

CHAPTER III

RESEARCH METHODS

3.1. Research Paradigm

In developing a Field Service Management (FSM) application for a new venture project, the paradigms in this research methodology use positivism and interpretivism. Positivism emphasizes objectivity and measurable data. In this framework, developing a field service management. The business model of the FSM Application, combined with technical consulting services, is intriguing because it can create a comprehensive ecosystem for field engineers. This application, with its functional scope, is not just a tool for technicians but also an integrated solution for business owners, partners, and customers who want to monitor and manage projects effectively.

With the FSM application, the company not only strengthens its consulting services but also introduces significant differentiation in the market. This provides a sustainable competitive advantage, especially in maintaining competitive prices against competitors. In this tight competition, the existence of this application not only offers better services but also creates recognized added value for customers. In the context of Blue Ocean's strategy, the focus remains on creating new value untouched by previous markets and the courage to offer innovative approaches to stakeholders (Kim & Mauborgne, 2004).

The addition of value through the utilization of the Field Service Management App will substantially transform the business model for MGSI Company. While continuing its business operations, the company enriches its resources by adding an application that significantly enhances overall performance. From a revenue perspective, this addition brings benefits through application subscriptions as a new source of income to provide added value to customers.

By incorporating the FSM application, MGSI Company is not just adapting to technological advancements but also responding to the increasingly complex needs of the market and customers. This step enables the company not only to sell products or services but also integrated solutions that provide a complete experience for customers. This updated business model reflects innovation in providing added value while simultaneously enhancing the competitiveness of the company in the ever-changing market management application involves identifying quantifiable problems, collecting objective data, and implementing standardized solutions. This approach focuses on efficiency, optimization, and predictable outcomes. Data analysis plays a central role in identifying patterns and optimizing workflow. The goal is to create a universally applicable solution that can be replicated across different contexts (Ryan, 2018).

Interpretivism, on the other hand, emphasizes subjective experience and interpretation. This approach acknowledges the complexity and dynamism of the field service environment, where individual experiences and social interactions significantly impact workflow and outcomes. Interpretive research focuses on understanding the perspectives and interpretations of various stakeholders, including technicians, managers, and customers. This approach aims to develop flexible and adaptable solutions that can address the specific needs of different users and contexts. Qualitative data collection methods, such as interviews and observations, are essential for gaining insights into the lived experiences of stakeholders (Ryan, 2018).

3.2. Research Object

The business model of the Field Service Management App, combined with technical consulting services, is intriguing because it can create a comprehensive ecosystem for field engineers. This application, with its functional scope, is not just a tool for technicians but also an integrated solution for business owners, partners, and customers who want to monitor and manage projects effectively.

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3.3. Experimental Method 1

In the first experimental method, the hypothesis to be tested is the belief that Task Card can help team leaders in carrying out tasks systematically and enhance workflow. The experimental method is creating a Minimum Viable Product (MVP) and testing it directly in the field. Next, the user will be interviewed about the experience using the application. With this approach, we aim to gather relevant and direct data from potential users and validate how well the FSM app meets the needs and expectations in a field environment. By adopting a user-centered design

approach, we can ensure that the development of the application aligns with the needs and preferences of the target users (Banimahendra & Santoso, 2018).

3.3.1. Business Hypothesis to be tested

We believe that this FSM App can help team leaders and technicians in carrying out tasks systematically and enhance workflow.

3.3.2. Key Success factor

1. Team leaders and other users need to find the FSM app easy to use and integrate into their daily workflows.
2. The FSM app should effectively automate and simplify tasks, improving efficiency and reducing manual workload.
3. The FSM app must have robust communication features that facilitate clear and timely communication among team members and stakeholders.
4. Providing adequate training and ongoing support is crucial for user adoption.

3.3.3. Experimental Method

The initial step in testing the hypothesis is to conduct direct interviews with customers, as indicated in Figure 3.3. The target to be interviewed is individuals with a minimum of 2 years of work experience, have led more than 2 projects, and participated in more than 5 projects. The initial interviews will be conducted with at least 10 team leaders and 5 technicians. The hypothesis is validated if at least 80% of the interviewed team leaders express interest in the FSM app idea. The test card is shown in Figure 3.1.

Test Card

Interview Team Leaders & Technicians	<i>Deadline</i>
Ines	4 Months

STEP 1: HYPOTHESIS

We believe that

TaskCard can help team leaders and technicians in carrying out tasks systematically and enhance workflow

Critical:

STEP 2: TEST

To verify that, we will

Create MVP and interview team leaders, and technician after using TaskCard

Test Cost: Data Reliability:

STEP 3: METRIC

And measure

Interest level and task completion rate

Time Required:

STEP 4: CRITERIA

We are right if

At least 80% of interviewees express an interest in TaskCard

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Figure 3. 1 Interview Team Leader Test Card

3.4. Experimental Method 2

A good workshop partner technician standard prioritizes ease of use and precision in our application, ensuring that technicians find it convenient and the measurements accurate. This approach aims to prevent any disappointment among technicians regarding the application's functionality and contribute to their project successes. This concern is closely tied to the precision required in crafting tools and equipment for technicians, emphasizing the need for specialized measurements in the development of the application.

3.4.1. Business Hypothesis to be tested

We believe that our workshop partner technicians want to use our application

3.4.2. Key Success factor

1. If your application significantly fulfills a need or solves a problem for the workshop partner technicians, they are more likely to use it.
2. The application should be user-friendly, intuitive, and efficient to use.
3. Understand how using your application will benefit them in terms of efficiency, productivity, cost savings, or any other relevant metrics.
4. Providing adequate training and ongoing support for the technicians is essential. They need to feel confident in using the application and know where to seek help if needed.
5. Consider offering incentives or rewards to encourage initial adoption and continued usage of the application.

3.4.3. Experimental Method

The first step in testing the hypothesis is to conduct direct interviews with customers, as outlined in the test card. The target for interviews is 5 workshop partners; if a minimum of 80% express willingness to use the FSM app application, the hypothesis is considered successful. The testcard is shown in Figure 3.2.

Test Card

Interview Business Owner	Deadline
Ines	4 Months

STEP 1: HYPOTHESIS

We believe that

Our workshop partner technicians want to use TaskCard

Critical:

STEP 2: TEST

To verify that, we will

Conduct an interview to gather information on the required features

Test Cost: Data Reliability:

STEP 3: METRIC

And measure

Pains and gains that are not being met with existing solutions

Time Required:

STEP 4: CRITERIA

We are right if

At least 80% of potential workshop partners express interest

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Figure 3. 2 . Interview Workshop Partner Test Card

3.5. Experimental Method 3

This hypothesis underscores our confidence in the application's value proposition and its potential to resonate with companies seeking advanced solutions for their operational and managerial needs. To meet the specific needs of businesses and industries, it will not only cater to the demands of our target audience but also establish a sustainable source of income.

3.5.1. Business Hypothesis to be tested

We believe that we will generate revenue from selling the application to partner companies and industrial customers

3.5.2. Key Success Factor

1. The clarity and comprehensiveness of the proposal presentation during the interviews are essential factors influencing participants' understanding of the application's features and benefits, thereby facilitating accurate assessment of interest and perceived value.
2. Designing an interview script with well-crafted questions that elicit detailed responses regarding interest, perceived value, and willingness to adopt the application
3. Embracing an iterative approach to refining the experimental method based on initial findings and feedback.

3.5.3. Experimental Method

In order to empirically validate the market potential of the proposed application, a structured experimental method was devised. The target sample for this study comprised small to medium-sized business owners within industries identified as potential users of the application. A sample size of 5 business owners was considered appropriate for this preliminary investigation, given the focus on obtaining in-depth qualitative insights. The experimental protocol involved conducting one-on-one interviews with the selected participants, during which they were presented with a detailed proposal outlining the features and benefits of the application. If at least 80% express willingness to Task Card application, the hypothesis is considered successful. The test card about willingness to buy is shown in Figure 3.3.

Test Card
Strategyzer

Interview Business Owner	Deadline
Ines	4 Months

STEP 1: HYPOTHESIS

We believe that

we will generate revenue from selling the application to partner companies and industrial customers

Critical:
▲ ▲ ▲

STEP 2: TEST

To verify that, we will

Interview customer that willing to pay

Test Cost: [Progress Bar] Data Reliability: [Thumbs Up]

STEP 3: METRIC

And measure

Interest level of business owner

Time Required:
🕒 🕒 🕒

STEP 4: CRITERIA

We are right if

At least 80% of potential customer expressed interest in the proposal

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Figure 3.3 Willingnes to pay Test Card