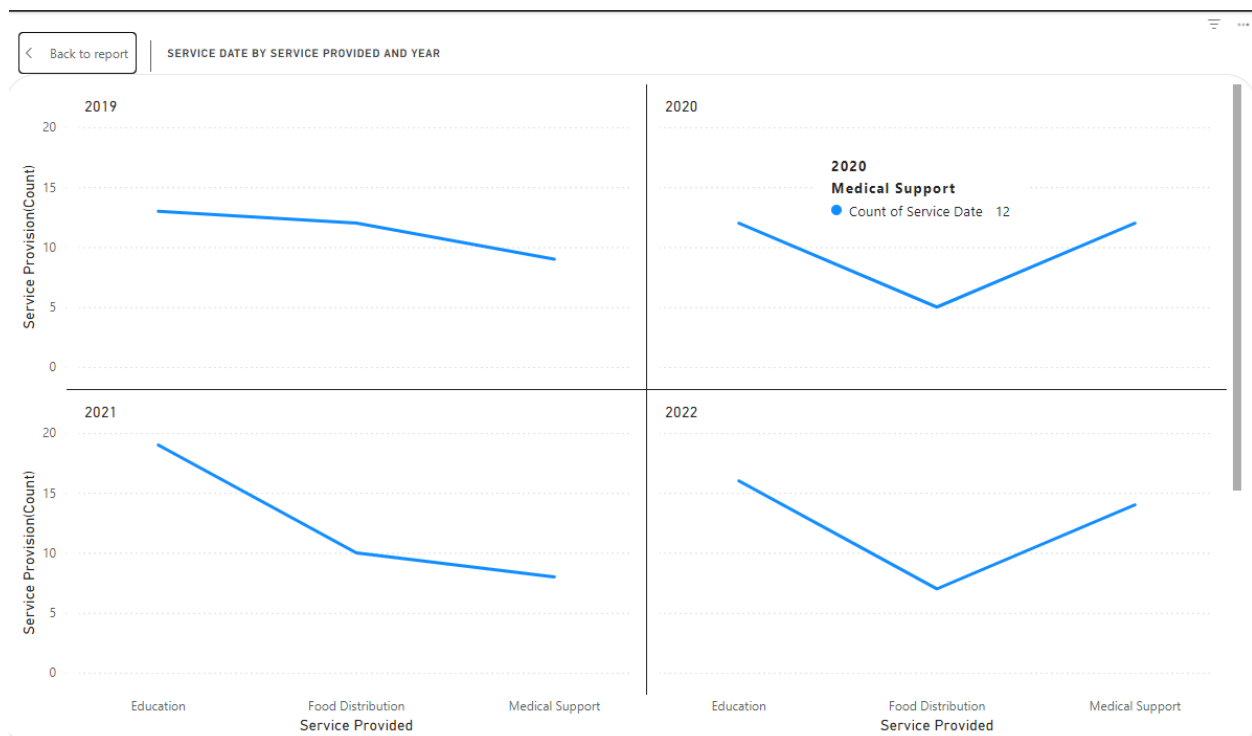
The chart on service provision quantities by church displays the types of services offered (Education, Food Distribution, and Medical Support) by each organization. Each church is identified by color-coded bars representing the number of services they provided across the three categories. Education is the most consistently provided service across churches. Notably, "Christ the King" and "Grace Chapel" exhibit high engagement in education, suggesting a prioritization of skills development and community empowerment. This trend may reflect an understanding of the long-term benefits of education, which can reduce poverty and increase social mobility over time.

Food distribution services appear significant across multiple churches, especially "Christ the King" and "Free Pentecostal Church." High involvement in food distribution may indicate a response to local food insecurity issues. In regions where churches are active in this service, there may be a visible impact on hunger alleviation.

Although lesser in quantity, medical support remains an important focus, particularly for "Grace Chapel" and "Christ the King." The provision of medical services often involves higher costs and resources, which might explain its relatively lower frequency. Churches offering medical support are likely addressing critical health needs, potentially in areas where access to healthcare is limited.

Churches are strategically diversifying their service offerings to address immediate community needs, with education and food distribution as top priorities. To maximize impact, it may be beneficial to explore partnerships with healthcare providers to enhance medical support, especially in underserved regions.

## 7.2 SERVICE PROVISION TRENDS BY YEAR (2019-2022)



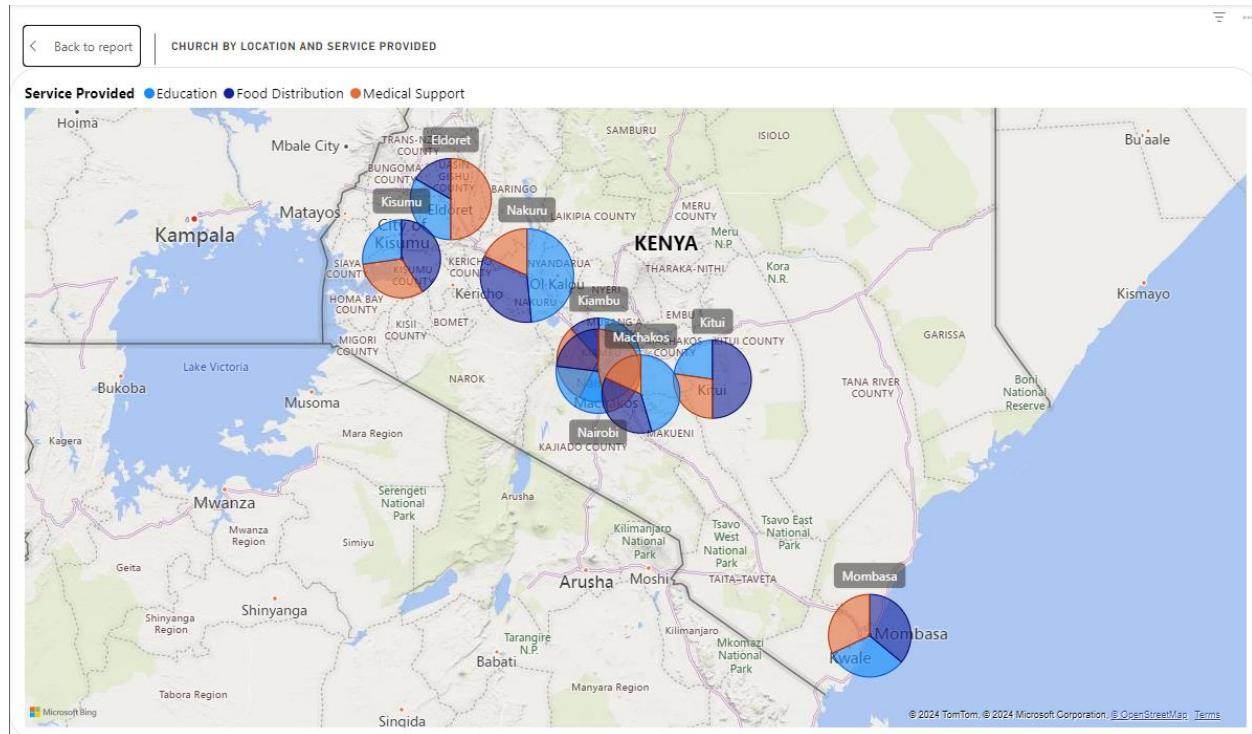
The line graphs showcase service provision trends over the years for Education, Food Distribution, and Medical Support. During the 2019-2020 period, education and food distribution

services saw consistent levels of activity. This stability indicates that churches may have had stable funding sources and resource allocation to sustain these services. Medical support, though lower in frequency, displayed a slight increase, suggesting an emerging focus on health-related needs, perhaps influenced by global events such as the onset of COVID-19.

From 2021 onward, a noticeable decline in service provision is apparent, particularly in education and food distribution. This drop may be attributed to economic challenges, resource limitations, or changing priorities. For example, funding constraints due to the pandemic could have redirected resources toward immediate needs, thereby reducing capacity for education services.

The decline in service provision from 2021 suggests potential financial or operational challenges. Understanding these underlying causes could allow churches to plan for sustainable service provision, potentially through diversified funding, grants, or community partnerships to counteract future downturns.

### 7.3 CHURCH LOCATION AND SERVICE DISTRIBUTION



The map highlights church locations across Kenya with pie charts indicating the proportion of services provided by each church at each location.

The map indicates a broad geographic distribution of church services, with high activity around urban centers such as Nairobi and Kisumu. Churches in these areas are likely responding to larger populations and greater service demands. Additionally, pie charts showing diverse service offerings in each location indicate a holistic approach to community support.

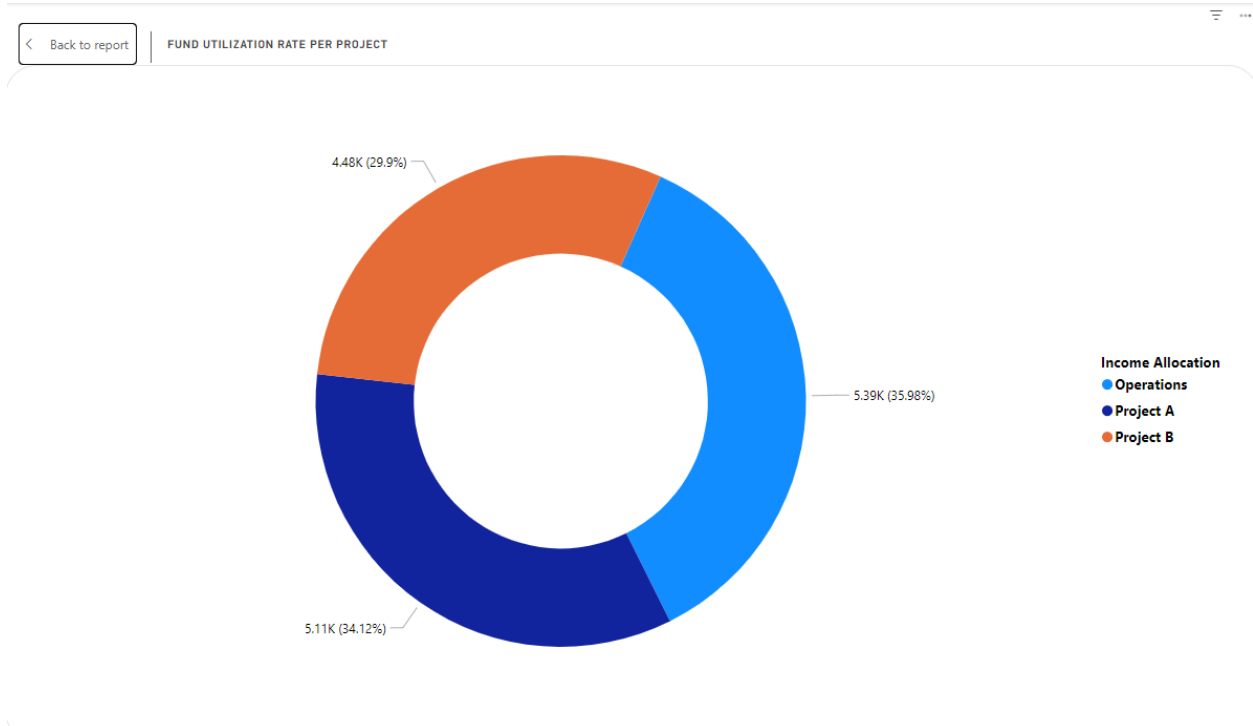
Some churches have a higher concentration of specific services, reflecting unique local needs. For example, areas with a high proportion of food distribution services may have communities struggling with food security, while those with more educational services may reflect a focus on youth and adult literacy programs.

Churches are strategically positioned to maximize impact in regions with specific needs. However, certain regions with limited services could benefit from expanded support. Identifying

these underserved areas and allocating resources accordingly could help ensure a more equitable  
Distribution of Services.

## 8. REVENUE ALLOCATION EFFICIENCY

### 8.0 FUND UTILIZATION RATE

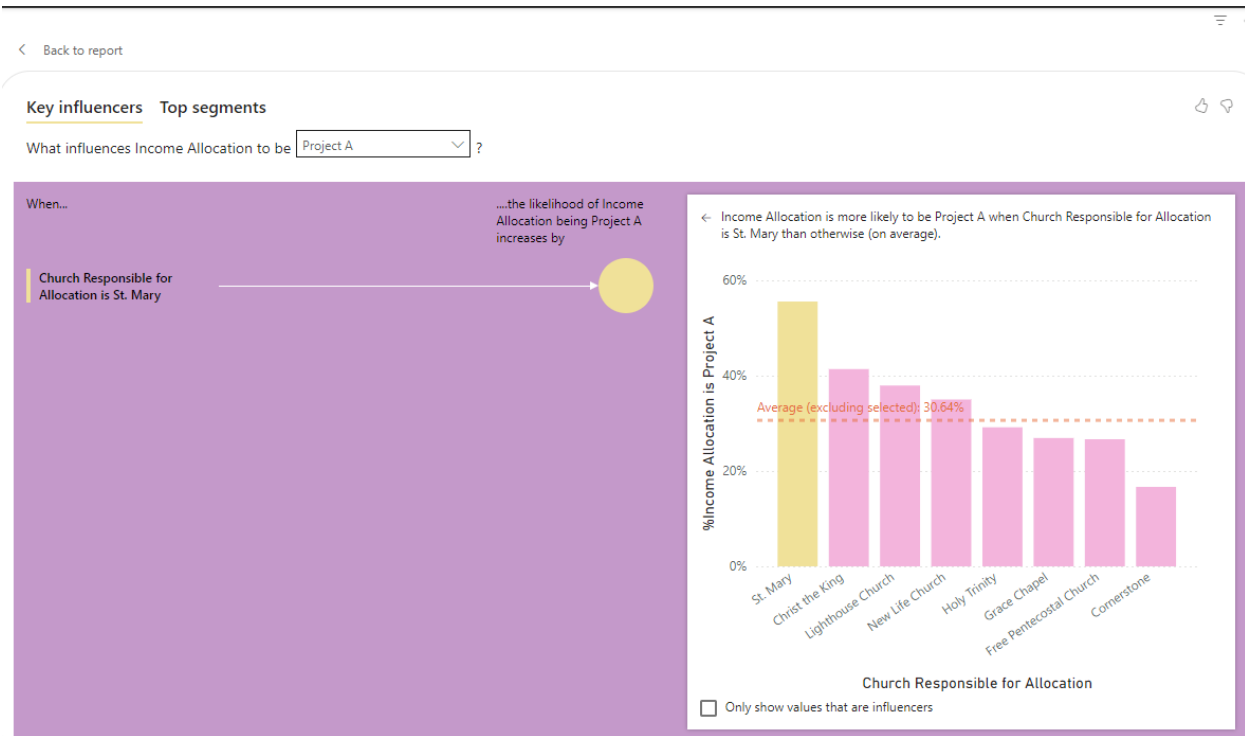


The donut chart displays the breakdown of funds across three main categories: Operations, Project A, and Project B. The allocation percentages are relatively close, suggesting a balanced approach to resource allocation. Funds allocated to operations support the essential administrative and logistical needs of the churches. This moderate share ensures that churches have the necessary infrastructure to implement their projects effectively.

Receiving the highest allocation, Project A is likely a priority due to its potential impact. This higher allocation suggests that Project A may directly address pressing community needs or aligns with the strategic goals of the churches. Project B also receives substantial funding, indicating it holds strategic importance. If Project A and Project B focus on distinct objectives (e.g., Project A on food security and Project B on education), this balanced funding may indicate that both areas are seen as equally critical. The even distribution of funds suggests strategic financial planning, but the slight prioritization of Project A indicates a response to an immediate or high-impact need. Reviewing the outcomes of these projects could validate the effectiveness of the allocation and inform future funding strategies.



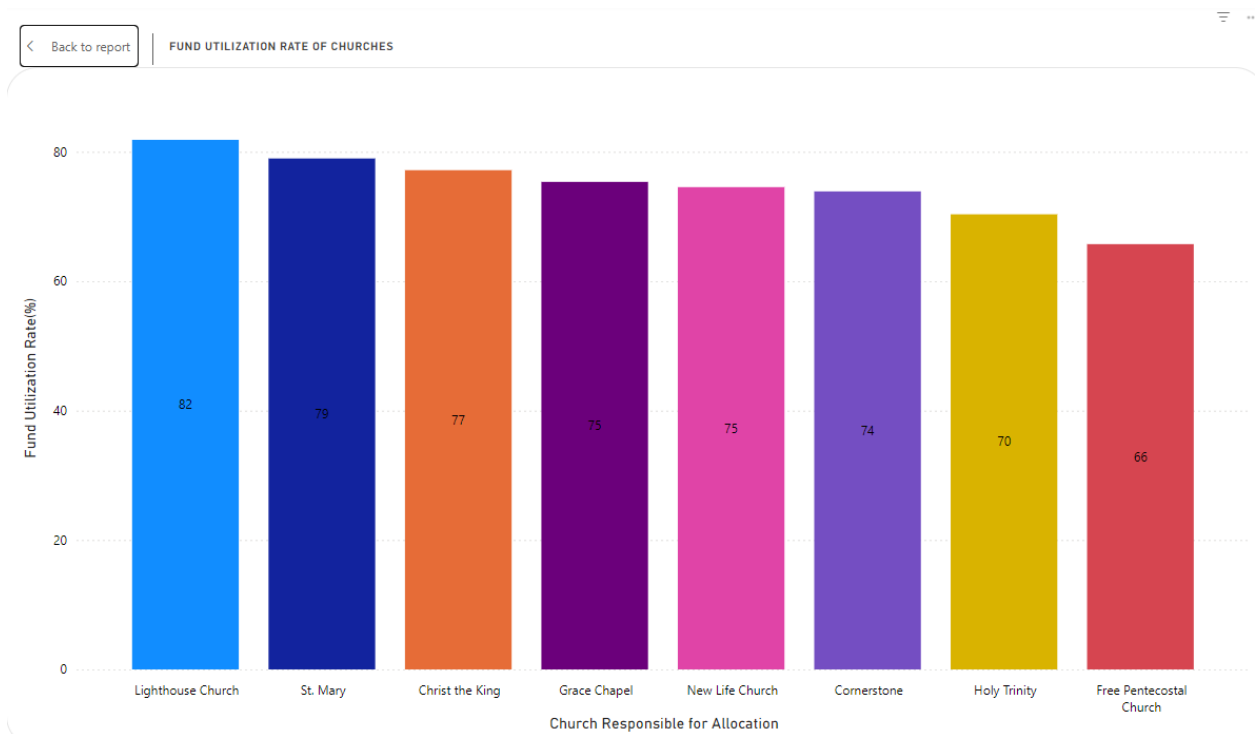
## 8.1 KEY INFLUENCERS OF INCOME ALLOCATION



The "Key Influencers" analysis identifies factors that influence the likelihood of income being allocated to for example Project A: When St. Mary is the church responsible for income allocation, the likelihood of allocating funds to Project A increases by 1.81x. This insight implies that St. Mary has a unique approach or priority for Project A, possibly due to its community's specific needs or the church's strategic focus.

The influence of St. Mary on Project A's funding allocation suggests a potentially impactful model that other churches could replicate. Analyzing St. Mary's methods could reveal valuable insights for optimizing fund distribution, ensuring that high-impact projects receive adequate support across all churches.

## 8.2 UTILIZATION RATE OF CHURCHES



The bar chart on fund utilization by each church indicates differences in how efficiently churches are deploying resources.

Church branches such as "Christ the King," "Lighthouse Church," and "St,Mary" display high fund utilization rates. This could indicate that these churches are efficient at channeling funds into services and projects, possibly due to strong leadership, effective budgeting, or community engagement.

"Holy Trinity" and "Free Pentecostal Church" have comparatively lower utilization rates. This may signal underutilization of available funds, which could be due to lack of capacity, resource allocation challenges, or reduced demand in certain areas.

The variation in fund utilization rates suggests an opportunity to improve fund deployment across all churches. Providing targeted support or best practices for lower-utilizing churches could optimize overall fund efficiency and ensure resources are being fully leveraged.

## 8.3 SUMMARY AND RECOMMENDATIONS

### 1. **Service Continuity and Growth**

To address the recent decline in service provision, churches should explore alternative funding sources, including partnerships with local businesses, NGOs, and government bodies. Emphasizing the importance of consistent funding could help secure more stable resources for sustained service delivery.

### 2. **Balanced Revenue Allocation**

The current allocation reflects a thoughtful approach, with a slight preference for Project A. Evaluating the outcomes of Projects A and B could help reinforce or adjust this distribution based on the actual impact. Additionally, the influence of St. Mary on Project A allocation may serve as a case study for other churches seeking to optimize their own fund allocation strategies.

### 3. **Capacity Building**

Regional variations in fund utilization suggest a need for capacity-building initiatives for lower-utilizing churches. Providing training in resource management, financial planning, and community engagement could help these churches maximize their allocated funds and expand their service offerings.

### 4. **Geographic Expansion**

Identifying underserved regions with minimal church presence or limited services could reveal new opportunities for outreach. Expanding support to these areas would ensure a more equitable distribution of services, enhancing the overall impact of church activities across Kenya.

This business intelligence report provides a comprehensive view of current service delivery patterns and financial efficiency, with actionable insights to enhance both. By focusing on

continuity, balanced allocation, and targeted expansion, these churches can further strengthen their role as vital community support systems.

## 6.0 INTEGRATION OF BUSINESS INTELLIGENCE INTO THE SME

### 6.1 WHAT DOES INTEGRATION OF BI IN THE SME MEAN?

Implementing Business Intelligence at the Free Pentecostal Fellowship in Kenya would typically involve integrating BI tools such as dashboards to improve decision-making processes and convert raw data into actionable insights.

The following are the appropriate steps that the Free Pentecostal Fellowship in Kenya should take in pursuit of Business Intelligence maturity.

#### **Step 1. Define Objectives and Scope**

The primary goal of this step is to clearly define the purpose of implementing BI in the organization and to set measurable objectives. Actions to be taken include;

- To **identify the main aim of wanting to integrate business Intelligence tools** in the organization. Examples would include to increase the number of worshippers in their churches or to increase the amount of donations that go into the church.
- **Identifying key performance indicators (KPIs) and data requirements** (e.g., financial data, membership records, event attendance).
- **Define the scope of BI usage**—what data will be analyzed, who will use the BI tools, and the expected outcomes. Define which departments or areas (e.g., membership records, finance, event management) will initially be involved in the BI implementation.
- **Stakeholder Engagement:** Identify key stakeholders (e.g., pastors, finance officers, event coordinators) and involve them early in the process to understand their data needs and objectives.

#### **2. Assess Current Data Infrastructure**

In order to understand FPFK's existing data landscape and identify gaps or weaknesses, the following actions need be taken by the organization;

- **Review of the current data sources** which include Excel files, the annual report booklets, and all the informal records.

- **Assess the data quality.** FPFK needs to check for completeness, consistency, and accuracy in their records as data used for the BI implementation needs to be of high quality.
- Identify potential issues, such as data fragmentation, lack of standardized formats, and manual processes.
- **Determine the tools and software, in accordance to FPFK's needs and budget**  
.. Such tools would be able to analyze the organization's KPIs using various visualization features.

### **3. Centralize and Cleanse Data**

The aim is to consolidate FPFK's data into a unified system and ensure its quality. Actions to be taken include;

- Migrate all physical records (booklets) and digital data (Excel files) into a centralized database or cloud-based storage system (e.g. Google Sheets, Microsoft Access, or an eventual transition to SQL).
- Cleanse the data—remove duplicates, correct errors, and standardize formats (e.g., member names, financial contributions, event dates).
- Organize the data into categories for easy access (e.g., membership data, contribution data, event data).

### **4. Choose BI Tools and Software**

The goal for this step is to select the appropriate BI tools to support FPFK's needs for data analysis and reporting. Actions include;

- Selecting BI tools based on the requirements and budget (e.g., Power BI or Tableau for reporting and visualization).
- If Power BI is selected, set up data connections to the centralized database and configure the platform for reporting.
- Configure and customize the tools selected in such a manner that they fit the organization's specific requirements

## **5. Develop the BI Dashboards**

Goal is to create interactive and insightful dashboards for making decisions. Actions to be taken include;

- a) Power BI dashboards focusing on FPFK's key data areas (membership trends, contribution patterns, event performance, etc.).
- b) Create visualizations e.g. line charts for membership growth, bar charts for financial contributions, pie charts for event attendance, etc.
- c) Implement filters and drill-down capabilities for users to explore the data in more detail.
- d) Ensure that dashboards are easily accessible to all stakeholders, such as church leadership, ministry heads, and financial officers.

## **6. Implement Data Governance and Security**

Establish standards for data management, security, and accessibility. Actions to be taken by FPFK include;

- Defining data governance policies, including data entry standards, access control, and security protocols.
- Setting user roles and permissions in Power BI to ensure that only authorized personnel can view or edit sensitive data.
- Implementing regular data backups and ensuring secure access to the BI platform such as secure logins and encryptions.

## **7. Train Staff and Stakeholders**

This is to equip staff with the knowledge to effectively use BI tools and interpret data. Actions are;

- Organizing training sessions for staff on how to use Power BI and interpret the dashboards.
- Providing training materials, such as user manuals, video tutorials, and live demonstrations.
- Offering role-based training by training financial officers on financial dashboards, training event managers on event performance dashboards, etc.

- Setting up a support system to address any issues or questions during the implementation phase.

## **8. Test and Validate the BI System**

To ensure the BI system works as expected and meets the needs of users. Actions include:

- Conducting pilot testing of the BI dashboards with a small group of users, e.g., ministry heads or senior church leadership
- Collecting feedback on the functionality and usability of the dashboards.
- Adjusting the system based on feedback, for example adding new data fields, modifying visualizations, or improving user interface.
- Validating that the data in the dashboards is accurate and up-to-date.

## **9. Deploying the BI System**

To roll out the BI solution to all relevant users and integrate it into everyday operations. Actions to be taken are:

- Deploying the BI system for full use by all stakeholders, such as church leaders, ministry heads, financial officers, and event managers.
- Ensuring that all relevant users have access to the dashboards and that they know how to access the BI tool.
- Integrating BI reporting into regular church activities such as monthly financial reviews, attendance tracking after events.
- Monitoring usage and tracking any issues or additional requests from users.

## **10. Ongoing Monitoring and Continuous Improvement**

This is to maintain and improve the BI system over time to ensure it remains relevant and effective. Actions include;

- Establishing KPIs to monitor the effectiveness of the BI system, for example how frequently dashboards are accessed and their impact on decision-making.
- Scheduling periodic reviews of the system to identify opportunities for improvement or new data integration.



- Ensuring continuous update of the dashboards with new data or features as the organization's needs evolve.
- Providing ongoing support and training to ensure the system is used effectively.

### **11. Review and Feedback Loop**

Evaluating the system's impact and gathering feedback for further improvements is the main aim of this step. FPFK should take action in the following ways;

- Collect feedback from users on the BI system's effectiveness in improving decision-making, saving time, and enhancing transparency.
- Hold regular review meetings with key stakeholders to discuss the outcomes and identify any areas for further refinement.
- Make iterative improvements to the BI solution based on user feedback, new data sources, and emerging business needs.

## 7.0 RECOMMENDATIONS FOR THE ONGOING USE AND MAINTENANCE OF THE BI SYSTEM AND DASHBOARD

### **1. Set Clear Rules for Data Management**

Create Data Guidelines :Set clear rules for how data should be collected, stored, and accessed so that it stays accurate and consistent. Also, appoint Data Managers: Choose a few people to be responsible for checking data quality and ensuring everyone follows data guidelines. To add on do Regular Data Checks: Schedule regular data reviews to correct any errors and keep the information in the system reliable.

### **2. Keep Data Up-to-Date and Safe**

Automate Data Updates: Set up the BI system to automatically refresh data so that reports are always current.To add on, back Up Data Regularly : Schedule regular backups to prevent data loss and protect against unexpected issues.

### **3. Provide Ongoing Training for Staff Members**

Offer Regular Refresher Courses: Keep staff updated on new BI features and best practices through regular training. Also, customize Training by Role: Make sure training is relevant to each person's role, so they learn the specific tools they need. Finally, have a Support Team: Set up a small team to help staff troubleshoot, answer questions, and keep the BI system running smoothly.

### **4. Monitor System Performance**

Track Usage - Check how often people are using the BI dashboards to spot areas that might need more attention or training. Also, to watch for Performance Issues - Keep an eye on how well the system is working, for example how long it takes to load, so as to catch any issues early. Finally, ask for User Feedback- Regularly gather feedback to find out how easy it is for people to use the system and where they'd like improvements.

## **5. Review Goals and Metrics Regularly**

Check BI Goals - Periodically review the goals of the BI system to ensure it's still meeting FPFK's needs. Update Dashboard Metrics -If FPFK's priorities change, update the metrics in dashboards so the data stays relevant and helpful.

## **6. Plan for System Updates and Improvements**

Schedule Software Updates - Keep the BI tools up-to-date to access new features and maintain security. Explore New Tools - As FPFK's data needs grow, consider adding tools like predictive analytics to help make better decisions. Plan for More Data - Ensure the BI system can handle growing data needs as more information is collected over time.

## **7. Build a Culture of Data Use**

Promote Data Skills - Help staff understand how to read and use data so they feel confident in making data-based decisions. Use Data in Meetings - Encourage the use of BI dashboards during meetings to make decisions based on real information. Share Success Stories - Highlight instances where data insights helped FPFK make good decisions, to encourage everyone to use the BI system.

## **8. Do Regular BI System Reviews**

Schedule System Reviews - Review the BI system's effectiveness every six months to ensure it is meeting FPFK's needs and user expectations. Keep Track of Changes - Document any updates, feedback, or improvements to keep the system running smoothly and avoid recurring issues.

By integrating BI with FPFK, the company will be able to move from a manual, disjointed approach to data management to a more efficient, data-driven setting.

## 8. MANUAL AND USER INTERFACE

### 1. Overview of the BI Maturity Assessment Tool

The BI Maturity Assessment Tool will help FPFK measure where they currently stand in their BI capabilities and identify areas for improvement. The tool will help evaluate FPFK on key BI maturity levels, from basic data handling to advanced, data-driven decision-making.

Below are the key requirements needed to implement Business Intelligence into the system;

#### 1. Hardware and Software Requirements

##### 1. Computers

- Basic computers or laptops with internet access are needed for staff to access the BI tools and dashboards.

##### 2. Power BI

- **Software-** Install Microsoft Power BI Desktop for report creation, or use Power BI Service (online) for sharing and collaboration.
- **License-** FPFK requires necessary Power BI licenses. Microsoft offers free and Pro versions, with the Pro version providing more sharing options.

##### 3. Data Storage Solutions

- **Excel** - For initial data consolidation and storage.
- **Cloud Storage** (optional but recommended): Platforms like Google Sheets, Microsoft Access, or a cloud database such as Microsoft Azure to centralize and secure data.

### 2. Staff and Training Requirements

#### 1. BI Champion or Project Lead

- FPFK needs to designate a BI ‘champion’ who will oversee the implementation process, liaise between the FPFK leadership and technical team, and ensure the BI system aligns with organizational goals.

## **2. Data Managers**

- Assign data managers in each department to manage and update data, perform regular quality checks, and support ongoing data entry.

## **3. Training Program**

- The organization should conduct training sessions for staff to use the BI Maturity Assessment Tool and Power BI dashboards. Include both introductory and role-specific training to help staff effectively interpret data and make informed decisions.

## **4. Security and Access Control Requirements**

### **1. User Roles and Permissions**

- Defining user roles and accessing levels within Power BI, ensuring only authorized staff can view or modify sensitive data. For example, finance staff may have access to contribution data, while ministry leaders can view attendance metrics.

### **2. Data Security and Compliance**

- The organization needs to implement security protocols for data handling, especially if sensitive information such as financial contributions is involved.
- Encrypted storage and secure access with strong passwords are elements that need to be put in place.
- The SME should consider implementing data access policies in line with data protection laws to ensure compliance with legal and ethical standards.

## **5. Infrastructure and Maintenance Requirements**

### **1. Regular Data Backups**

- Automatic backups for the data stored in the cloud or on local drives should be scheduled in order to prevent data loss. This can be set up using cloud storage backup services or database backup tools.

### **2. Scheduled Data Refreshes:**

- Data feeding into Power BI dashboards should be updated regularly, ideally daily or weekly. Automatic refresh schedules in Power BI should also be scheduled to keep the dashboards current.

### **3. Ongoing System Monitoring:**

- Regularly monitor the system for performance issues, and address them as needed to maintain usability and efficiency. Track the use of the system and dashboard in order to identify any additional training needs.

## **6. Financial and Budget Requirements**

### **1. Licenses and Subscription Fees:**

- Budget for Power BI licenses and any cloud storage services if needed. The Pro version of Power BI offers advanced sharing and collaboration features, which may require monthly or yearly subscription fees.

### **2. Training and Support Costs:**

- Allocate budget for staff training, including instructor fees, materials, and potential refresher courses.

### **3. Consultant or Technical Support Fees (optional):**

- If needed, consider hiring a BI consultant or technical support to assist with setup, data migration, and troubleshooting during the implementation phase.

COMMON ISSUES THAT MAY BE ENCOUNTERED INCLUDE;

<b>Common Issues</b>	<b>Solutions</b>
<b>Sheets Not Loading Properly</b>	Ensure you have a stable internet connection. Refresh the browser window (press F5 or the refresh icon). If the issue persists, try clearing your browser cache and cookies.
<b>Unable to Access Sheets</b>	Verify that you are logged into the correct Google account with the necessary permissions to view and edit the document. Check the sharing settings to ensure the document is shared with the appropriate users.
<b>Export Errors</b>	Make sure you have the necessary permissions to export the file. Try exporting the document in a different format (e.g., PDF instead of Excel). Ensure there is enough storage space on your device for the exported file.
<b>Formulas Not Working</b>	Double-check the formulas for any errors. Ensure all referenced cells are correct and contain valid data. If using complex functions, refer to Google Sheets documentation for correct syntax.
<b>Visualizations not Displaying Correctly</b>	Ensure that all necessary data is present and correctly formatted in the BI Maturity State Assessment sheet. Check that any referenced ranges are correct and include the necessary data.
<b>Slow Performance</b>	Reduce the number of active add-ons and extensions running in your browser.
<b>Collaboration Issues</b>	Make sure all collaborators have the necessary permissions to

	<p>edit the document. Check if there are any conflicts or simultaneous edits causing issues. Use the "Version history" feature to restore previous versions if needed.</p>
<p><b>Data loss or Corruption</b></p>	<p>Use the "Version history" feature to restore a previous version of the sheet. Regularly back up your data to prevent loss.</p>



## 9. CONCLUSION

In conclusion, implementing a Business Intelligence (BI) system for Free Pentecostal Fellowship Kenya (FPFK) has been a significant step toward improving how the organization makes decisions. Moving from a basic level of BI maturity, FPFK now has a structured system for organizing and analyzing data on membership, finances, and event attendance. With all information consolidated and accessible, church leaders can make informed choices, better allocate resources, and create programs that truly meet members' needs.

This project also established important practices, such as regular data updates, data management rules, and training for staff, ensuring that the BI system remains useful over time. By embracing a data-driven approach, FPFK is now positioned to grow and adapt, with the potential to explore more advanced data insights in the future. This system gives FPFK the tools to make smart, informed decisions that will support its mission and benefit the entire congregation.

## References

Gartner, Inc. (Year). "Business Intelligence and Analytics Maturity Model." Gartner Research.

Popovič, A., Hackney, R., Tassabehji, R., & Castelli, M. (2012). "The impact of big data on SMEs' BI systems," *Journal of Small Business Management*, 50(1), 109-122.

Lungu, I., & Dascălu, I. (2011). "Using Business Intelligence for improving decision-making process in SMEs," *Informatica Economica*, 15(3), 33.

Martin, K., & Thompson, G. (2020). "The role of data in improving decision-making in nonprofits: The case of religious organizations," *Journal of Nonprofit and Voluntary Sector Marketing*, 25(3), 54-66.

Microsoft. (Year). Power BI Documentation. Available at <https://docs.microsoft.com/en-us/power-bi/>.

## APPENDICES

### DSA3050 Project Introduction Letter to FPFK



**FALL SEMESTER 2024**

**DSA 3050 A Business Intelligence Class**

**INSTRUCTOR: Dr. Mursi**

**DATE: 31<sup>st</sup> October 2024**

**Due Date: Week 9**

---

### DSA 3050 Project Assignment

#### **To Whom it May Concern**

My name is ..... and I am a student in the DSA 3050 A Business Intelligence class at USIU, Fall Semester 2024 under the instruction of Dr. Mursi. I am writing to introduce you to an exciting opportunity for ..... (**Company Name**) to benefit from our academic project, which focuses on assessing and enhancing business intelligence (BI) capabilities for Small and Medium Enterprises (SMEs) in Nairobi.

As part of our coursework, we have been tasked with identifying an SME to collaborate with in a real-world BI project. The objectives of this project are to assess the current BI maturity of your organization, provide a comprehensive report with actionable recommendations, and develop a custom BI dashboard tailored to your specific business needs.

#### **Project Benefits:**

1. **BI Maturity Assessment:** We will conduct a thorough assessment of your current BI practices, data management, and reporting capabilities using recognized BI maturity models.

2. **Comprehensive Report:** Based on our assessment, we will provide a detailed report highlighting strengths, areas for improvement, and strategic recommendations to advance your BI maturity.
3. **Custom BI Dashboard:** Our team will design and develop a BI dashboard that addresses your key performance indicators (KPIs) and provides actionable insights to enhance decision-making processes within your organization.
4. **Implementation Support:** We will assist in the implementation of the BI dashboard and provide training to ensure your team can effectively use the tool.

This collaboration is not only a valuable learning experience for us as students but also offers your organization a unique opportunity to leverage advanced BI solutions at no cost. Our goal is to deliver a practical and impactful BI tool that you can integrate into your operations to drive business growth and efficiency.

We would be honored to work with ..... (Company Name) on this project and contribute to your BI journey. Should you be interested, we would like to schedule a meeting at your earliest convenience to discuss this opportunity in more detail and answer any questions you may have.

Thank you for considering this collaborative opportunity. We look forward to the possibility of working with you and contributing to the success of .....

Warm regards,

#### **Instructor's Contact Information**

Dr. Mursi  
Instructor, DSA 3050 A Business Intelligence  
USIU  
[jmursi@usiu.ac.ke](mailto:jmursi@usiu.ac.ke)  
0710469003

## APPENDIX B: B.I PROJECT QUESTIONNAIRE AND RESPONSE

### BI Maturity Assessment Survey for SMEs

#### Section 1: General Information

1. Company Name:Free Pentecostal Fellowship in Kenya (FPFK)
2. Industry:church organization
3. Number of Employees:54
4. Your Role/Position:Administrator
5. Date:8/10/2024

#### Section 2: Business Intelligence (BI) Strategy

1. Do you have a formal BI strategy in place?
  - ☐ Yes
  - ☒ No
  - ☐ In Progress
2. How well do you think your company uses data to make decisions?
  - ☐ Not at all
  - ☒ Occasionally
  - ☐ Frequently
  - ☐ Always
3. What are the main goals of your BI initiatives?operational efficiency  
(e.g., cost reduction, customer insights, operational efficiency, etc.)
4. Do you have KPIs or metrics tracked regularly using BI tools?
  - ☐ Yes

- ☒ No

### Section 3: Data Management and Usage

1. What types of data do you collect and analyze (e.g., sales, customer data, operational data)?customer data for the case of our guesthouse

2. Where is your business data stored?

- ☐ Spreadsheets (e.g., Excel, Google Sheets)

- ☐ On-premise databases

- ☐ Cloud-based storage

- ☒ Other: \_\_\_\_\_

3. How often do you update or review your data?

- ☐ Daily

- ☐ Weekly

- ☐ Monthly

- ☐ Annually

- ☒ Rarely/never

4. How would you describe the quality of your data (accuracy, completeness, and consistency)?

- ☒ Poor

- ☐ Fair

- ☐ Good

- ☐ Excellent

### Section 4: Technology and Tools

1. Which BI tools or platforms (if any) do you currently use?

- ☐ Excel/Google Sheets
- ☐ Power BI
- ☐ Tableau
- ☐ Google Data Studio
- ☐ Other: \_\_\_\_\_
- ☒ None

2. How satisfied are you with your current BI tools?

- ☐ Very Dissatisfied
- ☒ Dissatisfied
- ☐ Neutral
- ☐ Satisfied
- ☐ Very Satisfied

3. Do you have automated processes to generate reports or dashboards from your data?

- ☐ Yes
- ☒ No

4. How easily can employees access data and insights needed for decision-making?

- ☐ Very Difficult
- ☒ Difficult
- ☐ Neutral
- ☐ Easy
- ☐ Very Easy

### Section 5: People and Skills

1. How many employees are responsible for managing and analyzing your data?

2. What level of expertise do your employees have in data analysis and BI tools?

- ☒ None

- ☐ Beginner

- ☐ Intermediate

- ☐ Advanced

3. Do you provide BI or data analysis training for your employees?

- ☐ Yes

- ☒ No

- ☐ In progress

4. How involved is top management in data-driven decision-making?

- ☐ Not involved

- ☒ Somewhat involved

- ☐ Highly involved

### Section 6: Processes and Culture

1. How would you describe your organization's approach to decision-making?

- ☐ Mostly intuitive (based on gut feeling)

- ☐ Mostly data-driven

- ☒ Balanced (both data and intuition)

2. How frequently do you use BI reports/dashboards in business meetings?

- ☐ Never

- ☒ Sometimes



- ☐ Often

- ☐ Always

3. What challenges do you face in adopting BI solutions in your organization?lack of resources

(e.g., lack of resources, lack of skills, technology limitations, etc.)

4. How open is your organization to embracing new BI tools and technologies?

- ☐ Not open

- ☐ Somewhat open

- ☒ Very open

### **Section 7: BI Outcomes and Impact**

1. What positive outcomes have you experienced from implementing BI (if applicable)?

(e.g., increased sales, better decision-making, cost savings, etc.)

2. On a scale of 1-10, how would you rate the overall impact of BI on your company's performance?

3. In which areas would you like to see improvements with the help of BI?

(e.g., forecasting, customer insights, inventory management, etc.)

### **Section 8: Additional Information**

1. What do you think could improve your organization's use of data and BI?

2. Would you be interested in receiving further BI training or consulting services?

- ☒ Yes

- ☐ No

