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Business Plan: Motorcycle Workshop for Tuning and Performances

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Abstract: This business plan is to provide the guidelines for Mr. Rizal (owner) in term of business administration, financial projection and sales and marketing activities for the business venturing in motorcycle workshop specialize for engine tuning and performance. Common motorcycle workshops focus on repair and service job only; however, these services not really give full satisfaction for the customer in term of motor speed, engine health and achieving optimum performances of their motorcycle. The growth of motorcycle sales unit in Malaysia gives significant demand on aftermarket application services such as maintenance, repairing, dynojet and engine tuning for motorcycle. The business emphasis to be service provider on rapidly growing demand for speed and performance. The company will have 3 key business segment which help to serve the needs and distinguished itself from the competition which are: dynometer test and ECU tuning, motorcycle repairing and maintenance service, spare parts and accessories selling with installation. Digital lifestyle nowadays set a mould of social media as the powerful marketing tools. The 9 block elements of Business Model canvas (BMC) will help the company to clearly define and communicate the overall business concept. With the start-up capital of RM 78,650.00 from the owner pensioner fund, the company wants to successfully venture in business in the aftermarket application industry.

Keywords: Engine Performance, Dynometer Test, Automotive, Tuning

1. Introduction

Motorcycle service and engine tune up is a series of maintenance procedures carried out at the set of time interval and certain distance. The dyno jet and ECU tuning procedures help to diagnose the engine condition while at same time doing the modification and upgrading of an engine to perform better than the original specification. This service is part of the necessary automotive aftermarket application, not only to achieve maximum top speed and performance, but the precaution to take care the engine health from start.

1.1 Purpose of Business

To provide business framework for Mr Rizal in venturing business start-up in motorcycle workshop specializing for engine tuning and dynojet test.

1.2 Introduction to Market Opportunity

Department of Statistic Malaysia has made a survey to estimate the magnitude and sales changes of automotive sub-sector or aftermarket application services such as repair and service for motorcycle with the sales of the motorcycle, it turns out this sub-sector have positive correlation coefficient of 0.97 (BH Online, 2020). A motorcycle is a small but complex machine-like other motor vehicles. It can't serve continuously without proper service and maintenance. The motorcycle workshop backing up the industry of motorcycle sales as automotive aftermarket application services. In Malaysia, after service sales by motorcycle brands center offer solution for manufacturing defects, general and scheduled maintenance but do not have the service for tuning and dynojet test. Thus, many workshops try to provide this service as their competitive advantage to survive in motorcycle workshop sector.

1.3 The Organization, Types and Legal Structure

The company name of RZ Motor Engine and Performances Sdn Bhd as it introduces the main business activities. The Sdn Bhd abbreviation is put on the business registration because it is compulsory by Companies Commission of Malaysia (Suruhanjaya Syarikat Malaysia, 2002). The choice of private limited company as its business type because it gives more prestige and assurance as it has limited liability for the safeguard of shareholder wealth which only liable up to invested amount.

(a) Vision and Mission of Company

RZ Motor Engine and Performances Sdn Bhd strive to be leading in engine tuning and performances workshop in Johor. The company's mission is to offer the high value preposition of all the services and spare part use through positive consultation and honesty, to create most efficient and conducive workplace for the team and to be one stop center for motorcycle's owner to do check the motorcycle performances, condition, and repair the damage.

(b) Objectives of Business

To provide more options and choices of service offer in motorcycle workshop other than repair work. Maintenance and engine diagnose are necessary to identify the actual problems of the motorcycle to avoid unnecessary modification and change of parts. The thorough diagnose from dyno test or ECU aftermarket tuning will help customer to get to know the actual engine conditions which are not physically detectable before proceeding to upgrade specification and modification job for their motorcycle. It also helps the customer to have preventive maintenance schedules and minimize indirect cost for future failure.

1.4 Business Activities

The business plan will help the owner in business decisions and setting up the company framework for operation, sales and marketing and also financial management. The company will provide the service for motorcycle tuning, modification, engine diagnosis and repair while at the same time selling spare parts and accessories for motorcycles.

(a) Product and Services

Different from traditional and common workshops, the company will focus on motorcycle dyno test and re-calibrating engine performance (tuning) as the main business activity. In the beginning of the business, the owner wanted to focus on motorcycle mopped type between 115cc to 250cc only. The future plan is to provide a range of motorcycles with higher than 250cc. The spare parts installation and consultation are concurrent activities as customers can do their upgrading specification, modification job before dyno services. The installation of spare parts and repairing of motorcycles will be minor business activities.

(b) Marketing

The main marketing activities are social media and content marketing. Sharing knowledge on the engine and performances would be good content for brand messaging while at the same time spreading the knowledge about the engine remapping and diagnose. Since the customer segment comes from the motor club, the collaboration with motor club will excellently marketing and industry trends learning. The motor club members usually do modifications and install the same accessories as the other members. Good rapport and testimony from customers also create a good marketing strategy as they will help us to gain more customers by informing others about the services and by providing good review and comment. Lastly, the program for referral and membership for loyal customers. The warranty period will be given to customers for their purchase and service to build trustworthiness and satisfaction for customer experience.

1.5 Justification

In automotive fields, it is classified into 2 application which are Automotive OEM (manufacturing of vehicle, spare parts, and accessories) and Automotive Aftermarket (ECU unit, after sales services, selling of the spare parts and accessories, dynojet test services). For the customer who has more value proposition perspective, they will try to minimize the number of times vehicle is service by having the overall engine diagnose test. The preventive maintenance schedule by dyno and tuning test is not only cost effective but also provide engine health care and future engine failure will be avoided. Thus, these services provide both value and cost proposition. With the increasing demand for the service and the skills and passion of the owner on modification and tuning, hopefully this business will be successful and flourish.

2. Market and Industry Analysis

2.1 Industry Overview

The reflash tuning service is now common, however the workshop that provides ECU tuning aftermarket and dyno test is very few. Based on observation and location overview made, there are 27 registered motorcycle workshops, 7 spare part and accessories shop and 3 workshop provided service for dyno, while in Tongkang Pechah area, only have 7 workshops but no dyno test service provided.

(a) Two-Wheeler Industry (Automotive OEM)

Malaysia's two-wheeler market was valued USD 0.81 billion in 2019 and is forecast to grow Compound Annual Growth Rate (CAGR) of 8.96% until 2025 (Research and Market, 2021). The number of motorcycle sales in Johor from 1996 until September 2018 is 1,919,590.000 units and Johor Bahru and Batu Pahat recorded the highest sales in the state (Malaysian Automotive Association, 2018).

(b) ECU Tuning and Dynojet Test (Automotive Aftermarket)

Dynometer plays the key role in research and development facilities across automotive manufacturing activity for attempts to make efficient engines, noise control and emission of exhaust gases. This industry is now growing in Malaysia's automotive aftermarket application and become more popular among the motorcycle rider because vehicle owner is more aware about the perks of engine remapping and dyno services (Market Watch News Department, 2021). Such tendencies are driving the performance dyno and remapping tuning services market demand. The soaring popularity of ECU tuning among automotive enthusiasts encourages the workshop to collaborate with regulated ECU tuning and dynojet machine dealer (Future Market Insight, 2021).

This collaboration will elevate the market sales in a long time especially in Batu Pahat area where the ownership of motorcycle is high while the service provider for tuning and dyno jest test is limited.

2.2 Market Analysis

To analyze the market for the service, we conducted internal and external analysis. For the internal, we will look into the strengths and weaknesses of the company while for the external we are going to look into the opportunities and threats for the business.

(a) SWOT Analysis

Table 1: SWOT analysis

Strength Weaknesses Various services are offered (repair, modification, Less experience tuning engine performance, installation of spare Resources is limited parts and accessories). (machine) The company's uniqueness compared to other Laws and regulation limit common motorcycle shops is dyno test and ECU tuning services itself. Wide range of ECU brands offers. Systematic operation Strategic Location **Opportunities Threat** Less competitor in business area Risk for start-up cause by trends changes Rapidly advance technology (endorsement for motorcycle for show and track to be on the road) Customer preferences: cost or value proposition

(b) PEST Analysis

Table 2: PEST analysis

Political Aspects	Economic Aspects		
Encouragement in aspect of financial aidAutomotive and business management courses	 Economic post Pandemic Growing industry for		
 Safety regulations and business license by the government company need abide. 	interchangeable part for fails unit of motorcycle.		
Social Aspects	• Growing disposable income Technology		
Escape traffic congestionPopularity of tuning and dyno services among motorcycle owner	 Improved safety and engine performance features Rapid technology advances for software (ECU and Dyno) 		

2.3 Competitor Analysis

(a) Products Competitor Analysis

For this business type, there are more direct competitors rather than indirect competitors because we provide more for a service type business. Offering the same product and services, the direct competitors also have similar prices, marketing strategy and functionality.

(b) Industry Main Player: Direct and Indirect

For direct competitor, there are 2 main companies which are Sim Motor and 5ive Garage while for indirect competitors, we can see many online shopping platforms sell the spare parts and accessories for the motorcycle, with the price range are cheaper than the store-bought items. But the customer still needs to do the installation of the accessories. The company can grab the opportunities by providing the service for installation service only. The direct competitor as per below table:

Table 3: Competitors

	Sim Motor Power		5ive garage
•	Motorcycle repair center and provide	•	Provide dyno and tuning services.
٠	motorcycle parts and accessories. Strong business connection and popular	•	Limited machine and technician for tuning and dyno test
•	Actively promoted products and service in social media	•	Prestigious reputation (one of the best workshops in Batu Pahat)
		•	Services for upgrades and modifications.

2.4 Target Market

(a) Population

The main target market for the business are people around Batu Pahat, Kluang and Ayer Hitam. The young man in the age ranges from 18 to 45 years old are targeted to become the potential customer for the business especially the motorcycle moped type under 250cc specification. The business targeted the motor group members because these people have knowledge about dyno jet test and ECU tuning. They also have more tendency and interest to get the service and do modification for spare parts and accessories to fulfil their interest and passion.

2.5 Market Penetration

(a) Product and Services

The change of ECU from factory to aftermarket helps to maintain and engine care from the start. The motorcycle from the factory is usually safe but does not really satisfy the needs and demands of the customer. It has become trends and advantages for the workshop which has these services as it is crucial to get an actual diagnosis of their overall engine performance. Sales are generated by the recommended repairs and other services. Increasing repair recommendation capture rate results in a positive increase in sales volume. The foreman can communicate with customer the benefits of the service by present the visual representation of the engine problem by dyno test and tuning and also the ramifications of not performing the services. The competitive advantage of the company compared to competitor is the special service for engine diagnoses and specific modification method through tuning and dyno jet test. The strategy is to promote the service and the benefit of it.

(b) Price

There are many factors involves in setting the price such as what the market will to bear, cost providing services must be controlled, the high price will affect demand and sales volume, also perceiving the value proposition to influence purchasing decision.

Thus, from all factors taken into consideration, for the price range, for dyno jet test started from RM300.00. Usually, the basic dyno and tuning works including some modification will cost about RM 1500.00. For the spare part and accessories, it will be standard as per in market price, the company will focus on labor work to get profit. It was the average price rate and cheap compared to big city area.

(c) People

The motorcycle owner especially the young generation loves to do modification and upgrading their motorcycle. Collaboration with motorcycle sellers and motor club will support research activities on the latest trends in accessories and technology for motorcycles. With the friendly approach to these 2 targets, the company can learn about the color preferences, the services needed for motorcycle owners and also the mainstream brands for ECU units and accessories. Other than that, the company will focus on educate the early adopters or female motorcycle owner because they are potential customer that has been left out from the motorcycle workshop target market.

(d) Promotion and Quality Assurance

Special price and design packages for the services and products sold will be given. A good rapport and membership program are important for the business to retain and gain customers. Social media would be the best platform for the company brand messaging and spreading information about the importance of dyno test and tuning for their motorcycle.

2.6 Industry Life Cycle

For introduction stages, the main focus is only for establishing a customer base and market presence at the same time conserving the cash flows records. In the growth phases, there is an increase in customers and demand for services. It is important to elevate customer service, preserve good relationships with the customer and at the same time increase the performance of all departments. Next, the company is well known and has become the main player in the industry. Besides, in expansion phases, the company is ready to expand the premises space, the product and services or even open a new branch. Lastly is the decline stage. Instability of the market and economy affect the business operation so in this stage, companies are prepared for market exit.

2.7 Literature Review

(a) Dyno Test

Dyno test is done to identify how engine supply power using the graph chart reading(Zainuri, 2019). Usually with the data from the dyno test, the technician or foreman are able to understand the real engine performance of the vehicle like running the engine on the road (Plint, 2007). This test is also one of the preventive maintenance measures and needs to be revised frequently to eliminate the failures and damages for engine vehicles in the future. The picture below shows the picture of dynotest room.

(b) Electric Control Unit (ECU)

The Electric Control Unit (ECU) tuning involves the modification setting of limits, the mapping of unit air to fuel ratio, the sensor reading, problem coding and other engine setting with regard to type and vehicle model(C. Hardie, 2002). The function of this tuning job is to remove RPM restriction from the factory ECU and extend the power of RPM limit. This job can help to improve the strategy of gear shift and increase potential of top speed for motorcycle performances (Scotson, 1990).

2.8 Market Research

(a) Population Sample and Market Research Tool

The target respondent is Malaysian with the age above 18 years old. The survey was distributed randomly to people around Batu Pahat, Ayer Hitam and Kluang. The main reasons for the survey are to get an early idea of people about tuning and dynojet test for the motorcycle engine. The survey both using the printed survey form and also the only Google Form application for better approach.

(b) Result

Based on the data collected, 180 respondents answered all the questions in the survey form. The result shows that more than 92.2% of the respondent's own motorcycle and 93% of them send their motorcycle to nearby workshop to do the repair. 82% of the respondents had heard about the engine tuning and were interested in the service. Most respondents also welcome other services such as selling and installation of accessories, modification and upgrading specification.

2.9 Proposal of New Services

The company will strive to provide more business service and explore more fields such as engineering for skimming, plotting the engine block services as it is served as value added asset for the company. With this new service for engineering, the company would be able to help small workshops to handle the engineering job. Other than that, the company will provide the service for endorsement of vehicle to be on the road usage especially for modified vehicle in the roadshow or event.

2.10 Overall Marketing Strategy

Table 4: Marketing strategy

Content Marketing	Local reviews and Referral		
- Videos, infographic, and social media	-Testimonial, referral of friends		
Reward Programs	Future Marketing Strategy		
-Membership, Purchase with purchase, discount	- Company website		
-	- Collaboration with motorcycle icon for motor club		
	through modification (motor show, convoy, cub		
	prix)		

3. Business Operation

3.1 Business Location

RZ Motor Engine and Performances workshop is located at 32, Taman Perindustrian Teknologi 83000, Tongkang Pechah, Batu Pahat.

3.2 Premises Layout

Premises layout plays an important role in planning the operation process. It decided how equipment, machinery and the worker are arranged to ensure the operation process is working smoothly and efficiently. The premises were divided into several spaces which are the working area, dyno meter test room, storage room, small office, cashier, and display area and waiting area for customers.

3.3 Services and Operation

The service and operation of the company start with service reception where the customer comes and book for appointment. Upon assessment of the motorcycle, the technician will check and consult the customer on the repair and modification suggestion. After the customer agrees with the price and the modification work, the repair order will begin. The important step before the dyno test is to check whether all the requirements have been fulfilled. The foreman must ensure that the engine oil, fuel and radiator are in optimum level to run the test from standard to high-speed specification. After all is done, the quality check will be required before the vehicle returns back to the customer. The flow process of operation as below:



Figure 1: Process of operation

4. Business Model Canvas (BMC)

The business model is the company's core business strategy, and it represents how business generates revenue, to provide better insight that led cash generation and future expansion. For RZ, it gives rationale on how company delivers and captures values.

4.1 Customer Segments

Customer segments are an important marketing method which helps us to better understand customer needs. We targeted motorcycle owners with mopped type motorcycles under 250cc as our main customer segment. Besides, we will put focus on the motorcycle club and communities as they have highest potential to do modification and tuning. We realize that some motorcycle owners have less knowledge about engine and spare part, thus, we provide convenience services for female customer as long as early adopter and needy customer in emergency situation.

4.2 Value Propositions

RZ Motor distinguishes itself from other competitors through certain values such as various services offered in one place. The service for dyno test and ECU tuning already highlighted the dedication of the owner for engine and performances of motorcycle for their customer. We offer relatively high-quality service at reasonable prices with honest consultation from experienced and certified technicians. To ensure the quality and safety of the service provided, we select the best quality product for the customer to choose from. The use of top brands of spare parts and accessories like UMA Racing, FKR, Aji Racing and NGK is already popular among motorcycle enthusiasts. Customer can do booking and have query about their engine health on first time call while at the same time use mobile, pick up and home services if they have limited time to go to workshop by themselves or in emergency situation when the motorcycle shut off/faulty while riding on the road.

4.3 Channels

Channels are medium for RZ to communicate and engage with customer. Brick and mortar stores are important for motorcycle workshops. Other than that, the most common platform nowadays is online. Social media such as Facebook and e-commerce sites not only gives convenience for the customer to gain information, do booking, search for promotion and latest updates on the technology about automotive and performances, but most importantly serve as a medium to engage with customer services more effectively.

4.4 Customer Relationship

Customer satisfaction cannot be separated from business function as continuous understanding of customer needs and requirements could be an advantage for the company. Customer retention effort will be prioritized as RZ will serve customers with high quality services and support personalization preference. With friendly and attentive approach in customer handling, customer will be comfortable to discuss with our certified and experienced foreman about their needs and budget wise. Customer relation effort will not stop immediately after the customer walks away from the workshop, but aftersales service and follow-up would be a great effort for the company. Other than direct communication with the customer, RZ will serve the customer by latest updates about the company by social media and keep educating the motorcycle owner about the engine health care and performances through contents in Youtube. This effort will help to create awareness about the importance of engine diagnosis and performance of the motorcycle.

4.5 Revenue Stream

Revenue stream represents the way companies generate cash. RZ makes money from the auto parts margin, test and motorcycle review, modification, and tuning job as well as labor charges from installation work.

4.6 Key Resources

The management and utilization of resources is important for the company and the key resources for RZ is the technical and management staff. Company to earn money is by performing vehicle repairs, spare part changing, modification, dyno test and tuning thus, concentrating on labour efficiencies and process to support the workshop activities is very crucial. Besides the manpower, optimization of the shop area, spare parts and dyno machine are crucial to realize the maximum return on investment. Keeping updated in advance automotive technology would be an advantage and great source of business survival strategy.

4.7 Key Activities

RZ will carry out services and product sales as the key activities. The operation activities such as tuning, dynometer test, modification and repair will be back by other activities like marketing effort for customer attainment and retention as well as inventory management system.

4.8 Key Partners

In every business, companies need to have key partners as a helping hand and have a significant role for the company's success. For RZ, the automotive company can provide input and reference information about current market trends and engine operation system. Apart from that, the supplier of the spare parts, tools and machines helps the company with the inventory supply chain. IT companies and engineering control services are also important key partners for RZ as they provide support for the engine software and engine modification job.

4.9 Cost Structure

Low-cost structure is favorable for the motorcycle shop to operate and stay competitive. The company will spend more on fixed cost (salary, renting, and utilities) and cost of inventory and variable cost of tax, license, and marketing job.

5. Financial Projection

Financial projection helps to validate the proposed business model, especially for the new business venture. The good financial projection document serves clear picture of serviceable market and pricing strategies setting.

5.1 Startup Cost

For motorcycle workshop, the main cost would be including the deposit cost of renting, business registration, acquisition of business license and permit, acquisition of machine, tools and equipment and product cost (accessories and spare parts) which cost around RM78, 650.00.

5.2 Source of Funding

The source of business start-up fund is from the owner pension fund.

5.3 Depreciation of Asset

Depreciation is an accounting method used to allocate the cost of tangible and physical assets to its life. In short, it represents how much of an asset's value has been used and the immediate method to calculate the cost of ownership that has been reduced. For RZ, the machine is categorized under recovery period of 5 years.

Year Cost % Depreciation 1 23000 20 4600 2 32 23000 7360 3 19 23000 4370 4 23000 12 2760 5 23000 12 2760 5 6 23000 1150

Table 5: 5 Years recovery period

5.4 Sales Forecast

Sales forecasting is the method and process of estimating the number of sales for the business over the future period of time. Since we are new to the industry, it is quite hard to get the substantial amount of historical data from the previous sales record, thus, the company will do sales forecast based on the market research and competitive intelligence as the base of our sales forecast. RZ consider its sales from services and products and the total sales after 5 years are projected to be RM 4, 715,411.00 with the accumulated profit at RM 704, 248.80.

5.5 Cash Flow Projection

The cash flow projection explains the income and the expenses of the company over the period of time. The financial projection for the company starts with the business capital of RM 78, 650.00 in January and able to generate the cash more RM 223, 482.00 at the end of December on the first year of business operation. There is an ascending trend from month-to-month and positive cash flow shows the sustainability of the business.

5.6 Feasibility Study

(a) Income Statement Projection

The income statement is one of the important financial statements used for reporting the company's performance over a specific counting period. The income statement helps the company to decide whether to increase the revenues, decrease the operating cost in order to generate profit. With the tax set at 15% the net profit after tax as per table:

1 2 4 5 3 Sales (RM) 612932 765571 979773 1063145 1299930 COGS (RM) 259858 316553 399013 431440 518199 Gross Profit (RM) 353074 449018 580760 631705 781731 Profit Margin % 57.6 58.6 59.2 59.4 60.1 **Total Expense** 436070 437660 447710 **299560** 346760 **Profit Before Tax** 53514 102258 144690 194045 334021 **Profit After Tax** 45486.9 86919.3 122986.5 164938.25 283917.85

Table 6: 5 Years projection income statement

5.7 Balance Sheet

The balance sheet of the company offers a quick view of the business's financial standing. Held the same importance as the income statement, the balance sheet allows the business owner to track the spending and earnings in systematical ways.

5.8 Net Present Value (NPV) and Internal Rate of Return (IRR)

Net present value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. NPV is used as a method to know the feasibility of the business. The initial investment is RM 78, 650 and the discount rate of 5%. As for RZ Motor Engine and Performances, the Net Present Value has a positive value of 1,338884.46 which determines the business is feasible. Besides, the Internal Rate of Return (IRR) is the discounted rate that makes the Net Present Value (NPV) zero and set at 147. With the positive both of NPV and IRR, the business will generate positive cash flow and gain profit. The below table summarize the calculation for NPV and IRR for RZ company:

Year Cash flow (RM) 0 -78650 1 0 2 223482 3 333100 4 481120 5 678046 **NPV** 133888446 147% **IRR**

Table 7: 5 Years NPV and IRR calculation

5.9 Profitability Analysis

Table 8: 5 Years projection profitability

Year	1	2	3	4	5
Total Sales (RM)	612932	765571	979773	1063145	1293990
Total Cost (RM)	259858	316553	399013	431440	518199
Total Profit (RM)	353074	449018	580441.5	631705	775635

5.10 Payback Period

The payback period calculates the number of years after the investment amount of the investment project is recovered on a project net cash inflow. Shorter means more attractive investment and longer are more desirable. With the initial outlays of RM 78,650.00, and it calculate with the cash flow after tax, the owner would be able to gain back the investment in 1.25 years only. It is considering a short term of payback period. It shows that the business has potential to generate income and profit with a positive pattern of cash flow.

6. Conclusion

Feasibility study for the business explore on the aspects of business capital and how the company uses the capital to generate the income, profit, and cash flow. Proper planning in the business, in terms of marketing, operation and administration is important and it will reflect on the financial statement of the company.

The NPV and IRR of the business show the positive number which indicate that the project earnings generated from the first capital exceeded the anticipated cost. The IRR also shows the positive percentage and the company able to gain business every year by having positive cash flow and sign the more money moving into than out from companies account. The owner expected to gain profit and get paid back from the startup initial investment. Based on the payback period of 1.25 years, it shows that the length of time the company takes to recover from the investment is just over the year and considers short term.

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