Project Title: Automated Technician Task Matching System

Description: Aims to automate task scheduling processes by aligning task assignments with technician strengths to enhance operational efficiency, reduce costs, and improve customer satisfaction.

The telecommunications industry is the backbone of modern connectivity, providing essential services to millions of businesses and households. With heavy competition to provide the best connectivity, many companies claim to have the most advanced network technology. However, customers cannot experience that if the field service from technicians does not match the high-quality internet service. In other words, they have a great product but poor delivery which will result in a decrease in customer loyalty and lose estimation of $2.09 billion per year from customer churn rate.

Currently, technician assignments are made using manual or rule-based methods that rely primarily on availability or location, without accounting for skill alignment. As a result, 42% of tasks are mismatched, contributing to a 42% task failure rate, $350K annually in penalty costs, and declining customer satisfaction scores. These inefficiencies limit the organization’s ability to scale effectively to the fast-growing market, reduce operational margins, and negatively affect technician morale and customer trust.

This project proposes the design and deployment of an automated technician task assignment system in an enhanced scheduling interface. Leveraging modern data analytics and machine learning algorithms, the system will evaluate incoming service requests and dynamically match each job with the most suitable technician based on factors such as task characteristics, expertise, and historical performance. By automating this process, the solution aims for improved operational efficiency, cost savings, and improved customer experience by making Faster & Smarter Decisions on Assigning Technicians.

The anticipated benefits of this solution focus on three types: financial, operational, and strategic. More efficient matching, represented by the expertise matching rate, will help companies avoid incurring financial costs for service delays including extra labor and travel for rework and repeat visits and material and equipment use. Because technicians will be more equipped for a certain task, less mistakes are made and faster job turnaround, increasing the task completion rate. With more successful tasks, its expected customers will also show more satisfaction with the service.

This project will be executed in phases aligned with the CRISP-DM methodology over 8 weeks. First week is dedicated to Business Understanding to design a project plan and analyze current state data. Second week will be to understand the experimental data gathered. Week 3 and 4 will be preparing the data for algorithm development. In the following 4 weeks, the team will build the algorithm and application. In week 9, the solution will be tested with users and gather feedback for refinement. The final week is when the team will set up cloud deployment and implement a change management plan.

In summary, by replacing outdated, manual assignment processes with an intelligent, automated system, the telecom industry can address current pain points, future-proof its operations, and deliver exceptional value to both customers and the business.

Areas for Improvement & Recommendations

1. Brevity and Focus

* Issue: The summary is quite dense and lengthy for an executive summary, especially for a presentation context.
* Recommendation: Condense key points. Focus on the “what, why, and how” at a high level. Move detailed statistics or phased breakdowns to subsequent slides.

2. Objectives and Expected Results

* Issue: The expected outcomes are somewhat scattered and implied rather than explicitly listed.
* Recommendation: Use a bullet or bolded section to clearly state the top 2–3 measurable expected results (e.g., “Reduce task failure rate by X%, improve customer satisfaction by Y points, save $Z annually”).

3. Scope Clarity

* Issue: While the solution is described, the boundaries of the project (what’s in/out of scope) could be clearer.
* Recommendation: Briefly mention “This project covers…” (e.g., “…field technician assignments for service calls within the consumer broadband segment…”).

4. Prioritization of Activities

* Issue: The plan lists activities by week but doesn’t clearly prioritize the most critical activities or milestones.
* Recommendation: Highlight critical path activities or key milestones (e.g., “Algorithm development and user testing are key success drivers in weeks 4–8”).