



Pre-feasibility Study

MOTORCYCLE AND SCOOTY REPAIR WORKSHOP

July 2022

“The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA’s website and consult financial experts to stay current with market conditions.”

Small and Medium Enterprises Development Authority
Ministry of Industries and Production
Government of Pakistan

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1. DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data / information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on, as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant / technical expert before taking any decision to act upon the information.

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2. EXECUTIVE SUMMARY

An automobile repair shop (also known locally as a garage or a workshop) is an establishment where automobiles are repaired by auto mechanics and technicians. The proposed business provides information about establishing a motorcycle and scooty repair workshop.

A common motorcycle is a 2-wheeled motor vehicle, also known as bike. There are also 3-wheeled motorcycles which are known as trike. Motorcycles are usually driven by a petrol engine. Most of the motorcycles have an engine capacity ranging between 70 cc and 150 cc. The capacity of heavier bikes, however, is higher and may go up to 2000 cc. Motorcycle has a stronger frame than that of a bicycle and also has a higher weight.

Scooty is a lightweight motor vehicle similar to a motorcycle, having a saddle like seat mounted over the engine and a footboard to rest the feet. It is a motorized scooty which is especially designed for use of women because of its light weight and design which makes it easy to ride for them.

Electric scooty are defined as motorized bicycles propelled by human power or by a combination of human power and an electric motor. Electric scooty is a maintenance-free vehicle that does not require maintenance services like motorcycles since it does not have an internal combustion engine.

Pakistan is the fifth largest market of two-wheelers in the Asia-Pacific. For a lower-middle-income country with an expanding population, the motorcycle becomes a preferred mode of travelling; especially due to ever congesting limited affordable urban centers, which have expanded manifold but the roads and streets have not been expanded in line with the increasing traffic load. In Pakistan, during the past decade, the production of motorcycles and 3-wheelers have increased manifold. The production was 838,665 in 2010-11 which increased to 1,903,932 in 2020-21.¹ According to the data of Association of Pakistan Motorcycle Assemblers, total production of motorcycles in Pakistan in 2017-18 was 2,746,579. Over recent years, electric bikes have also started getting assembled in Pakistan and in 2021, the country manufactured around 10,000 electric bikes.² Jolta is the only known manufacturer of electric bikes in Pakistan.

Based on the number of technicians suggested in this study, the proposed workshop will provide repair services to 876 electric Scotties (50-100 cc), 4,468 conventional Scotties (50-100 cc) and 16,758 motorcycles (70-150 cc) during a year at 100% capacity. However, during 1st year of operation, the proposed business is expected to attain 60% of its installed capacity, which translates into serving 525 electric Scotties (50-100 cc), 2,680 conventional Scotties (50-100 cc) and 10,054 motorcycles (70-150 cc).

¹ <https://www.statista.com/statistics/951539/pakistan-sales-volume-of-motorbikes/>

² <https://propakistani.pk/2022/03/16/pakistans-jolta-electric-sold-10000-bikes-in-2021/>

The workshop is proposed to be located in any city/town of Pakistan which has a sizeable population. Such locations may include cities like Karachi, Lahore, Peshawar, Rawalpindi, Islamabad, Quetta, Faisalabad, Gujranwala, Mardan, Dadu, Sukkur, Bahawalpur, Muzaffarabad, Gilgit, Sialkot, Nowshera, Hyderabad, Multan, Pishin, Skardu, Dera Ghazi Khan, Larkana, Sargodha, Skardu, Jhang, Lasbela, Loralai, Bhakkar and other similar cities/towns of Pakistan.

The proposed project will be set up in a rented premises having an area of 1,172 sq. ft. (5.2 Marla). The proposed project has a total investment of PKR 3.53 million. This includes capital investment of PKR 2.31 million and working capital of PKR 1.22 million. This project is financed through 100% equity. The Net Present Value (NPV) of project is PKR 5.13 million with an Internal Rate of Return (IRR) of 49% and a payback period of 3.08 years. Further, the proposed project is expected to generate Gross Annual Revenues of PKR 13.94 million in 1st year after coming into operations, Gross Profit (GP) ratio ranging from of 17% to 27% and Net Profit (NP) ratio ranging from 3% to 14% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 48% (10,675 job orders) with breakeven revenue of PKR 11.22 million in a year.

The proposed unit may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the unit provides Net Present Value (NPV) of PKR 6.37 million, Internal Rate of Return (IRR) of 48% and Payback period of 3.15 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from 2% to 15% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 51% (11,372 job orders) with breakeven revenue of PKR 11.95 million.

The proposed project will provide employment opportunities to 11 people. As evident from the above-mentioned financial figures, the proposed project for Motorcycle and Scooty Repair Unit shows reasonable profitability and is economically and financially viable. The legal form of this project is proposed as "Sole-Proprietorship".

3. INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives. Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need-based capacity building programs of different types in addition to business guidance through help desk services.

National Business Development Program for SMEs (NBDP) is a project of SMEDA, funded through Public Sector Development Program of Government of Pakistan.

The NBDP envisages provision of handholding support / business development services to SMEs to promote business startup, improvement of efficiencies in existing SME value chains to make them globally competitive and provide conducive business environment through evidence-based policy-assistance to the Government of Pakistan. The Project is objectively designed to support SMEDA's capacity of providing an effective handholding to SMEs. The proposed program is aimed at facilitating around 314,000 SME beneficiaries over a period of five years.

4. PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to provide information to the potential investors about establishing a "Motorcycle and Scooty Repair Unit". The document provides a general understanding of the business to facilitate potential investors in crucial and effective investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form the basis of any investment decision.

5. BRIEF DESCRIPTION OF PROJECT & SERVICES

This document provides details for setting up a Motorcycle and Scooty Repair Workshop.

Motorcycle

Motorcycle is a vehicle used to transport people from one place to another. There are two types of motorcycles as follows;

2-Wheels Motorcycle

2-wheels motorcycle is a vehicle used to transport people from one place to another like that of a bicycle, but is operated by an engine which runs on petrol. In the daily life of common man, motorcycle plays an important role in traveling from one place to another. Figure 1 shows a typical 2-wheels motorcycle commonly used in Pakistan.

Figure 1: 2-Wheels Motorcycle



3-Wheels Motorcycle

3-wheels motorcycle (Motorcycle Rickshaw) is also a Pakistan traditional vehicle used for transportation and also operated by an engine which runs on petrol. It is used as transported vehicle which is used for providing of transportation services to passengers in routine days of life. Figure 2 shows a 3-wheels motorcycle rickshaw commonly used in Pakistan.

Figure 2: 3-Wheeler Motorcycle

Routine use of motorcycle requires the owner to carry out its maintenance on regular basis, which may include tuning, change of engine oil and brake fluid, brake shoe and drum rubber, timing chain, head repairing, clutch & pressure plates, engine overhaul, chain gear set (sprocket), wheel balance and electric work.

Scooty

Scooty is just like a motorcycle and also has two wheels. Scooty is popular for personal transportation; partly due to being more affordable, easier to operate, and more convenient to park and store than a car. The scooty runs on petrol engine. Scooty is more popular among female population. Owner of the scooty is required to carry out its maintenance on regular basis which is similar to the maintenance of a motorcycle. Figure 3 shows scooty (Motor Scooty).

Figure 3: Scooty (Motor Scooty)

Electric Scooty

Electric scooty are plug-in electric vehicles with two or three wheels. The electricity is stored on board in a rechargeable battery, which drives one or more electric motors. The battery delivers electricity to the motor, which turns a gear to drive the wheels. The motor determines the speed of an electric scooty by controlling the throttle.³ The speed of an electric scooty is controlled through the throttle. Owner of the electric scooty is required to carry out its maintenance on regular basis. Some common repair works include maintenance of brake shoe, drum rubber, front handle repairing, wheel balance, electric work, etc. Figure 4: shows an electric scooty.

Figure 4: Electric Scooty



Repair Workshop

Mostly, the automobile repair workshops are independently owned and operated businesses. These may also include regional or national chains, franchises including OEM (Original Equipment Manufacturer) and repair sites, such as dealerships. The services provided by the proposed unit will be availed by motorcycle, electric scooty and conventional scooty owners to maintain these in efficient operating condition. In addition to providing repair services, the workshop will also sell spare parts that have to be replaced frequently during repair. Thus, the proposed unit can be called a 2S workshop (spares and services).⁴ Figure 5 shows pictures of repair workshop.

³ A throttle is the mechanism by which motor provides power and propels the vehicle forward

⁴ The other type of workshop is 3S which also sells new vehicles and thus offers 'Sales', 'Spares' and 'Services (repair)' to its customers.

Figure 5: Work Shop

A. Types of Services

Any vehicle, whether car or bike, comprises of different sets of parts that perform their respective functions. Each of these parts requires regular maintenance to work efficiently. For providing services to motorcycles, scooties, and electric scooties, the services have been categorized with respect to different parts, mentioned as follows:

For Electric Scooties:

- Brakes and Gear
- Body Work
- Electric Work

For Conventional Motorcycles and Scooties:

- Transmission
- Brakes and Gear
- Body Work
- Engine Work
- Electric Work

Transmission

The transmission is mechanism by which power is transmitted from an engine to the axle in a motor vehicle. The transmission takes power from the engine and delivers it to wheels to help power the motorcycle. Services related to transmission in our proposed unit are explained below:

Tuning

A motorcycle tuning is an extensive maintenance process which checks whether any parts or fluids need replacement or not. The need for tuning depends on the use of the vehicle but with a routine use, should preferably be carried out every three months. Motorcycle tune ups is a result job done by a workshop.

Motorcycle tuning include the following services:

- Inspection of engine oil and brake fluid
- Inspection of air filters check
- Inspection of tires and wheels
- Inspection of the chain
- Inspection of brake pads

Timing Chain

Timing chain in a motorcycle has the task of synchronizing all parts of the engine and is an essential component of any four-stroke engine. Wear, stress, coolant loss, or continuous strain can compromise the performance, causing breakage of timing chain.

A broken timing chain can make the valves to come into contact with the pistons in severe failures on some engine models, resulting in very loud knocking and banging noises, catastrophic engine failure and damage to the valves and pistons. Figure 6 shows timing chain and sprockets.

Figure 6: Timing Chain and Sprockets



Clutch and Pressure Plates

The clutch pressure plate is an important part of vehicle's clutch system. It is a heavy metal plate that is controlled by springs and a lever. Its main purpose is to apply pressure to the primary clutch plate (or clutch disc), holding it against the engine flywheel. Pressure plates allow energy to flow from the engine crankshaft, through the engaged clutch into the transmission / gearbox system, then through drive shafts and to the wheels.

The clutch plate can become worn, bent or cracked over time, reducing its effectiveness. A worn clutch plate will result in trouble engaging and disengaging the clutch. Figure 7 shows clutch and pressure plates.

Figure 7: Clutch and Pressure Plates**Brakes and Gear**

Brakes are part of the safety system of a motorcycle. Brakes are used to either slow down the motorcycle or bring it to a complete halt. Although there are different kinds of brakes, the most common type of brakes found in electric or conventional motorcycle and scooties are drum brakes which consist of brake drums attached to the inside of the wheel. When brakes are applied, the brake shoe presses against the brake drums which causes friction, and slows down or stops the vehicle, depending upon the pressure applied. The services related to brakes for the proposed workshop are explained below:

Brake Fluid

Brake fluid is a type of hydraulic fluid used in hydraulic brake and hydraulic clutch applications in automobiles, also including motorcycles and scooties. It is used to transfer force into pressure, and to amplify braking force. It works because liquids are not appreciably compressible.

Brake Shoe and Drum Rubber

Brake shoes carry the brake lining inside brake drum systems. They are a curved piece of metal, with a friction material fixed to one side. A drum brake uses brake shoes and drum rubbers to create braking force. Figure 8 shows brake shoe and Figure 9 shows drum rubber.

Figure 8: Brake Shoe

Figure 9: Drum rubber**Chain Gear Set (Sprocket)**

Chain Gear Set (Sprocket) is a profiled wheel with teeth that mesh with a chain. The name 'sprocket' applies generally to any wheel upon which radial projections engage a chain passing over it. It is distinguished from a gear in that sprockets are never meshed together directly and differs from a pulley in that sprockets have teeth and pulleys are smooth except for timing pulleys used with toothed belts.

Sprockets are used in bicycles, motorcycles and other machineries, either to transmit rotary motion between two shafts where gears are unsuitable or to impart linear motion to a track, tape, etc.

Chain's wear and stretch causes grouping and excessive wear to the sprocket. Poor sprocket alignment creates heat and may even bend the shafts on the drive system, causing great damage. Figure 10 shows Chain Gear Set (Sprocket).

Figure 10: Chain Gear Set (Sprocket)**Body Work**

The outer body of a motorcycle is typically made of different types of metal or alloys (Steel, Plastic, Fiberglass). The outer body mainly consists of motorcycle head and handle, fuel tank, front and rear lights, indicators, seat rest, front and rear fenders,

wheels and mudguards. Following services related to body work will be provided in the proposed workshop.

Front Handle Repair

Front handle is a metallic bar that acts as a steering mechanism for a motorcycle. Besides its main function of steering the motorcycle, the handle bar also provides a mounting place for controls such as brake, throttle, clutch, horn and lights. Figure 11 shows motorcycle front handle.

Figure 11: Front Handle



Wheel Balancing

Wheel balancing, also known as tire balancing, is the process of equalizing the weight of the combined tire and wheel assembly so that it spins smoothly at high speed. Balancing involves putting the wheel/tire assembly on a balancer, which centers the wheel and spins it to determine where the weights should go. Figure 12 shows wheel rim on a wheel balancing scale.

Figure 12: Wheel Balancer



Shock Absorber Repair

Shock Absorber is a mechanical device that is attached near the wheels of the motorcycle or scooty, with the purpose to reduce to effect of shock impulses. Shock absorbers not only make motorcycle ride smoother but also protects the vehicle from damage that may occur by driving it on uneven ground. Figure 13 shows Shock Absorber.

Figure 13: Shock Absorber



Engine Work

Oil Change

Oil change has to be performed after every 1000 kilometers or at least once every three months. Even if the motor vehicle is not used extensively, one of the main purposes of an oil change is to remove any contaminants in the engine oil. Timely change of engine oil increases the life of engine. This repair unit also provides the services of oil change.

Engine Top Overhaul

In an internal combustion engine, the cylinder head (often abbreviated to simply "head") sits above the cylinders and forms the roof of the combustion chamber.

In side valve engines, the head is a simple sheet of metal; whereas in more modern overhead valve and overhead camshaft engines, the cylinder head is a more complicated block often containing inlet and exhaust passages, coolant passages, valves, camshafts, spark plugs and fuel injectors.

For engine top overhaul, head is removed and disassembled to check and replace the faulty parts which may include engine block, crankshaft, piston rings, connecting rod and bearings along with the replacement of gasket and oil seals. At the end of this procedure, a final inspection is carried out to test the condition of the motorcycle and re-assembling is performed. Figure 14 shows engine head.

Figure 14: Engine Head**Engine Overhaul**

An engine overhaul is a major engine repair that involves the removal, disassembly, inspection and repair of an engine. During overhaul, old and worn-out parts and components may be replaced with new ones. During disassembly, the engine is cleaned thoroughly to remove the built-up grime and debris. Since the entire engine is being taken apart, it is easier for the mechanic to identify problems and replace the malfunctioning parts. Once everything has been cleaned and necessary replacements have been made, the engine is put back together and fixed back into the vehicle. Figure 15 shows engine being repaired.

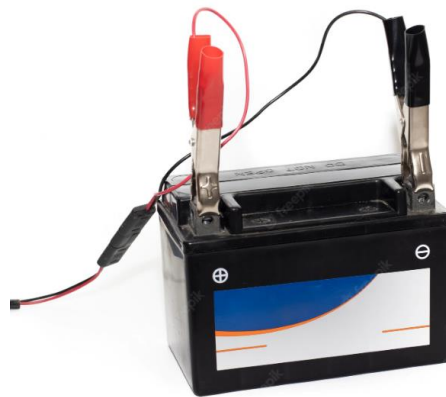
Figure 15: Repair of Engine**Electrical Work**

A battery supplies power to the vehicle engine which is then started by the ignition system. Other items of the electrical system include front lights, back lights, work light, indicators, and other electric parts. The repair workshop will provide all repairing services related to battery, wiring, replacing electric items and other electric related services. Apart from general electrical work services, the proposed unit will also provide battery charging services.

Battery Charging

A motorcycle battery is a rechargeable small battery that is used to supply current to different electrical parts of the motorcycle. The main purpose of the battery is to provide current to start the engine of the motorcycle. The battery also provides necessary energy to power front and rear lights, front and back indicators and horn. Figure 16 shows battery being charged.

Figure 16: Battery Charging



B. Types of Machinery and Repair Tools

Machinery and equipment required for setting up of Motorcycle and Scooty repair workshop are briefly discussed below:

Hydraulic Lift

Hydraulic lift is used to elevate the motor vehicle to a certain height which helps in inspecting the motor vehicle from underneath and facilitates the technician's work. Hydraulic lift works on a basic principle i.e., a pump pushes oil into the cylinder, pushing the piston up which pushes/lifts the bike up. To go down, the valve opens and oil is allowed to flow back into the reservoir, and is pushed back using the gravitational force of the lift bike. Figure 17 shows a hydraulic lift.

Figure 17: Hydraulic Lift

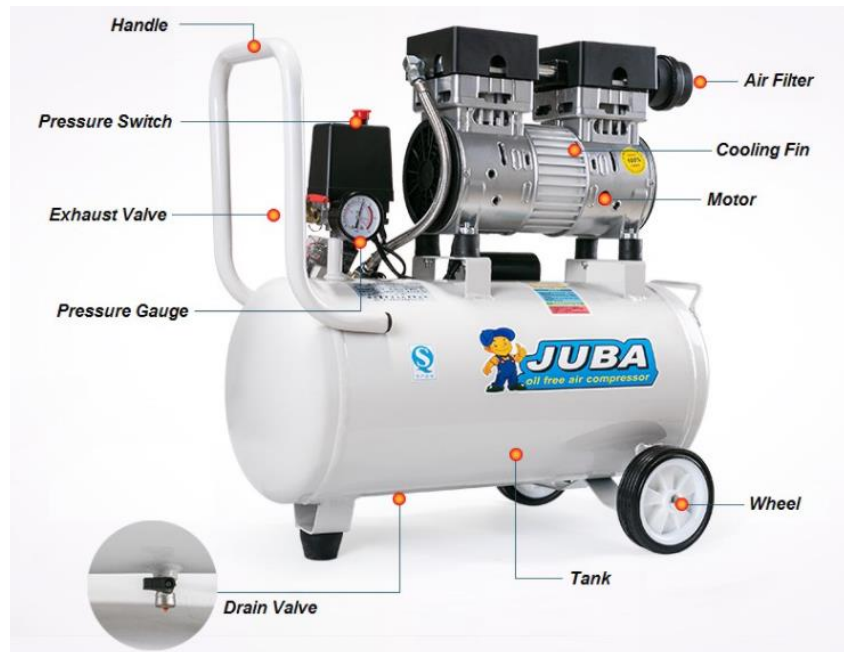


Air Compressor

An air compressor is a pneumatic device that converts power, using an electric motor, into potential energy stored in pressurized air (i.e., compressed air). An air compressor

forces more and more air into a storage tank, increasing the pressure. It is used to fill the tire tubes with air and is also used for cleaning dirt and dust from different parts of the vehicle while repairing. Figure 18 shows an air compressor.

Figure 18: Air Compressor



Pliers Set

Pliers are the hand tools used to hold objects firmly. They are also useful for bending and compressing a wide range of materials. Figure 19 shows a pliers set.

Figure 19: Pliers Set



Hex Keys

Hex key, also known as an Allen key, is a simple tool used to drive bolts and screws with hexagonal sockets in their heads. From standard keys in chrome vanadium steel

to extra-long with ballpoint heads in chrome molybdenum steel, there is a wide variety to choose from. Figure 20 shows a set of hex keys.

Figure 20: Hex Keys



Spanners Set

Spanners are usually operated by hand for tightening bolts and nuts. Some wrenches have ends with straight-sided slots that fit over the part being tightened. These tools are known as open-end wrenches and are made in various sizes to fit specific bolt and nut sizes. Figure 21 shows spanners set.

Figure 21: Spanners set



Sockets and Ratchets

Instead of needing a separate wrench for each size fastener, only a separate socket is needed. The ratcheting mechanism of a socket wrench makes the task of tightening or loosening nuts faster and easier compared to a conventional wrench. This feature

is particularly advantageous when working in cramped spaces. Figure 22 shows socket and ratchets.

Figure 22: Socket and Ratchets



Screwdriver Sets

Screwdrivers are used to fixing screws and removing them. These are defined by size and the tip of the screwdriver. Figure 23 and Figure 24 show screwdriver set and the types of these screwdrivers respectively.

Figure 23: Screwdriver Sets



Figure 24: Types of Screwdrivers

Cutters and Pincers

Pliers and pincers are made in various shapes and sizes and are used for different purposes. Some of these are used for gripping items that are round like a pipe or rod, some are used for twisting wires and others are designed to be used for a combination of tasks including cutting wire. Figure 25 shows cutters and pincers.

Figure 25: Cutter and Pincer

5.1 Installed and Operational Capacities

Based on average client visit in single shift of 12 hours a day for 300 days in a year, the proposed business will have maximum capacity of serving 22,102 orders of electrical and mechanical work in a year. The proposed unit would service 876 repair and maintenance orders of electric scooty (50-100 cc), 4,468 orders of scooty (50-150 cc) and 16,758 orders of motor (70-150 cc) during a year at 100% capacity. Breakup of these services is as follows:

- The electric scooty services include 384 brakes shoe and drum rubber services, 144 front handle repairing services, 72 wheel balance services, 36 shock work services and 240 services of electric work.
- The scooty (50-150 cc) services include 1,344 tuning services, 288 timing chain services, 77 clutch and pressure plates services, 576 brake fluid Change service, 288 brake shoe and drum rubber services, 144 chain gear set (sprocket) services,

144 front handle repair services, 115 wheel balance services, 43 shocks repair services, 864 engine oil change, 29 engine overhaul service, 38 engine top overhaul services, 230 services of electric work and 288 battery charging services.

- The motorcycles (70-150 cc) services includes 5,040 tuning services, 1,080 timing chain services, 288 clutch and pressure plates services, 2,160 brake fluid change service, 1,080 brake shoe and drum rubber services, 540 chain gear set (sprocket) services, 540 front handle repair services, 432 wheel balance services, 162 shocks repair services, 3,240 engine oil change, 108 engine overhaul services, 144 engine top overhaul services, 864 services of electric work and 1,080 battery charging services.

However, during 1st year of operation, the proposed business is expected to attain 60% of its installed capacity, the unit shall serve 13,259 orders, 525 for electric scooty (50-100 cc), 2,680 of scooty (50CC-150CC) and 10,054 for motorcycle (70-150 cc). Breakup of these services is as follows:

The electric scooty services include 230 brakes shoe and drum rubber services, 86 front handle repairing services, 43 wheel balance services, 22 shock work services and 144 services of electric work.

The Scooty (50-150 cc) services includes 806 tuning services, 173 timing chain services, 46 clutch and pressure plates services, 346 brake fluid change service, 173 brake shoe and drum rubber services, 86 chain gear set (sprocket) services, 86 front handle repair services, 69 wheel balance services, 26 shocks repair services, 518 engine oil change, 17 engine overhaul service, 23 engine top overhaul services, 138 services of electric work and 173 battery charging services.

The motorcycles (70-150 cc) services includes 3,024 tuning services, 1,296 brake fluid services, 648 timing chain services, 173 clutch & pressure plates services, 648 brake shoe and drum rubber services, 324 chain gear set (sprocket) services, 324 front handle repair services, 259 wheel balance services, 97 shocks repair services, 1,944 oil change services, 65 engine overhaul services, 86 engine top overhaul services, 518 services of electric work and 648 battery charging services. Table shows annual man hours calculation,

Table 2 shows allocation of man hours and table 3 shows the installed and operational capacities of the proposed unit.

Table 1: Annual Man Hours Calculation

| Personnel | No of Persons Skilled | Total Man Hours |
|------------------|-----------------------|-----------------|
| Mechanics | 3 | 10,800 |
| Auto Electrician | 1 | 3,600 |
| Total | | 14,400 |

Table 2: Allocation of Man Hours

| Particulars | Division of Man Hours | Allocated Man Hours |
|-------------------------------|------------------------------|----------------------------|
| Electric Scooties (50-100 cc) | 5% | 720 |
| Scooty (50-100 cc) | 20% | 2,880 |
| Motorcycle (70-150 cc) | 75% | 10,800 |
| Total | 100% | 14,400 |

Table 3: Installed and Operational Capacity

| Services | Total Man Working Hours (Hours) | Service Ratio (%) | Allocated Man Hours | Average Man hours/ Repair Service | Annual Capacity (No. of Orders) | Initial year Capacity @ 60% |
|---------------------------------------|---------------------------------|-------------------|---------------------|-----------------------------------|---------------------------------|-----------------------------|
| Electric Scooties (50cc-100cc) | | | | | | |
| Brakes and Gear | 720 | | | | | |
| Brake shoe and Drum Rubber Service | | 40% | 288 | 0.75 | 384 | 230 |
| Body Work | | | | | | |
| Front Handle Repairing Service | | 15% | 108 | 0.75 | 144 | 86 |
| Wheel balance Service | | 10% | 72 | 1.00 | 72 | 43 |
| Shocks Work Service | | 10% | 72 | 2.00 | 36 | 22 |
| Electric Work | | | | | | |
| Electric Work Service | | 25% | 180 | 0.75 | 240 | 144 |
| Total (A) | | 100% | 720 | | 876 | 525 |
| Scooty (50CC-100CC) | | | | | | |
| Transmission Work | 2,880 | | | | | |
| Tuning Service | | 35% | 1,008 | 0.75 | 1,344 | 806 |
| Timing Chain Service | | 5% | 144 | 0.50 | 288 | 173 |
| Clutch & Pressure Plates Service | | 4% | 115 | 1.50 | 77 | 46 |
| Brakes and Gear | | | | | | |
| Brake Fluid Change Service | | 5% | 144 | 0.25 | 576 | 346 |
| Brake shoe and Drum Rubber Service | | 10% | 288 | 1.00 | 288 | 173 |

| | | | | | | |
|------------------------------------|--------|-------------|--------------|------|--------------|--------------|
| Chain Gear Set (Sprocket) Service | | 5% | 144 | 1.00 | 144 | 86 |
| Body Work | | | | | | |
| Front Handle Repairing Service | | 5% | 144 | 1.00 | 144 | 86 |
| Wheel balance Service | | 4% | 115 | 1.00 | 115 | 69 |
| Shocks Repair Service | | 3% | 86 | 2.00 | 43 | 26 |
| Engine Work | | | | | | |
| Engine Oil Change | | 10% | 288 | 0.33 | 864 | 518 |
| Engine Overhaul Service | | 3% | 86 | 3.00 | 29 | 17 |
| Engine Top Overhaul | | 2% | 58 | 1.50 | 38 | 23 |
| Electric Work | | | | | | |
| Electric Work Service | | 4% | 115 | 0.50 | 230 | 138 |
| Battery Charging Service | | 5% | 144 | 0.50 | 288 | 173 |
| Total (B) | | 100% | 2,880 | | 4,468 | 2,680 |
| Motorcycle (70cc-150cc) | | | | | | |
| Transmission Work | 10,800 | | | | | |
| Tuning Service | | 35% | 3,780 | 0.75 | 5,040 | 3,024 |
| Timing Chain Service | | 5% | 540 | 0.50 | 1,080 | 648 |
| Clutch & Pressure Plates Service | | 4% | 432 | 1.50 | 288 | 173 |
| Brakes and Gear | | | | | | |
| Brake Fluid Change Service | | 5% | 540 | 0.25 | 2,160 | 1,296 |
| Brake shoe and Drum Rubber Service | | 10% | 1,080 | 1.00 | 1,080 | 648 |
| Chain Gear Set (Sprocket) Service | | 5% | 540 | 1.00 | 540 | 324 |

| | | | | | | |
|--------------------------------|--|-------------|---------------|------|---------------|---------------|
| Body Work | | | | | | |
| Front Handle Repairing Service | | 5% | 540 | 1.00 | 540 | 324 |
| Wheel balance Service | | 4% | 432 | 1.00 | 432 | 259 |
| Shocks Repair Service | | 3% | 324 | 2.00 | 162 | 97 |
| Engine Work | | | | | | |
| Engine Oil Change | | 10% | 1,080 | 0.33 | 3,240 | 1,944 |
| Engine Overhaul Service | | 3% | 324 | 3.00 | 108 | 65 |
| Engine Top Overhaul | | 2% | 216 | 1.50 | 144 | 86 |
| Electric Work | | | | | | |
| Electric Work Service | | 4% | 432 | 0.50 | 864 | 518 |
| Battery Charging Service | | 5% | 540 | 0.50 | 1,080 | 648 |
| Total (C) | | 100% | 10,800 | | 16,758 | 10,054 |
| Total (A+B+C) | | | 14,400 | | 22,102 | 13,259 |

It has been assumed that 60% of repairs are done by replacing old parts with new ones. It has been further assumed that 2 additional parts would be replaced for every requirement of new general part. On the basis of this assumption, Table 4 shows assumption for sale of spare parts and Table 5 shows annual demand of spare parts; in line with the market information.

Table 4: Assumption for Spare Parts

| | |
|--|---------------|
| Annual No. of Orders (A) | 22,102 |
| Percentage of spare parts usage (B) | 60% |
| No. of orders for which spare parts Used $C=(A*B)$ | 13,261 |
| Average Consumption with every Repair (No.) D | 2 |
| Total Annual Demand | 26,590 |

Table 5: Demand for General Spare Parts

| Cost Item | Demand Ratio (E) | Annual Demand @ 100% $F=C*D*E$ | Margin | Sale Price / Unit (PKR) | Cost / Unit (PKR) |
|------------------------|------------------|--------------------------------|--------|-------------------------|-------------------|
| Transmission | | | | | |
| Chain | 5% | 1,326 | 20% | 750 | 600 |
| Fuel Igniter | 1% | 266 | 20% | 550 | 440 |
| Carburetor | 3% | 796 | 20% | 2,500 | 2,000 |
| Air Flow Pipe | 5% | 1,326 | 20% | 40 | 32 |
| Timing Chain | 3% | 796 | 20% | 270 | 216 |
| Clutch Plates | 5% | 1,326 | 20% | 415 | 332 |
| Clutch Lever | 4% | 1,060 | 20% | 105 | 84 |
| Chain Sprocket kit | 3% | 796 | 20% | 2,000 | 1,600 |
| Spark Plug | 8% | 2,122 | 20% | 300 | 240 |
| Tappet Nut and Bolt | 1% | 266 | 20% | 45 | 36 |
| kick Shaft Complete | 2% | 530 | 20% | 865 | 692 |
| Brakes and Gear | | | | | |
| Breakpads and Straps | 3% | 796 | 20% | 450 | 360 |
| Drum Rubber | 5% | 1,326 | 20% | 70 | 56 |
| CAM Gear Set | 2% | 530 | 20% | 5,200 | 4,160 |
| Wheel Drum | 2% | 530 | 20% | 715 | 572 |
| Break Spring | 2% | 530 | 20% | 20 | 16 |

| | | | | | |
|--------------------|-------|-------|-----|-------|-------|
| Brake Rod | 2% | 530 | 20% | 185 | 148 |
| Body | | | | | |
| Tires | 1.00% | 266 | 20% | 1,625 | 1,300 |
| Wheel Weight | 2.50% | 664 | 20% | 80 | 64 |
| Chain Cover | 1.00% | 266 | 20% | 490 | 392 |
| Air Cleaner Filter | 3.00% | 796 | 20% | 100 | 80 |
| Mudguard Extension | 1.00% | 266 | 20% | 50 | 40 |
| Indicators | 2.50% | 664 | 20% | 85 | 68 |
| Seat Cover | 0.25% | 66 | 20% | 325 | 260 |
| Exhaust Silencer | 0.25% | 66 | 20% | 1,300 | 1,040 |
| Handle Bar | 1.00% | 266 | 20% | 300 | 240 |
| Mud Flap Front | 0.50% | 132 | 20% | 660 | 528 |
| Mud Flap Rear | 2.00% | 530 | 20% | 650 | 520 |
| Tank Cap | 0.25% | 66 | 20% | 185 | 148 |
| Headlight lens | 1.00% | 266 | 20% | 55 | 44 |
| Meter Cover | 0.25% | 66 | 20% | 85 | 68 |
| Fuel Cock | 0.50% | 132 | 20% | 180 | 144 |
| Head Bolt | 0.25% | 66 | 20% | 65 | 52 |
| Engine | | | | | |
| Engine Crankcase | 0.50% | 132 | 20% | 2,950 | 2,360 |
| Motor Oil | 10% | 2,652 | 20% | 650 | 520 |
| Piston | 1.00% | 266 | 20% | 700 | 560 |
| Piston ring | 1.00% | 266 | 20% | 400 | 320 |
| Piston pin | 0.50% | 132 | 20% | 450 | 360 |
| Valve Head | 0.50% | 132 | 20% | 380 | 304 |
| Valve Spring Head | 0.50% | 132 | 20% | 65 | 52 |
| Valve Seal Head | 0.50% | 132 | 20% | 55 | 44 |
| Bearings | 1.00% | 266 | 20% | 200 | 160 |
| Cylinder Head | 0.50% | 132 | 20% | 4,200 | 3,360 |
| Cylinder Block | 0.50% | 132 | 20% | 1,480 | 1,184 |
| Push Rod | 0.25% | 66 | 20% | 85 | 68 |
| Magnet Coil Plate | 0.25% | 66 | 20% | 205 | 164 |
| Electrical | | | | | |

| | | | | | |
|-----------------|-------------|---------------|-----|-----|-----|
| Motor battery | 2% | 530 | 20% | 900 | 720 |
| Lights Head | 1% | 266 | 20% | 400 | 320 |
| Bike Horns | 1% | 266 | 20% | 200 | 160 |
| Brake Cable | 2% | 530 | 20% | 185 | 148 |
| Meter Cable | 2% | 530 | 20% | 200 | 160 |
| CDI unit | 1% | 266 | 20% | 225 | 180 |
| Head Light Bulb | 1% | 266 | 20% | 30 | 24 |
| Total | 100% | 26,590 | | | |

6. CRITICAL FACTORS

The following factors should be taken into account while making the investment decision:

- Suitable location
- Technical knowhow and basic knowledge of the entrepreneur
- Hiring of skilled workforce
- Supervision of the process at every level
- Timely processing and delivery
- Quality of work
- Customer-driven approach

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The demand for repair and maintenance of motorcycle, scooty and electric scooty will be mostly in major cities/towns of Pakistan with large population. Therefore, the geographical potential for investment in this business is higher in the cities like Karachi, Lahore, Peshawar, Rawalpindi, Islamabad, Quetta, Faisalabad, Gujranwala, Sukkur, Muzaffarabad, Gilgit, Sialkot, Hyderabad, Larkana, Dera Ghazi Khan, Dadu, Multan, Lasbela, Mardan, Skardu, Lasbela, and other similar cities/towns of Pakistan.

Pakistan is the fifth largest market of two-wheelers in the Asia-Pacific.⁵ For a lower-middle-income country with an expanding population, the motorcycle becomes the preferred mode of travelling; especially due to ever congesting limited affordable urban centers, which have expanded sporadically. A two-wheeler motor vehicle, with its lightweight and high maneuverability, becomes leisure in its own manner for traversing the cities and towns for middle-class people, the motorcycle is the very basic need of the household.

⁵ https://pakistanreader.org/view_articles.php

8. POTENTIAL TARGET CUSTOMERS / MARKETS

A large number of motorcycles are owned and operated in Pakistan including urban and rural areas. The prime reason of operating/owning a motorcycle is its low cost which requires a very low maintenance cost as compared to larger automobiles. The services related to motorcycle, scooty and electric scooty repair and maintenance are availed by the people who own these vehicles and use these for their day-to-day travelling and need to maintain their vehicles to for efficient performance. This includes maintaining the vehicle's engine as well as its exterior look and repair and maintenance of vehicle.

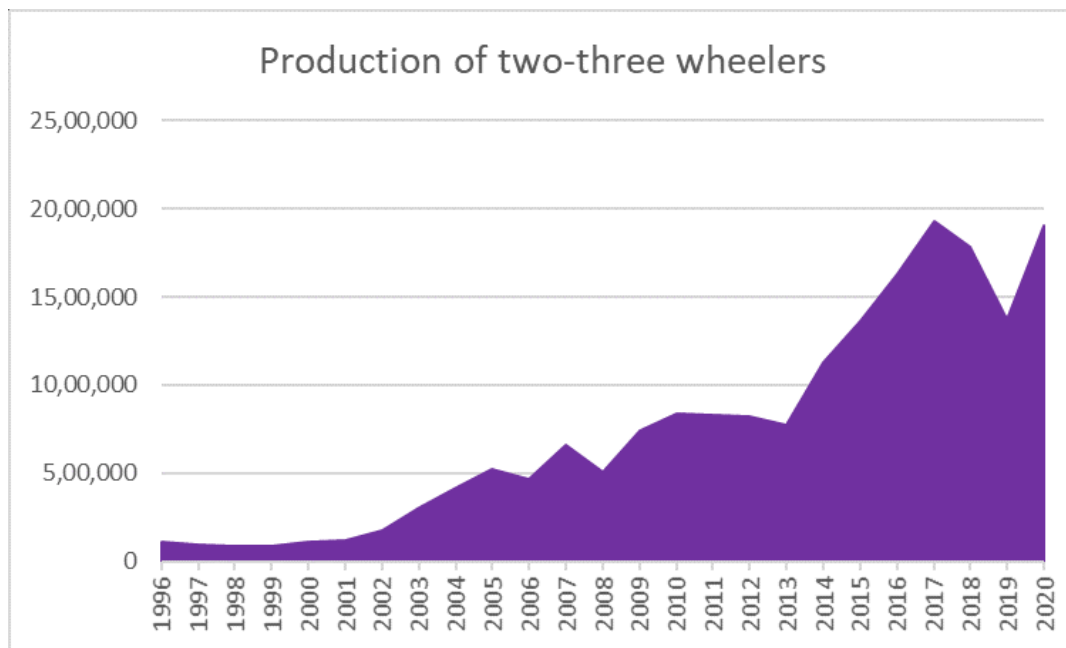
According to the data of Pakistan Automotive Manufacturers Association (PAMA), there is a steady rise in domestic production of motor vehicles in Pakistan. During the past decade, the production of motorcycles and 3-wheelers have increased manifold. The production was 838,665 in 2010-11 which increased to 1,903,932 in 2020-21. This represents an overall increase of 127.01% and an average annual increase of 12.7%.⁶ Honda, Yamaha, Suzuki, Road Prince and United Auto are the leading 2-wheeler manufacturers of Pakistan.

It is worth mentioning that the production of motorcycles/3-wheelers is actually much higher than 1,903,932; since this represents only the production of those motorcycle assemblers which are members of Pakistan Automotive Manufacturers Association (PAMA). According to the data of Association of Pakistan Motorcycle Assemblers (APMA) total number of motorcycles manufactured in Pakistan in 2017-18 was 2,746,579. This figure also includes all the brands of Chinese motorcycles being assembled in Pakistan.

Jolta Electric's eBike is Pakistan's first locally developed electric bike, and the company recently confirmed that it delivered 10,000 units to local consumers in 2021.⁷ This is a major success, considering the challenging market and competition. It is a product that attracts a lot of attention since it gives female drivers a feeling of freedom and independence. With the rising fuel prices, an electric scooty appears to be an ideal mean of transportation. Figure 26 shows the growth in production of two/three wheelers over the years.

⁶ <https://www.pama.org.pk/annual-sales-production/>

⁷ <https://biztalk.pk/1611/pakistans-electric-bike-company-sold-10000-bikes-in-2021/>

Figure 26: Two/Three Wheelers Production

A large number of repair workshops are being operated across the Pakistan to provide routine and specific maintenance services. However, there is no formal data available with regards to the total number of motorcycles repair shops operating in Pakistan. Majority of motorcycle workshops are following the informal business model and are operating in small shops where services are normally provided by the shop owner.

There are two formal business models in repair service industry known as 3S and 2S business models. 3S model is in which the business sells new vehicles and thus offers 'Sales', 'Spares' and 'Services (repair)' to its customers. These types of units normally work directly under the motorcycle manufacturing companies. The other type of workshop is 2S which offers 'Spares' and 'Services (repair)' to its customers. Both 3S and 2S business models hire trained staff for providing repair and maintenance repair services.

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of establishing a Motorcycle and Scooty Repair Unit. Various costs and revenue related assumptions, along with results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are attached as Annexure.

Project is proposed to be financed through 100% equity. Total project cost has been estimated to be PKR 3.53 million which comprises of capital investment of PKR 2.31 million and working capital of PKR 1.22 million.

9.1 Initial Project Cost Estimates

The details of initial project cost calculated for the Motorcycle and Scooty Repair Unit are shown in Table 6.

Table 6: Initial Project Cost

| Cost Item | Cost (PKR) | Details Reference |
|------------------------------------|------------------|-------------------|
| Land | - | 9.1.1 |
| Building / Infrastructure | 215,000 | 9.1.2 |
| Machinery & Equipments | 600,000 | 9.1.3 |
| Furniture & fixtures | 425,000 | 9.1.6 |
| Office vehicles | 118,000 | 9.1.7 |
| Office equipment | 425,500 | 9.1.5 |
| Repair Tools and Allied Equipments | 222,250 | 0 |
| Pre-operating costs | 95,435 | 9.1.8 |
| Security against building | 210,960 | 9.1.9 |
| Total Capital Cost | 2,312,145 | |
| Working Capital | | |
| Consumable inventory | 3,083 | |
| Spare parts inventory | 646,620 | |
| Upfront building rent | 70,320 | |
| Cash | 500,000 | |
| Total | 1,220,023 | |
| Total Project Cost | 3,532,168 | |

9.1.1. Land

Motorcycle and Scooty Repair Unit will be established in a rented space to avoid the high cost of land. Suitable location for setting up a unit like this can be easily found on rent. Therefore, no land cost has been added to the project cost. Total space requirement for the proposed manufacturing unit has been estimated as 1,172 sq. feet. The required land breakup is shown in Table 7.

Table 7: Land Area Breakup

| Description | % Break-Up | Area Sq. Ft. |
|---------------------------------|------------|--------------|
| Executive Office / Owner Office | 7% | 80 |
| Workshop Area | 64% | 750 |
| Waiting Area | 5% | 64 |

| | | |
|--------------|-------------|--------------|
| Store Room | 13% | 150 |
| Washroom | 11% | 128 |
| Total | 100% | 1,172 |

9.1.2. Building

There will be no cost of building since the proposed business will be started in the rented premises. However, there will be a renovation cost required to make the building ready to use for the business. The proposed project requires estimated electricity load of around 5 KW for which an electricity connection under the General Supply Tariff-Commercial A-2 single phase will be required. Cost of such electricity connection has not been included in the project cost, since electricity connection is generally available in such places, which are offered for rent. Building rent of PKR 70,320 per month has been included in the operating cost. Building renovation cost is shown in Table 8.

Table 8: Renovation Cost Details

| Cost Item | Unit of Measurement | Total Units | Cost/Unit | Total Cost (PKR) |
|------------------------------------|---------------------|-------------|-----------|------------------|
| Paint Cost | Liter | 38 | 500 | 19,000 |
| Labor Cost Paint | Sq. Feet | 3,800 | 10 | 38,000 |
| Blinds | No | 1 | 3,000 | 3,000 |
| Tiles Cost | Sq. Feet | 1,044 | 120 | 125,280 |
| Labor Cost | Sq. Feet | 358 | 40 | 14,320 |
| Glass Partition | Sq. Feet | 28 | 550 | 15,400 |
| Total Renovation Cost (PKR) | | | | 215,000 |

9.1.3. Machinery Requirement

Table 9 shows details of machinery requirement

Table 9: Machinery Requirement

| Cost Item | No. of Items | Unit Cost (PKR) | Cost (PKR) |
|--|--------------|-----------------|----------------|
| Hydraulic Lifts (including installation) | 5 | 80,000 | 400,000 |
| Generator (5 KW) | 1 | 200,000 | 200,000 |
| Total | | | 600,000 |

9.1.4. Repair Tools and Allied Equipment

Table 10 provides details of Repair tools and allied equipment required for the project.

Table 10: Repair Tools and Allied Equipment

| Cost Item | Units | Unit Cost (PKR) | Total Cost (PKR) |
|--|-------|-----------------|------------------|
| Battery Charging Plant (12 watt) | 2 | 25,000 | 50,000 |
| Wheel Balancer | 1 | 20,000 | 20,000 |
| Air Compressor (8 Bar, 750W) | 1 | 30,000 | 30,000 |
| Sockets & Ratchets | 5 | 5,000 | 25,000 |
| Inductance, Capacitance and Resistance Measuring Meter (LCR Meter) | 5 | 5,000 | 25,000 |
| Grinder | 1 | 4,500 | 4,500 |
| Screwdriver Sets | 5 | 3,000 | 15,000 |
| Spanners Set | 5 | 2,500 | 12,500 |
| Digital Clamp Meter | 5 | 2,500 | 12,500 |
| Pliers Set | 5 | 2,000 | 10,000 |
| Hex Keys | 5 | 1,000 | 5,000 |
| Cutters Pliers | 5 | 1,000 | 5,000 |
| Pincers | 5 | 1,000 | 5,000 |
| Oil drain pan | 5 | 350 | 1,750 |
| Funnel | 5 | 200 | 1,000 |
| Total | | | 222,250 |

9.1.5. Office Equipment Requirement

Table 11 presents the office equipment requirement proposed for the unit.

Table 11: Office Equipment Requirement

| Cost Item | Units | Unit Cost(PKR) | Total Cost(PKR) |
|-----------------------------|-------|----------------|-----------------|
| Air Conditioners | 2 | 85,000 | 170,000 |
| Desktop Computer | 1 | 75,000 | 75,000 |
| Water Dispenser | 2 | 25,000 | 50,000 |
| Security System (2 MP Cams) | 8 | 2,500 | 20,000 |
| DVR | 1 | 14,000 | 14,000 |
| LED TV | 1 | 36,000 | 36,000 |
| Wi-Fi/ Internet Connection | 1 | 3,500 | 3,500 |

| | | | |
|-------------------------|---|-------|----------------|
| Ceiling Fan | 6 | 8,000 | 48,000 |
| Exhaust Fan | 2 | 4,500 | 9,000 |
| Total Cost (PKR) | | | 425,500 |

9.1.6. Furniture and Fixture Requirement

Table 12 gives details of the furniture and fixture required for the project.

Table 12: Furniture and Fixtures Requirement

| Cost Item | Units | Unit Cost (PKR) | Total Cost (PKR) |
|-------------------------|-------|-----------------|------------------|
| Executive Chairs | 1 | 30,000 | 30,000 |
| Executive Table | 1 | 60,000 | 60,000 |
| Staff Table | 1 | 45,000 | 45,000 |
| Plastic Chair set | 1 | 10,000 | 10,000 |
| Visitors' Chairs | 6 | 15,000 | 90,000 |
| Sofa Set | 1 | 55,000 | 55,000 |
| Wooden Cabinets | 1 | 10,000 | 10,000 |
| Wooden Racks | 5 | 10,000 | 50,000 |
| Tool Boards | 5 | 15,000 | 75,000 |
| Total Cost (PKR) | | | 425,000 |

9.1.7. Vehicle Requirement

Details of vehicles required for the project is given in Table 13.

Table 13: Vehicle Requirement

| Cost Item | Unit | Unit Cost (PKR) | Registration & Number Plate Fee (PKR) | Total Cost (PKR) |
|-------------------------|------|-----------------|---------------------------------------|------------------|
| Motorcycle | 1 | 111,500 | 6,500 | 118,000 |
| Total Cost (PKR) | | | | 118,000 |

9.1.8. Pre-Operating Cost Requirement

Details of pre operating cost required for the repair unit is given in Table 14.

Table 14: Pre-Operating Cost Requirement

| Particulars | No. | Hiring Before Year 0 (Months) | Unit Cost (PKR) | Total (PKR) |
|-------------|-----|-------------------------------|-----------------|-------------|
| Supervisor | 1 | 1 | 40,000 | 40,000 |

| | | | | |
|------------------------------|---|---|--------|---------------|
| Mechanics | 1 | 1 | 35,000 | 35,000 |
| Utilities Cost for one month | | | 20,435 | 20,435 |
| Total Cost (PKR) | | | | 95,435 |

9.1.9. Advance against Building Rent

Details of advance security against building rent for the project is given in Table 15.

Table 15: Advance against Building Rent

| Cost Item | Months | Unit Cost (PKR) | Total Cost (PKR) |
|-------------------------|--------|-----------------|------------------|
| Advance Security | 3 | 70,320 | 210,960 |
| Total Cost (PKR) | | | 210,960 |

9.2 Financial Feasibility Analysis

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study, which is shown in Table 16.

Table 16: Financial Feasibility Analysis

| Description | Project |
|----------------------------|-----------|
| IRR | 49% |
| NPV (PKR) | 5,131,403 |
| Payback Period (years) | 3.08 |
| Projection Years | 10 |
| Discount rate used for NPV | 25% |

9.3 Financial Feasibility Analysis with 50% Debt

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study on the basis of Debt: Equity Model (50:50), which is shown in Table 17.

Table 17: Financial Feasibility Analysis with 50% Debt

| Description | Project |
|----------------------------|-----------|
| IRR | 48% |
| NPV (PKR) | 6,370,728 |
| Payback Period (years) | 3.15 |
| Projection Years | 10 |
| Discount rate used for NPV | 22% |

9.4 Breakeven Analysis

Table 18 shows calculation of break-even analysis.

Table 18: Breakeven Analysis

| Description | Amount First Year (PKR) | Ratios |
|---------------------------------------|-------------------------|------------|
| Sales (PKR) | 13,937,300 | 100% |
| Variable Cost (PKR) | 11,734,087 | 84% |
| Contribution (PKR) | 2,203,213 | 16% |
| Fixed Cost (PKR) | 1,773,816 | 13% |
| Contribution Margin | | 16% |
| Breakeven Revenue (PKR) | | 11,220,977 |
| Contribution Margin Per Service (PKR) | | 166 |
| Breakeven No of Orders | | 10,675 |
| Breakeven Capacity | | 48% |

9.5 Revenue Generation

Based on 60% capacity utilization, sales revenue during the first year of operations is shown in Table 19. These include service charges for repair or replacement and sale of parts. It does not include charges of outsourced services i.e., lathe work etc., that is paid directly by the client.

Table 19: Revenue Generation - Services

| Services | Services Rendered (Orders) | Charges per service/order (PKR) | Total Revenue (PKR) |
|--|----------------------------|---------------------------------|---------------------|
| <u>Electric Scotties (50-100cc)</u> | | | |
| Brakes and Gear | | | |
| Break shoe and Drum Rubber Service | 230 | 300 | 69,000 |
| Body Work | | | |
| Front Handle Repairing Service | 86 | 2,000 | 172,000 |
| Wheel balance Service | 43 | 500 | 21,500 |
| Shocks Work Service | 22 | 500 | 11,000 |
| Electric Work | | | |
| Electric Work Service | 144 | 750 | 108,000 |
| <u>Scooty (50CC-100CC)</u> | | | |
| Transmission Work | | | |
| Tuning Service | 806 | 300 | 241,800 |

| | | | |
|------------------------------------|-------|-------|---------|
| Timing Chain Service | 173 | 400 | 69,200 |
| Clutch & Pressure Plates Service | 46 | 500 | 23,000 |
| Brakes and Gear | | | |
| Brake Fluid Change Service | 346 | 50 | 17,300 |
| Brake shoe and Drum Rubber Service | 173 | 300 | 51,900 |
| Chain Gear Set (Sprocket) Service | 86 | 350 | 30,100 |
| Body Work | | | |
| Front Handle Repairing Service | 86 | 1,500 | 129,000 |
| Wheel balance Service | 69 | 400 | 27,600 |
| Shocks Repair Service | 26 | 350 | 9,100 |
| Engine Work | | | |
| Engine Oil Change | 518 | 100 | 51,800 |
| Engine Overhaul Service | 17 | 3,000 | 51,000 |
| Engine Top Overhaul | 23 | 1,500 | 34,500 |
| Electric Work | | | |
| Electric Work Service | 138 | 350 | 48,300 |
| Battery Charging Service | 173 | 150 | 25,950 |
| Motorcycle (70CC-150CC) | | | |
| Transmission Work | 3,024 | 300 | 907,200 |
| Tuning Service | 648 | 400 | 259,200 |
| Timing Chain Service | 173 | 500 | 86,500 |
| Clutch & Pressure Plates Service | | | |
| Brakes and Gear | | | |
| Brake Fluid Change Service | 1,296 | 50 | 64,800 |
| Brake shoe and Drum Rubber Service | 648 | 300 | 194,400 |
| Chain Gear Set (Sprocket) Service | 324 | 350 | 113,400 |
| Body Work | | | |
| Front Handle Repairing Service | 324 | 1,500 | 486,000 |
| Wheel balance Service | 259 | 400 | 103,600 |
| Shocks Repair Service | 97 | 350 | 33,950 |
| Engine Work | | | |
| Engine Oil Change | 1,944 | 100 | 194,400 |

| | | | |
|--------------------------|---------------|-------|------------------|
| Engine Overhaul Service | 65 | 3,000 | 195,000 |
| Engine Top Overhaul | 86 | 1,500 | 129,000 |
| Electric Work | | | |
| Electric Work Service | 518 | 350 | 181,300 |
| Battery Charging Service | 648 | 150 | 97,200 |
| Total | 13,259 | | 4,238,000 |

Table 20: Revenue Generation – Spare Parts

| Parts | Units Sold | Sale Price (PKR) | Revenue (PKR) |
|------------------------------|-------------------|-------------------------|----------------------|
| Transmission Parts | | | |
| Chain | 796 | 750 | 597,000 |
| Fuel Igniter | 160 | 550 | 88,000 |
| Carburetor | 478 | 2500 | 1,195,000 |
| Air Flow Pipe | 796 | 40 | 31,840 |
| Timing Chain | 478 | 270 | 129,060 |
| Clutch Plates | 796 | 415 | 330,340 |
| Clutch Lever | 636 | 105 | 66,780 |
| Chain Sprocket kit | 478 | 2000 | 956,000 |
| Spark Plug | 1273 | 300 | 381,900 |
| Tappet Nut and Bolt | 160 | 45 | 7,200 |
| kick Shaft Complete | 318 | 865 | 275,070 |
| Brakes and Gear Parts | | | |
| Breakpads and Straps | 478 | 450 | 215,100 |
| Drum Rubber | 796 | 70 | 55,720 |
| CAM Gear Set | 318 | 5200 | 1,653,600 |
| Wheel Drum | 318 | 715 | 227,370 |
| Break Spring | 318 | 20 | 6,360 |
| Brake Rod | 318 | 185 | 58,830 |
| Body Parts | | | |
| Tires | 160 | 1625 | 260,000 |
| Wheel Weight | 398 | 80 | 31,840 |
| Chain Cover | 160 | 490 | 78,400 |
| Air Cleaner Filter | 478 | 100 | 47,800 |
| Mudguard Extension | 160 | 50 | 8,000 |

| | | | |
|----------------------------|------|------|------------------|
| Indicators | 398 | 85 | 33,830 |
| Seat Cover | 40 | 325 | 13,000 |
| Exhaust Silencer | 40 | 1300 | 52,000 |
| Handle Bar | 160 | 300 | 48,000 |
| Mud Flap Front | 79 | 660 | 52,140 |
| Mud Flap Rear | 318 | 650 | 206,700 |
| Tank Cap | 40 | 185 | 7,400 |
| Headlight lens | 160 | 55 | 8,800 |
| Meter Cover | 40 | 85 | 3,400 |
| Fuel Cock | 79 | 180 | 14,220 |
| Head Bolt | 40 | 65 | 2,600 |
| Engine Parts | | | |
| Engine Crankcase | 79 | 2950 | 233,050 |
| Motor Oil | 1591 | 650 | 1,034,150 |
| Piston | 160 | 700 | 112,000 |
| Piston ring | 160 | 400 | 64,000 |
| Piston pin | 79 | 450 | 35,550 |
| Valve Head | 79 | 380 | 30,020 |
| Valve Spring Head | 79 | 65 | 5,135 |
| Valve Seal Head | 79 | 55 | 4,345 |
| Bearings | 160 | 200 | 32,000 |
| Cylinder Head | 79 | 4200 | 331,800 |
| Cylinder Block | 79 | 1480 | 116,920 |
| Push Rod | 40 | 85 | 3,400 |
| Magnet Coil Plate | 40 | 205 | 8,200 |
| Electrical Parts | | | |
| Motor battery | 318 | 900 | 286,200 |
| Lights Head | 160 | 400 | 64,000 |
| Bike Horns | 160 | 200 | 32,000 |
| Brake Cable | 318 | 185 | 58,830 |
| Meter Cable | 318 | 200 | 63,600 |
| CDI unit | 160 | 225 | 36,000 |
| Head Light Bulb | 160 | 30 | 4,800 |
| Total Revenue (PKR) | | | 9,699,300 |

9.6 Variable Cost Estimate

Variable costs of the project have been provided in Table 21.

Table 21: Variable Cost Estimate

| Description of Costs | Amount (PKR) |
|---|-------------------|
| Staff Salaries | 3,660,000 |
| Utilities Direct | 84,447 |
| Consumables | 37,000 |
| Spare Parts | 7,759,440 |
| Communications Expense (phone, internet etc.) | 42,000 |
| Office Vehicles Running Expense | 41,400 |
| Office Expenses (stationery, entertainment, etc.) | 109,800 |
| Total Cost (PKR) | 11,734,087 |

Table 22: Direct Labor

| Post | No of personnel | Monthly Salary (PKR) | Total Direct Labor Cost (PKR) |
|--------------------------------|-----------------|----------------------|-------------------------------|
| Supervisor | 1 | 40,000 | 480,000 |
| Mechanics | 3 | 35,000 | 1,260,000 |
| Helpers | 4 | 25,000 | 1,200,000 |
| Auto Electrician | 1 | 35,000 | 420,000 |
| Electrician Helper | 1 | 25,000 | 300,000 |
| Total Direct Labor Cost | 10 | | 3,660,000 |

Table 23: Variable Cost Assumptions

| Description of Costs | Details |
|---|-------------------------------|
| Margin on spare parts | 20% of sale price |
| Communications expense (phone, etc.) | 10% of administration expense |
| Office expenses (stationery, entertainment, etc.) | 3% of Direct Staff Salaries |

9.7 Fixed Cost Estimate

Table 24 shows the estimated fixed cost of the project.

Table 24: Fixed Cost Estimate

| Description of Costs | Amount (PKR) |
|-------------------------------------|------------------|
| Management Staff | 420,000 |
| Building rental expense | 843,840 |
| Utilities | 160,772 |
| Depreciation expense | 330,118 |
| Amortization of pre-operating costs | 19,087 |
| Total Cost (PKR) | 1,773,816 |

Table 25: Management Staff Salary

| Post | No. of Person | Monthly Salary (PKR) | Annual Salary (PKR) |
|------------------------------------|---------------|----------------------|---------------------|
| Store keeper cum Admin cum Cashier | 1 | 35,000 | 420,000 |
| Total Cost (PKR) | | | 420,000 |

Table 26: Fixed Cost Assumptions

| Description of Costs | Details |
|--|-------------------------------|
| Communication expense | 10% of administration expense |
| Depreciation expense | |
| Building | 10% of Cost |
| Machinery & equipment | 15% of Cost |
| Repair Tools | 33% of Cost |
| Vehicle/Equipment/Furniture & Fixtures | 15% of Cost |

9.8 Human Resource Requirement

For the 1st year of operations, the motorcycle and Scooty Repair Unit shall require the workforce at a salary cost shown in Table 27.

Table 27: Human Resource Requirement

| Post | No. of Employees | Monthly Salary (PKR) | Annual Salary (PKR) |
|------------|------------------|----------------------|---------------------|
| Supervisor | 1 | 40,000 | 480,000 |
| Mechanics | 3 | 35,000 | 1,260,000 |

| | | | |
|------------------------------------|-----------|--------|------------------|
| Helpers | 4 | 25,000 | 1,200,000 |
| Auto Electrician | 1 | 35,000 | 420,000 |
| Helper Electrician | 1 | 25,000 | 300,000 |
| Store keeper cum Admin cum Cashier | 1 | 35,000 | 420,000 |
| Total | 11 | | 4,080,000 |

10. CONTACT DETAILS

Names of some relevant suppliers of machinery and equipment are provided in Table 28.

Table 28: Suppliers of Machinery and Equipment

| Item | Origin/City | Supplier Name | Contact Number |
|----------------|-------------------|-----------------------------------|----------------|
| Air Compressor | Karachi | Inter Scan | 021-34532131 |
| Air Compressor | Lahore | Quick Lifts | 0300-9414580 |
| Hydraulic Lift | Lahore | Quick Lifts | 0300-9414580 |
| Tools | Peshawar | Asghar Doors Windows And Hardware | 0333-9248248 |
| Tools | Lahore | Chaudhry Brothers Tool store | 042-7661843 |
| Tools | Karachi | Burhani Tools Centre | 0317-2426464 |
| Tools | Quetta | Abdullah Hardware Store | 081-2451284 |
| Tools | Muzaffarabad AJK | Saad Traders | 0300-5071921 |
| Tools | Gilgit and Skardu | MH Tools Machinery and Hardware | 0355-5121165 |

11. USEFUL WEB LINKS

Table 29: Useful Web Links

| Name of Organization | Website |
|---|---|
| Small and Medium Enterprises Development Authority (SMEDA) | www.smeda.org.pk |
| National Business Development Program | www.nbdp.org.pk |
| Government of Pakistan | www.pakistan.gov.pk |
| Ministry of Industries and Production | www.moip.gov.pk |
| Trade Development Authority of Pakistan | www.tdap.gov.pk |
| Pakistan Automotive Manufacturers Association | www.pama.org.pk |
| Government of Punjab | www.punjab.gov.pk |
| Government of Sindh | www.sindh.gov.pk |
| Government of Khyber Pakhtunkhwa | www.kp.gov.pk |
| Government of Balochistan | www.balochistan.gov.pk |
| Government of Gilgit-Baltistan | www.gilgitbaltistan.gov.pk |
| Government of Azad Jammu and Kashmir | https://www.ajk.gov.pk |
| Pakistan Economic Survey | https://www.finance.gov.pk/ |
| Pakistan Association of Automotive Parts & Accessories Manufacturers (PAPAAM) | https://www.paapam.com/ |
| Atlas Honda | https://www.atlashonda.com.pk/ |
| United Motorcycle (United Auto Industries Pvt. Ltd.) | https://unitedmotorcycle.com.pk/ |
| Suzuki Motorcycles | https://www.suzukipakistan.com/motorcycles |

12. ANNEXURES

12.1 Income Statement

| Income Statement | | | | | | | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| Revenue | | | | | | | | | | |
| Total Repair Revenue | 4,238,000 | 5,070,215 | 6,021,910 | 7,115,664 | 8,363,739 | 9,806,733 | 11,456,812 | 12,636,864 | 13,938,461 | 15,374,123 |
| Total Revenue from Spare Parts | 9,699,300 | 11,588,574 | 13,746,074 | 16,264,010 | 19,128,214 | 22,406,382 | 26,151,506 | 28,844,594 | 31,815,071 | 35,091,507 |
| Total | 13,937,300 | 16,658,790 | 19,767,985 | 23,379,673 | 27,491,953 | 32,213,115 | 37,608,318 | 41,481,459 | 45,753,532 | 50,465,630 |
| <i>Cost of sales</i> | | | | | | | | | | |
| Staff salaries | 3,660,000 | 4,015,020 | 4,404,477 | 4,831,711 | 5,300,387 | 5,814,525 | 6,378,534 | 6,997,251 | 7,675,985 | 8,420,555 |
| Utilities Direct | 84,447 | 84,736 | 85,049 | 85,386 | 85,751 | 86,143 | 86,567 | 87,025 | 87,518 | 88,050 |
| Consumables | 37,000 | 40,811 | 45,015 | 49,651 | 54,765 | 60,406 | 66,628 | 73,490 | 81,060 | 89,409 |
| Spare parts | 7,759,440 | 9,270,859 | 10,996,860 | 13,011,208 | 15,302,571 | 17,925,106 | 20,921,205 | 23,075,676 | 25,452,057 | 28,073,205 |
| Total cost of sales | 11,540,887 | 13,411,427 | 15,531,400 | 17,977,956 | 20,743,474 | 23,886,180 | 27,452,933 | 30,233,442 | 33,296,620 | 36,671,220 |
| Gross Profit | 2,396,413 | 3,247,363 | 4,236,585 | 5,401,717 | 6,748,479 | 8,326,935 | 10,155,385 | 11,248,017 | 12,456,913 | 13,794,409 |
| <i>General administration & selling expenses</i> | | | | | | | | | | |
| Management Staff | 420,000 | 460,740 | 505,432 | 554,459 | 608,241 | 667,241 | 731,963 | 802,963 | 880,851 | 966,293 |
| Building rental expense | 843,840 | 928,224 | 1,021,046 | 1,123,151 | 1,235,466 | 1,359,013 | 1,494,914 | 1,644,405 | 1,808,846 | 1,989,731 |
| Indirect Electricity | 160,772 | 161,323 | 161,919 | 162,561 | 163,254 | 164,002 | 164,809 | 165,680 | 166,619 | 167,633 |
| Communications expense (phone, internet etc.) | 42,000 | 46,074 | 50,543 | 55,446 | 60,824 | 66,724 | 73,196 | 80,296 | 88,085 | 96,629 |
| Office vehicles running expense | 41,400 | 45,664 | 50,368 | 55,555 | 61,278 | 67,589 | 74,551 | 82,230 | 90,699 | 100,041 |
| Generator running expense | 73,565 | 73,818 | 74,090 | 74,384 | 74,701 | 75,044 | 75,413 | 75,811 | 76,241 | 76,705 |
| Office expenses (stationery, entertainment, etc.) | 109,800 | 120,451 | 132,134 | 144,951 | 159,012 | 174,436 | 191,356 | 209,918 | 230,280 | 252,617 |
| Depreciation expense | 330,118 | 330,118 | 330,118 | 355,555 | 353,333 | 353,333 | 308,398 | 609,939 | 609,939 | 654,029 |
| Amortization of pre-operating costs | 19,087 | 19,087 | 19,087 | 19,087 | 19,087 | - | - | - | - | - |
| Subtotal | 2,040,582 | 2,185,499 | 2,344,737 | 2,545,150 | 2,735,196 | 2,927,381 | 3,114,600 | 3,671,242 | 3,951,560 | 4,303,678 |
| Operating Income | 355,832 | 1,061,864 | 1,891,848 | 2,856,567 | 4,013,283 | 5,399,555 | 7,040,786 | 7,576,775 | 8,505,353 | 9,490,731 |
| Gain / (loss) on sale of machinery & equipment | - | - | - | - | - | - | 150,000 | - | - | - |
| Gain / (loss) on sale of office equipment | - | - | - | - | - | - | 106,375 | - | - | - |
| Gain / (loss) on sale of office vehicles | - | - | - | - | - | - | 29,500 | - | - | - |
| Earnings Before Interest & Taxes | 355,832 | 1,061,864 | 1,891,848 | 2,856,567 | 4,013,283 | 5,399,555 | 7,326,661 | 7,576,775 | 8,505,353 | 9,490,731 |
| Subtotal | - | - | - | - | - | - | - | - | - | - |
| Earnings Before Tax | 355,832 | 1,061,864 | 1,891,848 | 2,856,567 | 4,013,283 | 5,399,555 | 7,326,661 | 7,576,775 | 8,505,353 | 9,490,731 |
| Tax | - | 53,093 | 173,777 | 341,313 | 623,984 | 1,039,866 | 1,684,331 | 1,771,871 | 2,096,873 | 2,441,755 |
| NET PROFIT/(LOSS) AFTER TAX | 355,832 | 1,008,771 | 1,718,071 | 2,515,254 | 3,389,298 | 4,359,688 | 5,642,330 | 5,804,904 | 6,408,480 | 7,048,976 |

12.2 Balance Sheet

| Balance Sheet | | | | | | | | | | | |
|---|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| Assets | | | | | | | | | | | |
| <i>Current assets</i> | | | | | | | | | | | |
| Cash & Bank | 500,000 | 1,167,461 | 2,028,440 | 2,941,768 | 4,490,667 | 6,310,598 | 7,970,340 | 10,216,716 | 11,960,242 | 13,130,546 | 21,493,857 |
| Consumables inventory | 3,083 | 3,727 | 4,506 | 5,447 | 6,585 | 7,961 | 9,624 | 11,634 | 14,064 | 17,002 | - |
| Spare parts inventory | 646,620 | 852,146 | 1,114,907 | 1,455,000 | 1,887,492 | 2,438,698 | 3,139,486 | 3,819,458 | 4,646,712 | 5,653,148 | - |
| Pre-paid building rent | 70,320 | 77,352 | 85,087 | 93,596 | 102,956 | 113,251 | 124,576 | 137,034 | 150,737 | 165,811 | - |
| Total Current Assets | 1,220,023 | 2,100,687 | 3,232,940 | 4,495,811 | 6,487,700 | 8,870,508 | 11,244,026 | 14,184,842 | 16,771,755 | 18,966,507 | 21,493,857 |
| <i>Fixed assets</i> | | | | | | | | | | | |
| Land | - | - | - | - | - | - | - | - | - | - | - |
| Building/Infrastructure | 215,000 | 193,500 | 172,000 | 150,500 | 129,000 | 107,500 | 86,000 | 64,500 | 43,000 | 21,500 | - |
| Machinery & equipment | 600,000 | 510,000 | 420,000 | 330,000 | 240,000 | 150,000 | 60,000 | 1,139,791 | 968,822 | 797,854 | 626,885 |
| Furniture & fixtures | 425,000 | 361,250 | 297,500 | 233,750 | 170,000 | 106,250 | 42,500 | 882,368 | 750,013 | 617,658 | 485,302 |
| Office vehicles | 118,000 | 100,300 | 82,600 | 64,900 | 47,200 | 29,500 | 11,800 | 244,987 | 208,239 | 171,491 | 134,743 |
| Office equipment | 425,500 | 361,675 | 297,850 | 234,025 | 170,200 | 106,375 | 42,550 | 808,302 | 687,056 | 565,811 | 444,566 |
| Repair Tools | 222,250 | 148,908 | 75,565 | 294,822 | 196,042 | 99,484 | 388,143 | 258,095 | 130,974 | 511,003 | 339,791 |
| Security against building | 210,960 | 210,960 | 210,960 | 210,960 | 210,960 | 210,960 | 210,960 | 210,960 | 210,960 | 210,960 | 210,960 |
| Total Fixed Assets | 2,216,710 | 1,886,593 | 1,556,475 | 1,518,957 | 1,163,402 | 810,069 | 841,953 | 3,609,003 | 2,999,064 | 2,896,276 | 2,242,247 |
| <i>Intangible assets</i> | | | | | | | | | | | |
| Pre-operation costs | 95,435 | 76,348 | 57,261 | 38,174 | 19,087 | - | - | - | - | - | - |
| Total Intangible Assets | 95,435 | 76,348 | 57,261 | 38,174 | 19,087 | - | - | - | - | - | - |
| TOTAL ASSETS | 3,532,168 | 4,063,627 | 4,846,676 | 6,052,942 | 7,670,188 | 9,680,577 | 12,085,978 | 17,793,844 | 19,770,818 | 21,862,782 | 23,736,103 |
| Liabilities & Shareholders' Equity | | | | | | | | | | | |
| <i>Current liabilities</i> | | | | | | | | | | | |
| Accounts payable | - | 246,794 | 279,759 | 318,518 | 364,012 | 417,764 | 481,544 | 547,079 | 623,050 | 711,349 | 469,342 |
| Total Current Liabilities | - | 246,794 | 279,759 | 318,518 | 364,012 | 417,764 | 481,544 | 547,079 | 623,050 | 711,349 | 469,342 |
| <i>Other liabilities</i> | | | | | | | | | | | |
| Total Long Term Liabilities | - | - | - | - | - | - | - | - | - | - | - |
| <i>Shareholders' equity</i> | | | | | | | | | | | |
| Paid-up capital | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 | 3,532,168 |
| Retained earnings | - | 284,665 | 1,034,749 | 2,202,256 | 3,774,008 | 5,730,645 | 8,072,266 | 13,714,597 | 15,615,601 | 17,619,265 | 19,734,593 |
| Total Equity | 3,532,168 | 3,816,834 | 4,566,917 | 5,734,424 | 7,306,176 | 9,262,813 | 11,604,435 | 17,246,765 | 19,147,769 | 21,151,433 | 23,266,761 |
| TOTAL CAPITAL AND LIABILITIES | 3,532,168 | 4,063,627 | 4,846,676 | 6,052,942 | 7,670,188 | 9,680,577 | 12,085,978 | 17,793,844 | 19,770,818 | 21,862,782 | 23,736,103 |

12.3 Cash Flow Statement

| Cash Flow Statement | | | | | | | | | | | |
|--|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|
| | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| <i>Operating activities</i> | | | | | | | | | | | |
| Net profit | | 355,832 | 1,008,771 | 1,718,071 | 2,515,254 | 3,389,298 | 4,359,688 | 5,642,330 | 5,804,904 | 6,408,480 | 7,048,976 |
| Add: depreciation expense | | 330,118 | 330,118 | 330,118 | 355,555 | 353,333 | 353,333 | 308,398 | 609,939 | 609,939 | 654,029 |
| amortization of pre-operating costs | | 19,087 | 19,087 | 19,087 | 19,087 | 19,087 | - | - | - | - | - |
| Consumables inventory | (3,083) | (644) | (779) | (941) | (1,138) | (1,376) | (1,663) | (2,010) | (2,430) | (2,938) | 17,002 |
| Spare Part inventory | (646,620) | (205,526) | (262,760) | (340,093) | (432,493) | (551,206) | (700,788) | (679,972) | (827,254) | (1,006,436) | 5,653,148 |
| Pre-paid building rent | (70,320) | (7,032) | (7,735) | (8,509) | (9,360) | (10,296) | (11,325) | (12,458) | (13,703) | (15,074) | 165,811 |
| Accounts payable | | 246,794 | 32,965 | 38,759 | 45,495 | 53,752 | 63,779 | 65,536 | 75,970 | 88,300 | (242,007) |
| Cash provided by operations | (720,023) | 738,627 | 1,119,666 | 1,756,491 | 2,492,400 | 3,252,593 | 4,063,025 | 5,321,823 | 5,647,426 | 6,082,271 | 13,296,959 |
| <i>Financing activities</i> | | | | | | | | | | | |
| Issuance of shares | 3,532,168 | - | - | - | - | - | - | - | - | - | - |
| Purchase of (treasury) shares | | | | | | | | | | | |
| Cash provided by / (used for) financing activities | 3,532,168 | - | - | - | - | - | - | - | - | - | - |
| <i>Investing activities</i> | | | | | | | | | | | |
| Capital expenditure | (2,312,145) | - | - | (292,599) | - | - | (385,217) | (3,075,447) | - | (507,150) | - |
| Acquisitions | | | | | | | | | | | |
| Cash (used for) / provided by investing activities | (2,312,145) | - | - | (292,599) | - | - | (385,217) | (3,075,447) | - | (507,150) | - |
| NET CASH | 500,000 | 738,627 | 1,119,666 | 1,463,892 | 2,492,400 | 3,252,593 | 3,677,808 | 2,246,376 | 5,647,426 | 5,575,120 | 13,296,959 |

13. KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Table 30: Operating Cost Assumptions

| Description | Details |
|------------------------------------|---------|
| Building rent growth rate | 10% |
| Furniture and fixture depreciation | 15% |
| Vehicle depreciation | 15% |
| Office equipment depreciation | 15% |
| Inflation growth rate | 10.3% |
| Wage growth rate | 9.7% |
| Electricity price growth rate | 7.9% |
| Office equipment price growth rate | 9.6% |
| Office vehicle price growth rate | 11% |

13.2 Revenue Assumptions

Table 31: Revenue Assumptions

| Description | Details |
|-----------------------------------|---------|
| Sale price growth rate | 10.3% |
| Initial year capacity utilization | 60% |
| Capacity growth rate | 5% |
| Maximum capacity utilization | 90% |

13.3 Financial Assumptions

Table 32: Financial Assumptions

| Description | Details |
|-----------------------------|---------|
| Project life (Years) | 10 |
| Debt: Equity | 0:100 |
| Discount Rate (100% Equity) | 25% |

13.4 Financial Assumptions

Table 33: Debt-Related Assumption

| Description of Cost | Details |
|--------------------------|---------|
| Project Life (Years) | 10 |
| Debt: Equity | 50:50 |
| Discount Rate | 22% |
| Debt Tenure | 5 years |
| Grace Period | 1 Year |
| Interest Rate (KIBOR+3%) | 19% |

13.5 Financial Assumptions

Table 34: Cash Flow Assumption

| Description | Days |
|---------------------------|------|
| Accounts receivable cycle | 0 |
| Accounts payable cycle | 15 |

Small and Medium Enterprises Development Authority

HEAD OFFICE

4th Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road, Lahore
Tel: (92 42) 111 111 456, Fax: (92 42) 36304926-7

www.smeda.org.pk, helpdesk@smeda.org.pk

| REGIONAL OFFICE PUNJAB | REGIONAL OFFICE SINDH | REGIONAL OFFICE KPK | REGIONAL OFFICE BALOCHISTAN |
|---|--|--|---|
| 3 rd Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 helpdesk.punjab@smeda.org.pk | 5 TH Floor, Bahria Complex II, M.T. Khan Road, Karachi. Tel: (021) 111-111-456 Fax: (021) 5610572 helpdesk-khi@smeda.org.pk | Ground Floor State Life Building The Mall, Peshawar. Tel: (091) 9213046-47 Fax: (091) 286908 helpdesk-pew@smeda.org.pk | Bungalow No. 15-A Chaman Housing Scheme Airport Road, Quetta. Tel: (081) 831623, 831702 Fax: (081) 831922 helpdesk-qta@smeda.org.pk |