

CHAPTER I

INTRODUCTION

1.1. Company Profile

1.1.1. Brief History of the Company

PT. Motor Generator Spesialis Indonesia (MGSI) is a leading consultancy and electrical service company specializing in the motor generator field service across various industries in Indonesia. Committed to providing high-quality services, MGSI invests in online training and development for its team, staying utilize of the latest technology and industry standards.

Partnering with industries, vendor workshop services, and manufacturers, MGSI offers services, including motor and generator maintenance, repair, and installation. The expert team, equipped with the necessary tools and knowledge, is committed to deliver service fast, efficient, and cost-effective solutions. Understanding the unique needs of each client, MGSI prioritizes customer satisfaction, aiming to be their preferred choice.

MGSI handle many projects in the power plant, mining and mineral sector, oil and gas sector. All these electric motors vary in size from 0.1 MW (100 kW) to 20 MW, operating at voltages up to 13,800 volts. Conversely, motors for small industries typically range from 0.18 to 100 kW, with voltages limited to 220/380 volts. As for generators, they serve the purpose of generating electricity driven by steam/gas turbines, diesel engines, wind, water, etc. MGSI typically dealt with projects range from 3 MVA to 150 MVA, with voltages reaching up to 20,000 volts.

Committed to quality, safety, and environmental responsibility, MGSI follows to industry regulations, standards and best practices. All work required to complies with safety regulations, and steps are taken to minimize environmental impact.

Established in 2018, MGSI focused on building a reputation as a reliable, high-quality field service in rotating machines and electrical motors. The company successfully collaborated with industry specialists, attracting clients and completing major projects in power plants and maintenance facilities across Indonesia. Growing in subsequent years, MGSI expanded collaborations internationally, even among the challenges of the COVID-19 pandemic in 2020.

Continuing its commitment to excellence, MGSI are not only provide the machines and electrical motors, but include the activities of post sales, e.g. maintenance and repair. MGSI formed strategic alliances with workshop partners, optimizing project completion by delegating tasks to technicians from partner workshops. This collaborative approach benefits all parties involved, following mutually agreed-upon agreements. MGSI remains dedicated to delivering professional services and strengthening strategic partnerships in the motor generator industry.

1.1.2. Company Vision and Mission

MGSI has vision to be preferred industrial partners in their rotating machines services by prioritizing and ensuring our customers satisfaction. To achieve vision at MGSI, so the company lined up four key mission points: Close to customers, professional, comprehensive and price competitive.

For our first mission is close to customers which to ensure a better understanding of customer needs for rotating machines service and offer tailored solutions, comprehensive services are provided. Close cooperation with partners near the industrial area and regular visits by sales and engineers are maintained. This cooperation will increase the capabilities of partners and could optimize transportation time and cost.

Second mission is professional where the sales team can understand customer problems and provide prompt solutions. They process the inquiry to order. After receiving the purchase order, certified engineers work according to

procedures and use special tools & equipment for quick delivery of high-quality work. Skilled engineers supervise work at the site by partners and guarantee work quality.

Next mission is comprehensive, company have to prepare tools/equipment, skills for repairing all types and brands of rotating machines; can be a one-stop solution for solving all rotating machines problems for customers.

Last, the most important mission is price competitive. Because customer always consider about competitive price and professional service. The service repair price is competitive due to cooperation with local workshop vendors to minimize overhead and transportation costs.

1.1.3. Product and product lines

MGSI offers a range of specialized services to meet diverse customer needs. Company conducts detailed machine condition assessments to detect early abnormality symptom. Thorough machine condition assessments are conducted, categorized from L1 to L4, ensuring a comprehensive understanding of equipment health.



Figure 1. 1 Overhaul Generator 30 MVA, 11.5 kV

The team excels in troubleshooting and root cause failure analysis, providing effective solutions to address issues promptly. Whether it is repair, overhaul, or

motor installation and maintenance, MGSI delivers reliable and efficient services. An example motor size shown in Figure 1.1 and 1.2 illustrates the service that MGSI provides. The motor in this discussion is a large electric motor utilized as a main mover in industrial applications. These motors are commonly found in various sectors, such as energy production, manufacturing and heavy machinery.



Figure 1. 2 Motor 6750 kW 11 kV for Mining Industry

1.1.4. Business Process

The business process, in Figure 1.3, begins with an inquiry from the customer. The administrative team records sales data, which includes the customer's company, the problems they are facing, their attempted solutions and reasons for failure, the power requirements of their generator (in megawatts), and the location of the company. After all data about the customer is collected, the administrator provides this information to the specialist. The specialist and project leader then create a proposal for the scope of work and provide an estimated cost. The administrative team turns this into a quotation for the customer. If the customer does not agree with the quotation, they may negotiate until the price meets their expectations, or they may cancel the order. However, if they agree with the quotation, the process continues.

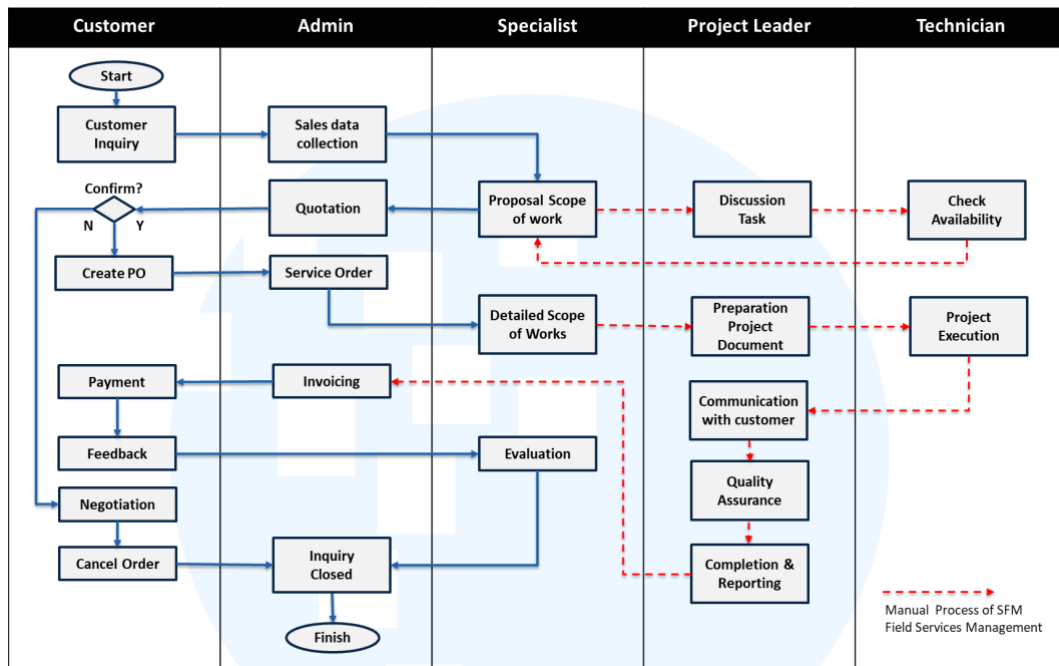


Figure 1. 3 Current Business Process

Next, The customer initiates the process by creating a Purchase Order (PO). The administrative team then informs the specialist about the service order, who in turn creates a detailed scope of work. This information is passed on to the project leader, who prepares the required project documents. The technician then executes the project based on the scope of work and the project leader's instructions, providing updates on the progress and any obstacles encountered during field service. The project leader oversees the quality assurance process, ensuring that all work is completed to a high standard. Upon completion, the project leader reports the outcome and handles the reporting process. The administrative team manages the invoicing, and the customer completes payment and provides feedback, which is used for the specialist's evaluation.

1.1.5. Business Model

Currently, PT. MGSI focuses on the motor generator industry by providing services such as scheduled maintenance, emergency repairs, inspection and diagnostics. The company values professionalism in motor and generator services, fast responsiveness, knowledge sharing, and comprehensive solutions. Additionally, the company offers competitive pricing and cooperation with customer engineers. PT. MGSI also provides on-demand services, collaborates with service workshops, and has sales engineers for direct communication with customers.

Furthermore, PT. MGSI is actively involved in educating about motors and generators through various online knowledge platforms. The main customers of PT. MGSI are mechanical workshops and power plants requiring the company's specialization. In maintaining good cooperation with customers and partners, MGSI always provides personal assistance and responsive customer support. Over time, PT. MGSI has successfully attracted clients not only from the power generation sector but also from the mining industry. To provide the best service, the company has invested in various necessary equipment. However, currently, MGSI does not have its workshop, so the company has formed partnerships with several workshops in the Bandung, Surabaya, Balikpapan, and Makassar areas. This allows PT. MGSI to rely on support from these workshop partners when assistance is needed for a project.

The current business model of MGSI is shown in Figure 1.4. To optimize costs, MGSI adopts a strategy of sending only skilled engineers and specialists to customers, thereby reducing costs related to local customers/providers. Additionally, the addition of online specialists helps share costs, distribute project loads, and reduce office overhead costs by allocating funds for specific projects. The company's revenue comes from various sources, including field service and equipment rentals. In an effort to increase revenue, the company continues to innovate and add new services, as well as build strong relationships with customers and potential clients.

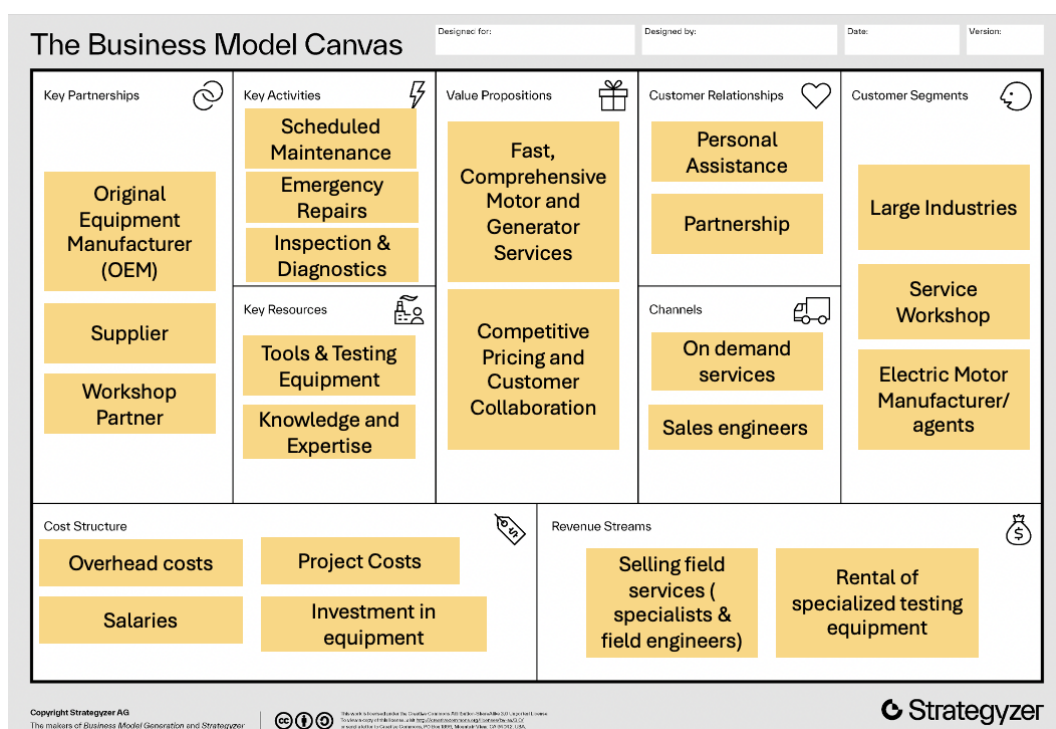


Figure 1. 4 Current Business Model Canvas

1.2. Formulation of the Problem

The management and implementation of projects in motor and generator maintenance companies often face delays due to the complexities of overseeing technicians from workshop partners or customer technicians/helpers. This issue is not isolated to one company; many organizations encounter similar collaboration challenges. Among these challenges, the difficulty in monitoring job status and promptly identifying issues for superiors is a major factor causing delays.

Despite various efforts, such as creating project-based groups using WhatsApp, scheduling in Excel, and using Gantt charts in Trello, coordination and the preparation of daily reports remain significant challenges. Also, existing software does not have app specifically for maintenance companies. Identifying field-related issues during the preparation of final reports also poses considerable difficulties. Some of the problems in new venture projects:

There is a customer demand need for real-time access to daily activity reports, yet there is currently no application available to generate the data directly from project management software to a report document. The current business model is capable of providing daily activity reports, however not in real-time.

There is a company demand to efficiency in the scheduling and dispatching processes. Although the existing centralized system allows the dispatcher to assign tasks to field service technicians (Figure 1.5) based on factors like availability, proximity, and skillset, there are still issues with delays, missed appointments, and inefficient resource allocation.



Figure 1. 5 Field Service Technicians

There is customer demand that often faces challenges in resource allocation for field service. The struggle to optimize resources may lead to underutilization or overburdening of technicians. The absence of accurate data on technician availability, skill levels, and workload makes it difficult to allocate resources effectively and efficiently.

There is a company that face a challenge in the lack of a comprehensive field service management system, making it difficult to collect and analyze data related

to service performance, technician productivity, and customer feedback. This limitation hampers their ability to identify areas for improvement and make data-driven decisions.

1.3. Research Objective

The goal of new business venture project is to design and test a business model.

1. Develop and test a business model platform to manage core company technicians and technicians from other companies, ensuring a unified goal in completing tasks.
2. Evaluate a digital application that enables field technicians to receive job notifications directly after the company receives customer orders. This application provides easy access to job details, including location, description, and task priorities.
3. Measure Field Technician Performance: Utilize Key Performance Indicators (KPIs) to measure the performance of field technicians, allowing for monitoring, improving individual performance and fair bonus system.

In the new business project, research questions are related to aspects that will be tested in the new business model. The developed platform is named "Task Card" The research questions include:

1. Can implementing the Task Card application, involving collaboration with partner workshops, optimize cost and time efficiency in providing repair and maintenance services for rotating machines?
2. How can using a Task Card enhance visibility and efficiency in managing field technicians and delivering quality services to customers?

1.4. Benefits of Research (New Business Projects)

In this section discussed the benefits or contributions that can be provided from testing the new business model:

1.4.1. Managerial Implications

1. **Enhancing Business:** The creation of a management application and a new revenue stream is poised to boost business growth.
2. **Operational Performance Improvement:** The application is expected to assist the company in enhancing operational performance and service efficiency.
3. **Strategic Development:** The research outcomes will likely aid managers in developing superior strategies to achieve corporate goals and refining business processes.

1.4.2. Academic and Knowledge Contributions

1. **New Knowledge Contribution:** The research is anticipated to contribute new insights into after-market management, adding to the existing body of knowledge.
2. **Methodological Development:** The research is anticipated to refine existing research methodologies, offering innovative perspectives and more efficient techniques.

1.4.3. Personal Development

Skill Development: Engaging in this research is an opportunity for personal development, fostering the growth of research, analytical, and problem-solving skills

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