

# IT Strategic Planning to Design and Implementat a Billing Dashboard for Elitery Using Agile Methodology

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## 1. Introduction

In today's digital age, businesses are increasingly relying on systems to manage their operations. One of the most crucial aspects for any business, especially those in service industries, is managing customer billing. Elitery, an IT managed service company, recognizes the importance of streamlining its billing processes to improve customer experience and operational process. To achieve this, Elitery has embarked on a project to design and implement a comprehensive billing dashboard that will simplify and optimize its billing processes.

This research explores the IT strategic planning required to design and implement a billing dashboard for Elitery, utilizing the principles of Agile methodology. By leveraging Agile, the development process remains adaptive and flexible, allowing for continuous improvement and adjustments based on user feedback and evolving requirements. This approach ensures that the final product aligns with both the business goals and the needs of Elitery's customers.

The project aims to create a billing dashboard that not only enhances customer billing management but also integrates seamlessly with Elitery's broader strategic planning objectives. With the use of modern web development techniques, the dashboard will feature real-time billing capabilities, automated processes, and an intuitive interface that will improve operational business process and elevate the customer experience.

## 2. Method

This research adopt Agile methodology which testing continuously at the end of each sprint to ensure every functions are working as expected. Research flow of IT strategic planning to design and implementat a billing dashboard for Elitery using agile methodology can be found at figure 1 below.

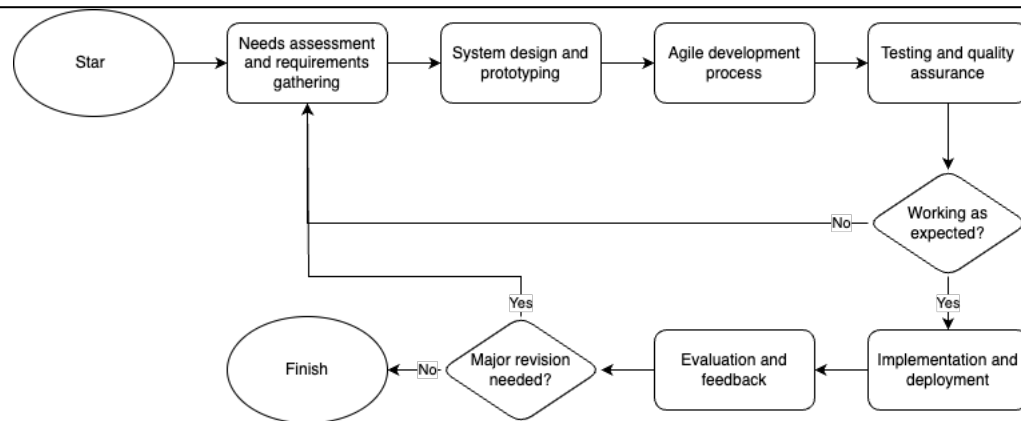


Figure 1. Research workflow

### 2.1. Needs Assessment and Requirements Gathering

The Needs Assessment and Requirements Gathering phase ensuring that the billing dashboard for Elitery aligns with both business objectives and user expectations. This process begins with the identification of relevant stakeholders, including business leaders, IT teams, end-users such as billing staff, and external stakeholders like customers[1]. Understanding their perspectives is important to gathering comprehensive and accurate data[2]. Various data collection methods will be conducted, such as interviews, where one-on-one discussions will take place with key stakeholders to uncover their expectations, pain points, and desired features. Surveys and questionnaires will be used to gather quantitative data from a larger group of users, helping prioritize the necessary features based on feedback[3]. Workshops will bring stakeholders together to collaboratively discuss needs and agree on the most critical features, while observations of existing workflows will allow for the identification of inefficiencies and areas that could benefit from automation.

Once the data is collected, the next step is to classify it into functional and non-functional requirements. Functional requirements include specific features the system must support, such as real-time data updates, automated invoice generation, user-friendly interfaces, and integration with existing accounting software. Non-functional requirements define system characteristics like scalability, security, and usability, ensuring the dashboard can grow with the company, protect sensitive data, and be intuitive for users[4]. After gathering and categorizing the requirements, they will be prioritized the MoSCoW method (Must Have, Should Have, Could Have, Won't Have) to identify the most crucial features for the system[5].

### 2.2. System Design and Prototyping

The System Design and Prototyping phase is focused on transforming the gathered requirements into a functional and structured design for the billing dashboard, ensuring that the system is user-friendly and scalable to meet Elitery's strategic goals. The system will be built on a multi-tier architecture, with the frontend developed using React for real-time data display and a Node.js backend handling user requests and database interactions. A MySQL database will store billing data, and the dashboard will integrate with external systems via RESTful APIs. The UI will focus on simplicity and clarity, with features such as automated invoice generation, real-time notifications, and role-based access control[6].

An interactive prototype will be created using Figma, allowing stakeholders to explore the system and provide feedback, which will be incorporated in iterative updates. This process follows the Agile methodology, ensuring that the system can adapt to changing requirements based on feedback from each sprint. The prototype will help refine the design, ensuring the final product meets both business objectives and user expectations[7].

### 2.3. Agile Development Process

The Agile Development Process for the billing dashboard is designed to ensure that the project remains flexible, adaptive, and responsive throughout its lifecycle. By following Agile principles, the development team will work in iterative cycles, known as sprints, which allows for continuous delivery of functional features, regular feedback from stakeholders, and adjustments as necessary[8].

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This approach guarantees that the final product aligns with both business objectives and user needs, while also staying on schedule and within scope.

The process begins with Sprint Planning, where the development team, business leaders, and stakeholders define the scope of work for each sprint. A sprint typically lasts 1 to 4 weeks, depending on the complexity of the tasks. During sprint planning, the team will review and break down the prioritized requirements from the previous phase into manageable user stories. These user stories will be assigned estimated effort and resources, ensuring that tasks are achievable within the sprint. Each user story will include clear acceptance criteria, which will guide the development team's work[9].

Once planning is complete, the Design and Development phase begins. The development team will focus on building the features identified during the planning session. Frontend developers will focus on creating the user interface, ensuring the design is responsive and intuitive. Backend developers will implement the necessary business logic, handle data processing, and ensure that the system integrates smoothly with external services. This phase involves ongoing collaboration and communication within the team to address any challenges and ensure that the system aligns with the functional requirements outlined in the sprint[8].

As development progresses, the team will regularly test the system to ensure its functionality meets expectations. Automated tests will be implemented to verify that new features do not disrupt existing functionality. In addition to automated testing, manual testing will be conducted for user interface elements, ensuring they are intuitive and meet the usability standards. At the end of each sprint, the development team will conduct Sprint Reviews, during which they will demonstrate the newly completed features to stakeholders. This allows for immediate feedback, enabling the team to make necessary adjustments before the next sprint begins[10].

After each sprint review, stakeholders will provide feedback on the newly developed features. This feedback will guide the team in refining the system, ensuring it meets both business goals and user expectations[10]. The Agile methodology encourages continuous improvement, so if any features need adjustments or new functionality is required, the development team can prioritize these changes in future sprints.

After each sprint, Testing and Quality Assurance (QA) will be conducted. This phase ensures that the system is working as expected and meets the necessary quality standards[10]. The QA team will conduct performance, security, and usability testing to ensure the system can handle a large number of users and secure sensitive data. User Acceptance Testing (UAT) will also take place, where end-users will interact with the system in real-world scenarios to validate the functionality and usability. Any issues identified during QA will be addressed before moving forward to the next phase.

Once the system has been fully developed and all features have been tested and validated, the final product will be ready for Deployment and Release. The deployment will occur at the end of the last sprint, where the system will be moved to the production environment and made available to users[11]. The development team will ensure a smooth transition and address any issues that arise during the release process. Post-deployment, the team will continue to monitor the system to ensure it functions properly and resolve any issues that arise in the live environment.

After deployment, the Agile process does not end. The team will continue to provide ongoing support and improvements. Post-deployment sprints will be scheduled to implement new features, fix bugs, and refine existing functionalities. This ensures that the billing dashboard remains up-to-date and continues to evolve based on user feedback and changing business needs. The Agile methodology ensures that the system is adaptable and capable of meeting both current and future requirements.