**BAN6800: Business Analytics Capstone**

**Module 2 Assignment: Business Analytics Project Requirements Specification Document**

**Name:** Voke H. Edafejimue **| Learner ID:** 143304

**TACO-TEL’S SHIELD360 BUSINESS REQUIREMENTS DOCUMENT (BRD)**

**Project Name**

**Shield360** – An Intelligent Churn-Resistant and Customer Retention Solution.

**Project Manager**

Voke H. Edafejimue

Lead, Project Management Office.

Email: [vokeeda@taco-tel.com](mailto:vokeeda@taco-tel.com)

Phone: +234 803 9579 519

**Executive Summary**

Taco-Tel is a telecommunications service provider founded in 2007 by Manuel Taco. Since its inception, the company has experienced continuous growth in sales, customer base, and profitability. The company was awarded the fastest-growing telecommunications company in Nigeria for 2020. However, its financial reports indicate that its growth rate has slowed down in recent years due to the increased rate of customers abandoning their subscriptions. This situation poses a threat to the company’s sustainability, profitability, and reputation in a highly competitive sector such as the telecoms market.

To achieve its productivity goals, the company is embarking on a data analytics project called ‘Shield360’. This customer retention initiative will proactively detect early signs of dissatisfied customers and those who are likely to abandon the company’s services (Teyf Group, 2024). Shield360 is an integrated data-driven, Machine learning-enabled, and advanced predictive analytics system that instructively identifies high-churn-risk customers, reveals the prevalent churn influencers, and drives near-instant intervention strategies through the existing Customer Relationship Management (CRM) System.

This solution will provide the following benefits: reducing high churn rates, increasing profitability, encouraging a data-driven culture within the organization, optimizing resource allocation, boosting customer confidence in the brand, and improving customer retention rates (Faster Capital, N.d.).

**Project Objectives**

1. Pinpoint High-Churn-Risk Subscribers – The solution will leverage existing and new data to determine which customers are likely to abandon their subscriptions with at least 80% prediction accuracy.
2. Subscriber segmentation - The system will receive customer data from the integrated CRM system and other data sources. The customer information will be classified into two tiers (low and high-risk customers) to drive various marketing strategies (Pearce, 2021).
3. Churn Root Cause Analysis – Churn influencers will be identified using the 5-whys or fishbone technique. This approach will help solve business problems, rather than fixing the symptoms of the problem temporarily (Faster Capital, N.d.).
4. Data-Driven and Actionable Insights – Automated feedback is provided to designated teams when high-churn-risk customers are identified for the immediate deployment of intervention strategies.
5. Continuous Improvement – Monthly the machine learning algorithm will be finetuned using new data, market trends, seasonal trends, market shifts, and customer feedback to improve its accuracy.
6. Dynamic Dashboards/Reports – Non-technical and Executive management will be updated on churn metrics, customer behavior changes, and the impact of marketing strategies using dynamic and visually appealing dashboards.

**Project Scope**

*In Scope:*

1. Data Integration – Structure and unstructured data from various sources including CRM, billing, social media, and surveys will be merged.
2. Model Development – Multiple models will be trained using the available data and the most accurate model will be chosen based on its precision, F1 score, and recall results (Otten, 2025).
3. Churn Insights – The solution will generate business intelligence and churn-risk insights to help the designated teams target customers with special offers.
4. CRM Feedback Loop – Model churn-risk classification outcomes will be fed back into the CRM system and alerts and task assignments will be sent to the designated teams for the next steps.
5. Dashboard/Reports with Live Updates - Churn metrics, customer behavior changes, and the impact of marketing strategies will be displayed to enable data-driven business decisions.
6. Project Documentation – The project process will be recorded in a document for future reference and improvement efforts.
7. Training – A User guide will be provided, and workshops will be organized to train users from the various stakeholder groups.

*Out of Scope:*

1. Redesign of the existing CRM and billing systems.
2. Deployment of a Virtual Assistant solution for 24-hour feedback.
3. Marketing Campaign Strategy Design.
4. Workforce Optimization.

**Business Requirements**

The following business requirements have been broken down into various functional aspects of this project in tandem with Taco-Tel’s business goals. Each item is classified based on its priority, and criticality, and a description is provided.

1. Data Integration and Tools

|  |  |  |
| --- | --- | --- |
| **Priority** | **Criticality** | **Description** |
| High | Critical | Integrate structured and unstructured data sources into one comprehensive format for modeling. |
| High | Critical | Deploy an ETL data conduit to provide live data updates for improved prediction accuracy. |
| High | Critical | Implement data validation to ensure data quality is guaranteed (Toxigon, 2025). |
| Low | Important | Include data from external sources |

1. Churn Prediction Modeling

|  |  |  |
| --- | --- | --- |
| **Priority** | **Criticality** | **Description** |
| High | Critical | Design and deploy models using logistic regression, neural networks, and decision trees with an expected accuracy of at least 80% (Toxigon, 2025). |
| Medium | Moderate | Schedule model finetuning every 30 days to maintain model accuracy. |
| Medium | Important | Include user feedback into the model on an ongoing basis. |

1. Churn Prediction Outcome Feed into CRM

|  |  |  |
| --- | --- | --- |
| **Priority** | **Criticality** | **Description** |
| High | Critical | Effortlessly integrate churn classification/scores back into the CRM system. |
| High | Critical | Trigger alerts when a customer has been classified as high-risk |
| Medium | Important | Add colors for easy identification of customer risk levels. |
| Low | Moderate | Provide a history of each customer’s churn classifications. |

1. Subscriber Segmentation

|  |  |  |
| --- | --- | --- |
| **Priority** | **Criticality** | **Description** |
| High | Critical | Classify subscribers into low and high-risk using the output of each model. |
| Medium | Important | Produce insights that highlight the influencers for each subscriber segment. |
| Low | Moderate | Drill down into each segment to display subscriber demographics, product type, and subscription tenure. |

1. Dashboards & Reports

|  |  |  |
| --- | --- | --- |
| **Priority** | **Criticality** | **Description** |
| High | Important | Provide an intuitive dashboard to help non-technical users identify trends, and KPIs, and appreciate the impact of customer retention strategies (Pearce, 2021). |
| Medium | Important | Allow reports to be filtered by region, product type, and subscription tenure for deeper insights. |
| Low | Moderate | Enable the system to send out monthly reports via email to key stakeholders. |

1. Data Security, Governance, & Privacy

|  |  |  |
| --- | --- | --- |
| **Priority** | **Criticality** | **Description** |
| High | Critical | Confirm that the project is fully compliant with NDPR regulations for data protection. Also ensuring that data is only accessible to relevant users. |
| High | Critical | Ensure that all data is encrypted and encoded in transit and at rest. |
| Low | Important | Create a log/directory and record all model updates and permissions granted. |

1. User Training & Solution Support

|  |  |  |
| --- | --- | --- |
| **Priority** | **Criticality** | **Description** |
| Medium | Important | Distribute a user guide to help train all staff on the functionality of the churn prediction model. |
| Medium | Important | Conduct an on-site workshop with the designated teams to help them understand the feedback from the churn prediction model. |
| Low | Moderate | Train the Marketing and Customer Experience teams in data analysis courses to help them understand the model’s outcomes. |

**Key Stakeholders**

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Responsibilities** |
| Voke Edafejimue | Project Manager | Track project deliverables, ensure all stakeholders and subject matter experts collaborate, and manage the risks associated with the project. |
| Chukwuma Sam | Head, Data Analyst | Champion data exploration, churn prediction model development, deployment, and finetuning. |
| Adrian Okoro | CRM Integration Lead | Oversee and ensure seamless integration of insights into the CRM system. |
| Mark Akpan | Customer Experience Lead | Provide information about customer expectations and behavior to optimize the model’s input. |
| Ogechi Dunbar | Compliance Officer | Ensures total compliance with NDPR regulations. |
| Joseph Okun | Chief Financial Officer | Review and approve the project budget. Confirm the viability of the project. |
| Ben Akinde | Marketing/Retention Strategy Lead | Design marketing campaigns to be sent out based on the churn insights generated and measure the effectiveness of the strategies. |

**Project Constraints**

|  |  |
| --- | --- |
| **Constraint** | **Description** |
| Data Quality | The existing company data may include missing values, multiple formats, or duplicates. Cleaning up the data to ensure accurate model outcomes is essential for the project’s success (Ongoma, 2024). |
| CRM Integration API Constraints | The existing structure and limitations on the API may increase the time it takes to return feedback to the designated teams and may require customization for effectiveness. |
| Organizational Annual Tech Budget Cap | For this fiscal year, the Tech Project Budget is capped at N500,000,000, therefore, the business requirements for this project must be prioritized. |
| Timeframe | The Company Board and Executives have mandated that the project be completed within the next 6 months to avoid further loss of subscribers and to ensure the company’s profitability is restored as soon as possible. |
| Internal Skill Gap | The functional teams within the organization must be trained to understand and interpret the model outputs and the dashboards. |
| Project Team Participation | The project team members will combine their daily tasks with project responsibilities. Delegation of individual functional team workload will be required (Team Asana, 2025). |

**Cost-Benefit Analysis**

*Estimated Project Cost*

|  |  |
| --- | --- |
| **Task** | **Estimated Cost (in Naira)** |
| Data Cleaning and Integration | 700,000 |
| Model Development and Training | 1,200,000 |
| CRM Integration using customized API | 1,000,000 |
| Dashboard & Reporting | 600,000 |
| Stakeholder & Teams Training | 800,000 |
| Maintenance, Feedback Loops & Finetuning | 500,000 |
| Miscellaneous (approximately 10%) | 700,000 |
| **Total Estimated Project Cost** | **5,500,000** |

*Expected Annual Returns*

* **Revenue Preserved** (at 14% churn rate depletion)
* Subscriber count – 500,000
* Average monthly spends per customer – N2,000
* Current Churn rate – 16%
* Target churn reduction rate – 14%
* Number of customers Retained – 500,000 \* (16% - 14%) = 10,000 customers.

*Formula*:

Revenue Retained = Customers Retained \* Current Churn Rate \* 12 months

*Calculation*:

Annual Benefit from Retained Customers – 10,000 \* 16 \* 12 = **N1,960,000**

* **Reduced Cost of Customer Churn (CCC)**
* Cost to get a new subscriber – N750
* Fewer customers need to subscribe, due to retained customers – 10,000

*Formula*:

CCC = Retained Customers \* Cost per churn

*Calculation*:

CCC = 10,000 \* 750 = **N7,500,000**

* **Customer Lifetime Value (CLV)**
* Standard Customer Lifetime Value –

Current Churn Rate \* Average Subscriber Lifespan

* Expected – Subscriber lifespan improves from 30 months to 35 months due to this solution (Faster Capital, N.d.).
* Increased Lifetime Value for each subscriber –

16 \* (35 – 30) = 16 \* 5 = **N80** extra per customer.

* Apply this to 100,000 expected to be saved by the retention strategies in 4 years.

*Formula*:

Increased CLV = Affected Customers \* CLV Increase / Number of years

*Calculation*:

100,000 \* N80 / 4 = N8,000,000 / 4 = **N2,000,000**

*Total Expected Annual Benefits*

|  |  |
| --- | --- |
| **Metrics** | **Value** |
| Revenue Preserved | N1,960,000 |
| Cost of Customer Churn Saved | N7,500,000 |
| Increased Annual CLV | N2,000,000 |
| **Total Annual Benefit** | **N10,960,000** |

**Annual Estimated ROI**: Total Expected Benefits – Total Estimated Cost \* 100

Total Estimated Cost

*Calculation:*

N10,960,000 – 5,500,000 \* 100 = **99.2%**

N5,500,000

**Agile Methodology**

This Shield360 project will adopt an agile approach to enable continuous iteration, swift feedback, and stakeholder collaboration monitoring. This approach will deliver improved results over time as the data evolves.

*The Plan*

Sprints – Model development tasks are divided into phases and each stage is to be delivered within 2 weeks (Kamani, 2019).

Sprint Reviews – First system simulation demo with key stakeholders and users to get feedback on the User Interface, prediction accuracy, relevance, and the effectiveness of the CRM alerts.

Daily Stan-up meetings – Daily virtual and physical meetings will be held to update each team on the progress made.

Retrospectives – improvements, updates, and lessons will be documented for each iteration.

Continuous Delivery – The project will be delivered in phases with continuous model fine-tuning leveraging lessons learned.

**Summary**

Shield360 is a Churn-Resistant and Customer Retention Solution championed by Taco-Tel to reduce the rate of subscriber churn, increase profitability, gain a competitive edge, and improve customer loyalty by leveraging advanced machine learning algorithms. The system identifies high-churn risk subscribers in real-time, returns insights to the CRM system, and sends alerts to designated teams to proactively carry out retention actions. The key aspects of this project include subscriber churn prediction, customer base segmentation, intuitive insights, dashboards, and secure integration with CRM. The project is estimated to generate yearly benefits of N10,960,000 against an estimated cost of N5,500,000. Shield360 will be delivered following an agile approach, enhancing subscriber retention, reducing customer acquisition costs, and increasing the customer lifetime value.

**References**

* Teyf Group. February 6, 2024. Predictive Analytics in Telecom: A Game Changer for the Industry. LinkedIn. <https://www.linkedin.com/pulse/predictive-analytics-telecom-game-changer-stjuf>
* Team Asana. January 21, 2025. Business Requirements Document Template: 7 Key Components, with Examples. Asana. <https://asana.com/resources/business-requirements-document-template>
* Cori Pearce. December 6, 2021. Churn Zero. A seven-step guide to perform a customer churn analysis. <https://churnzero.com/blog/7-step-guide-to-perform-a-customer-churn-analysis/>
* Elias Ongoma. April 23, 2024. Customer Churn Prediction and Retention Strategies for a Telecommunications Company — ML Classification Project. Medium. <https://medium.com/@ongomaelias/customer-churn-prediction-and-retention-strategies-for-a-telecommunications-company-ml-a84238c34acb>
* Faster Capital. N.d. 10 Customer Success Best Practices for Churn Reduction. Faster Capital. <https://fastercapital.com/articles/10-Customer-Success-Best-Practices-for-Churn-Reduction.html>
* Neri Van Otten. January 9, 2025. Churn Prediction Made Simple & Top 9 ML Techniques. Spot Intelligence. <https://spotintelligence.com/2025/01/09/churn-prediction/>
* Toxigon. March 28, 2025. Predictive Analytics for Customer Churn: A Comprehensive Guide. Toxigon Infinite. <https://toxigon.com/predictive-analytics-for-customer-churn>
* Faster Capital. N.d. How to Conduct a Cost Benefit Analysis of Churn Rate Reduction. Faster Capital. <https://fastercapital.com/articles/How-to-Conduct-a-Cost-Benefit-Analysis-of-Churn-Rate-Reduction.html>
* Vinati Kamani. November 20, 2019. Using Metrics to Track the Efficiency of Agile Teams. Agile Connection. <https://www.agileconnection.com/article/using-metrics-track-efficiency-agile-teams>