



ST. MARY'S UNIVERSITY
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DEPARTMENT OF PROJECT MANAGEMENT

**Assessment of Operational Challenges of Preventive car
Maintenance and Wash Services provided by MOENCO, Ethiopia:
Addis Ababa Bole Branch**

By
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February, 2022
Addis Ababa, Ethiopia

**Assessment of Operational Challenges of Preventive car
Maintenance and Wash Services provided by MOENCO, Ethiopia:
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By

Nigest Getachew Demissie

**A Thesis Submitted to
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ST. MARY’S UNIVERSITY (SMU)
GRADUATE STUDIES PROGRAM MASTER OF ARTS
IN PROJECT MANAGEMENT

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Declaration

I hereby declare that the study presented in this thesis, titled “Assessment of Operational Challenges of Preventive Car Maintenance and Wash Services Provided by MOENCO, Ethiopia: Addis Ababa Bole Branch” is my original work. I further confirm that it was not presented as partial fulfillment or any educational qualification at this or any other university, learning institutions, or any project by any means, and all resources of materials used for the thesis have been appropriately acknowledged.

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.....

Nigest Getachew

Date

Endorsement

I hereby declare that the study presented in this thesis, titled “Assessment of Operational Challenges of Preventive Car Maintenance and Wash Services Provided by MOENCO, Ethiopia: Addis Ababa Bole Branch”. It is conducted by Nigest Getachew in partial fulfillment of the requirements for the award of Master`s Degree in project management. It is the original work carried by her; it had not been presented in partial fulfillment for any educational qualification at this university or any other university, learning institution and any projects by any means. This thesis has been submitted to St. Mary`s University College, School of Graduate Studies for examination with my approval as university advisor.

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Habtamu Abebaw (PhD)

Date

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LIST OF ABBREVIATIONS

CBM	Condition Based Maintenance
MOENCO	Motor and Engineering Company
MRO	Maintenance, Repair and Overhaul/Maintenance, Repair and Operation
PM	Preventive Maintenance
PPM	Planned Preventive Maintenance
SM	Scheduled Maintenance
HR	Human Resource

ABSTRACT

The main purpose of this research is to assess the operational challenges of preventive cars maintenance and wash services providing by MOENCO Ethiopia: Bole branch in Addis Ababa as per the objectives of this particular study. The key objectives of this study have essential role to prepare tools to collect important data/information for the accomplishment of the study as per the scheduled time stated the proposed time. Also, the related literature stated and reviewed to extract and widen the strength of the study to meet the objectives of the research. Quantitative and qualitative methods were applied for making analyses based on the collected data. Descriptive statistical design applied hence the number total population is difficult to count/specify and Cochran equation was applied in order to determine the sample population to the number of respondents/participants who provide important data/ information for the research. Questionnaires (for 405 customers or car owners) and semi-structured interview (for two managers working in facility department and technical department) were prepared and distributed to the participants to collect data. The results were demonstrated that there would be perceived positive/negative implications, which might strengthen or need project interventions in the future as per the major findings of the study. Finally, the research forwarded project interventions based on positive/negative implications regarded on the assessment of operational challenges of preventive car maintenance and wash services in MOENCO, Ethiopia; Bole branch in Addis Ababa as recommendations, which might be helpful to pay attention optimum maintenance service provision by considering the project interventions pointed by the researcher.

Key words; Challenges of operational maintenance, preventive car maintenance

CHAPTER ONE

INTRODUCTION

1. Background of the Study

The history of auto mechanics began in 1800s Europe with the creation of the first cars. According to History.com, Europeans perfected the first modern automobile by 1901. These late-1800s makers of cars can be considered the first auto mechanics. They engineered, designed, and built the first successful automobiles, launching a trade for likeminded individuals in centuries to come. Because the early European automobiles were advanced compared to American automobiles but not standardized, car owners faced the difficult task of finding people who could repair this just-invented machine. Mostly upper-classmen, lucky automobile owners could find a driver who also had specialized knowledge in maintaining cars (K.Binder, 2020).

Having spent the majority of his life immersed in the automotive world, Charlie Rose shares his most memorable moments. Laugh, cry, and cheer as he takes you behind the scenes of dealership service departments, engine and transmission rebuilding companies, tire stores, and gas stations. He also describes what it takes to be self-employed. His stories paint a picture of what working for some of the best and some of the worst facilities in the automotive industry looks like. Experience a glimpse of his life from when he was a high school automotive student to a master certified technician in today's computer-controlled automobiles. Charlie suggests how to improve customer trust and retention while uncovering dishonesty. Classes of mechanics and technicians are explained and what to look for when shopping for automotive repair (Rose, 2020).

The beginning of transport in Ethiopian is related with the import of the first automotive to the country in the history of Ethiopia, the first automotive was brought to the country in 1907 during the reign of Emperor Menelik (II). The vehicle was brought from Britain and the foreigner is Mr. Bentley. In 1913 Menelik (II) received a present from the king of Austria, which is operates with steam energy. Ethiopia imports all of its automotive (vehicles and machines) needs. It doesn't manufacture automotive (Pankhurst, 2001).

MOENCO was established for the first time in the form of small garage 60 years ago in Addis Ababa Mexico area in 1959 with initial capital of 200,000 Ethiopian birr by Mr. Y.D. Lappine. His

far sighted vision became reality with the help of other resourceful people such as Ato Minase Lemma, the governor of the national bank of Ethiopia and the boss of imperial Insurance Company. MOENCO is began to be established nine years later by taking Toyota Franchise business for Ethiopia when inch cape which is London based international organization became a major shareholder injected a considerable amount of capital (<https://moencoethiopia.com>).

Today, MOENCO had been expanded the new modern building complex which is within the vicinity of Bole has a vast area of 33,000 square meters by the cost for construction of the new building was over 12 million birr. The new building comprises purpose built modern offices, the garages, (Toyota& Machinery) the learning center and the spare parts distribution center (<https://moencoethiopia.com>).

1.1. Background of the Study

Automobiles need maintenance from time to time. Like human-beings are required to maintain hygiene, similarly automobiles also need to be kept clean. Automobiles have to run on dirty roads and in a polluted environment. They run on uneven roads with potholes and other obstructions, and are therefore subjected to loads which damage them. Therefore, there is a need for regular maintenance and servicing of automobiles, which is usually done in auto workshops or auto service stations (Brito, 2007).

There is an increase in the number of vehicles, such as motorcycle, scooter, bus, car, jeep, tempo, truck, tanker, etc., running in the cities. Every new vehicle comes with a vehicle maintenance manual. It has been noticed that after getting a car or vehicle, the owners do not care much about regular car/vehicle maintenance. Even if the owners regularly service their vehicle, the vehicle maintenance tips given in the vehicle maintenance manual increases the longevity or life of the vehicle to a great extent. Vehicle maintenance and servicing is carried out when the vehicle completes certain kilometers on its normal running or when the vehicle does not give proper performance (Brito, 2007) .

Maintenance management has been well practice in the industry. The knowledge of maintenance management has contributed to the increase of efficiency/productivity and cost saving in the productivity line. However, this study is to identify the awareness of individual towards maintenance management towards maintaining their automobile. Through observation, most of

the Drivers are practicing corrective maintenance. Corrective maintenance also known as reactive strategy (Pintelon, Pinjala, & Vereecke, 2006) is a practice where task performed to identify, isolate, and rectify a fault so that the failed equipment, machine, or system can be restored to an operational condition within the tolerances or limits established for in-service operations (Ngadiman, 2014).

Preventive maintenance (PM) is "a routine for periodically inspecting" with the goal of "noticing small problems and fixing them before major ones develop." Ideally, "nothing breaks down." It is also the care and servicing by personnel for the purpose of maintaining equipment in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects. In addition, it is maintenance, including tests, measurements, adjustments, parts replacement, and cleaning, performed specifically to prevent faults from occurring (Coleman, 2017).

How enhancing capital equipment productive life, reducing critical equipment breakdown and minimizing production loss due to equipment failures? These are basic questions in preventive car maintenance and wash in relation to enhancing capital equipment productive life, reducing critical equipment breakdown and minimizing production loss due to equipment failures (Coleman, 2017).

The proposed research is mainly focus on assessment of preventive car maintenance and wash to ensure the maximum efficiency and availability of production equipment, utilities and related facilities at optimal cost and under satisfactory conditions of quality, safety and protection for the environment.

1.2. Statement of the Problem

MOENCO was established for the first time in the form of small garage 60 years ago in Addis Ababa Mexico area in 1959 with initial capital of 200,000Ethiopian birr by Mr. Y.D. Lappine. Currently, the new modern building complex which is within the vicinity of Bole has a vast area of 33,000 square meters established after 33 years. This new building consists of modern offices, the garages, (Toyota& Machinery) the learning center and the spare parts distribution center (<https://moencoethiopia.com>).

According to the interviewee in MOENCO Ethiopia Bole branch human resource leader, there are some challenges that affect operational preventive cars maintenance and wash services provided by MOENCO. The major factors that affect the operational preventive car maintenance and wash in MOENCO Ethiopia Bole branch are availability of production to provide adequate operational preventive cars maintenance and wash services under satisfactory conditions as per customers' satisfaction (<https://moencoethiopia.com>).

In addition, customers claimed that there are lack of availability of spare parts, delay of cars maintenance and wash services provided by MOENCO as per the scheduled time of cars maintenance service, high expense/payment of cars maintenance services and replacement of original spare parts instead of the damaged parts of the cars. On the other hand the interviewees, managers of different departments, facility manager and technical services manager were stated that MOENCO has expansion plan in the future to provide operational maintenance of preventive car maintenance and car wash services in acceptable manner as per customers demand. In general, the researcher understood that lack of spare parts/equipments, delay of preventive car maintenance as per the scheduled time, limited garage space were operational challenges of preventive car maintenance and car wash services provided by MOENCO to customers.

Therefore, the researcher conducted this study, assessment of operational challenges of preventive car maintenance and wash services provided by MOENCO, Ethiopia; implications for project interventions. Finally, the output of this study, the operational challenges of preventive car maintenance and car wash services provided by MOENCO is needed project interventions in order to provide better services for customers in the future.

1.3. Research Questions

This study would try to answer the following questions:

1. What is the practice of preventive car maintenance and car wash service in MOENCO?
2. What are the operational challenges of MOENCO in providing preventive car maintenance and wash services?
3. What are the implications for project interventions?

1.4. Objectives of the Study

1.4.1. General Objective of the Study

The aim of this study is to ensure the maximum efficiency and availability of production equipment, utilities and related facilities at optimal cost and under satisfactory conditions of quality, safety and protection for the environment.

1.4.2. Specific Objectives of the Study

1. To describe the existing service delivery of preventive car maintenance and wash
2. To explore practice of the operational challenges of preventive car maintenance and wash service provided by MOENCO
3. To draw implications for possible project interventions for better service provisions

1.5. Scope of the Study

The study is conducted in Addis Ababa city. Particularly, in MOENCO Ethiopia Bole branch Addis Ababa. The study was considered assessment of preventive cars maintenance and car wash services to provide adequate/optimum operational service delivery in context to economic, environmental, cars and customer satisfaction in Addis Ababa city.

In addition, the study has temporal scope. The time length of this particular study required different time phases such as collection of relevant information during organization survey/observation period in order to collect data as initial stage, organization of collected data and making analysis and discussion based on the collected data; finally, at the end forward conclusion and recommendation based on the outputs of the study starting from April 2021 to January 2022 as per the pre plan of the proposal schedule of this particular research/study.

1.6. Significance of the Study

The basic significances of this study categorized in to three purposes; these to enhance and enrich knowledge of the researchers to conduct research and completion of academic courses primarily, providing information for other researchers as input/ as source of document, to develop research (study) related theory and use the study as a guide (source) document for

further study. The study aims to assess the existing conditions of operational service delivery of preventive car maintenance and car wash service in contexts of optimum service delivery of preventive cars maintenance and wash, failure of cars/equipment's, economic and environmental situation.

In the future, the output of this study and its topic is used other researchers to conduct new studies in this field of study, assessment of operational challenges of preventive car maintenance and wash services provided by MOENCO.

Finally, the researcher forwarded possible recommendation that the implications of project interventions on operational challenges of preventive cars maintenance and wash services were provided by MOENCO Ethiopia Bole branch in Addis Ababa city.

1.7. Limitation of the Study

During assessment and field survey, the main problem that was encountered for the researcher lack of adequate information sources in MOENCO. In view of employees and department heads, lack of willingness/interest to give information about operational challenges of preventive cars maintenance and car wash provided by MOENCO in proposed time in order to keep the image of the company.

Finally, budget, it is also worth mentioning that lack of sufficient amount of money and time had an objectionable upshot on the study. These are the foremost limitations of the research that the researcher was faced in this specific study.

1.8. Organization of the Study

The research contains five sections. The first chapter contains the introduction including background of the study, statements of the problem, objectives and significances of the research; the second chapter contains review of related literature including theories, various views of operational challenges of preventive cars maintenance and wash services delivery and definitions of key terms; the third chapter contains the methodology and description of the study area section and its sub-components, the fourth chapter contains discussions and analysis and the fifth chapter contains conclusions and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Definition of Operational Terms

Maintenance functions are often referred to as maintenance, repair and overhaul (MRO), and MRO is also used for maintenance, repair and operations. Over time, the terminology of maintenance and MRO has begun to become standardized. The United States Department of Defense uses the following definitions;

Any activity such as tests, measurements, replacements, adjustments, and repairs—intended to retain or restore a functional unit in or to a specified state in which the unit can perform its required functions.

All actions have been taken to retain material in a serviceable condition or to restore it to serviceability. It includes; inspections, testing, servicing, classification as to serviceability, repair, rebuilding, and reclamation.

All supply and repair actions have been taken to keep a force in condition to carry out its mission.

The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously used, at its original or designed capacity and efficiency for its intended purpose

Preventive maintenance (PM) is "a routine for periodically inspecting" with the goal of "noticing small problems and fixing them before major ones develop." Ideally, "nothing breaks down."

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including tests, measurements, adjustments, parts replacement, and cleaning, performed specifically to prevent faults from occurring (Coleman, 2017).

How enhancing capital equipment productive life, reducing critical equipment breakdown and minimizing production loss due to equipment failures? These are basic questions in preventive car maintenance and wash in relation to enhancing capital equipment productive life, reducing critical equipment breakdown and minimizing production loss due to equipment failures (Coleman, 2017).

2.1.1. Preventive Car Maintenance Global View

The history of auto mechanics began in 1800s Europe with the creation of the first cars. According to History.com, Europeans perfected the first modern automobile by 1901. These late 1800s makers of cars can be considered the first auto mechanics. They engineered, designed, and built the first successful automobiles, launching a trade for likeminded individuals in centuries to come. Because the early European automobiles were advanced compared to American automobiles but not standardized, car owners faced the difficult task of finding people who could repair this just-invented machine (Lai, 2000).

Henry Ford founded Ford Motor Company in 1903; he had one goal in mind to create a motor vehicle that was affordable to the general public. From this desire, the Model T was born in 1908. The Model T became the first automobile to be mass produced and marketed to the middle class, and as more and more people began owning automobiles, a need grew to keep these newly prized possessions clean and presentable. This led to the uprising of the car wash industry. Maintenance is strictly connected to the utilization stage of the product or technical system, in which the concept of maintain- ability must be included (Donnelly, 2002).

The main goal behind PM is for the equipment to make it from one planned service to the next planned service without any failures caused by fatigue, neglect, or normal wear (preventable items), which Planned Maintenance and Condition Based Maintenance help to achieve by replacing worn components before they actually fail. Maintenance activities include partial or complete overhauls at specified periods, oil changes, lubrication, minor adjustments, and so on. In addition, workers can record equipment deterioration so they know to replace or repair worn parts before they cause system failure (Coleman, 2017).

The main goal behind PM is for the equipment to make it from one planned service to the next planned service without any failures caused by fatigue, neglect, or normal wear (preventable items), which Planned Maintenance and Condition Based Maintenance (CBM) help to achieve by replacing worn components before they actually fail. Maintenance activities include partial or complete overhauls at specified periods, oil changes, lubrication, minor adjustments, and so on. In addition, workers can record equipment deterioration so they know to replace or repair worn parts before they cause system failure (Coleman, 2017).

The New York Times gave an example of "machinery that is not lubricated on schedule" that functions "until a bearing burns out." Preventive maintenance contracts are generally a fixed cost, whereas improper maintenance introduces a variable cost: replacement of major equipment.

Main objectives of PM are:

1. Enhance capital equipment productive life.
2. Reduce critical equipment breakdown.
3. Minimize production loss due to equipment failures.

Preventive maintenance (PM) has the following meanings:

1. The care and servicing by personnel for the purpose of maintaining equipment in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects.
2. The work carried out on equipment in order to avoid its breakdown or malfunction. It is a regular and routine action taken on equipment in order to prevent its breakdown.
3. Maintenance, including tests, measurements, adjustments, parts replacement, and cleaning, performed specifically to prevent faults from occurring.

Planned preventive maintenance (PPM), more commonly referred to as simply planned maintenance (PM) or scheduled maintenance, is any variety of scheduled maintenance to an object or item of equipment. Specifically, planned maintenance is a scheduled service visit carried out by a competent and suitable agent, to ensure that an item of equipment is operating correctly and to therefore avoid any unscheduled breakdown and downtime.

Planned maintenance is preplanned, and can be date-based, based on equipment running hours, or on distance travelled.

Parts that have scheduled maintenance at fixed intervals, usually due to wear out or a fixed shelf life, are sometimes known as time-change interval, or TCI items.

2.1.2. Car Wash

The first ever car wash opened in Detroit, MI in 1914. Called Automated Laundry, the car wash was not actually automated. Automated Laundry involved a traditional “pail-and-sponge” method that was similar to the common fundraising activity which can be found in parking lots across the country today. The cars were manually pushed through a tunnel in which three men provided a service of soaping, rinsing, and drying the vehicle (Davison, 2013)

In the 1940’s, in Hollywood, at about the same time that Humphrey Bogart and Ingrid Bergman were heating up the screen in Casablanca, the first automatic conveyor car wash opened. Now, instead of pushing cars through the tunnel, a winch system attached to the bumper of the vehicle pulled it through the tunnel as attendants washed, scrubbed and dried each car (Davison, 2013)

Moving ahead to 1946, the first semiautomatic car wash eliminated the need for manual labor in the tunnel. A conveyor belt hooked to the bumper and overhead water sprinklers with manually operated brushes and an air blower at the exit of the tunnel, helped to dry the car (Davison, 2013)

In the early 50’s, three car wash entrepreneurs developed the first fully automated, hands-free car wash right here in America. Again, cars were pulled through the tunnel, but now the cleaning and drying process was completely handled by machines spraying, scrubbing, rinsing and drying the vehicles. Hence the burgeoning car wash industry took hold as fully mechanized car washing systems were installed across the country. Features like re-circulating water systems, soft cloth friction, roller on demand conveyors, and wraparound brushes became a standard part of high tech car washing (Davison, 2013)

The 1970’s weren’t as kind to the car washing industry as the 60’s. For those who were of driving age at the time, you can probably remember the long lines at gas stations, high gas prices and even gas rationing, all of which brought a slow down to the industry. Fortunately, the early 1980s saw the U.S. economy revive and the car wash industry recovered as automobile

ownership grew. By 1985 with 162 million cars on the road in the United States, the car wash industry experienced rapid growth and began to expand to Europe and beyond (Davison, 2013)

Today's car washes are high tech marvels with colored lights, triple foam polishes and lot more. Five sides of the vehicle can be washed at once, as soap and waxes are applied, tires are scrubbed and shined, the undercarriage is cleaned and the vehicle are dried, all in as little as three minutes. In addition, a growing emphasis on the environment and water conservation has led to milder soaps, reclaimed water systems, and less water and electrical usage (Davison, 2013)

2.1.3. History of preventive car maintenance and car wash in Ethiopia

The beginning of road transport in Ethiopia is related with the import of the first automotive to the country in the history of Ethiopia, the first automotive was brought to the country in 1907 during the reign of Emperor Menilik (II). The vehicle was brought from Britain and the foreigner is Mr. Bentley. In 1913 Menilik (II) received present from the king of Austria, which operates with steam energy (Pankhurst, 2001).

MOENCO was established for the first time in the form of small garage 51 years ago in Addis Ababa Mexico area. It was founded by Mr. Y.D. Lappine in small rented house. His far sighted vision became reality with the help of other resourceful people such as Ato Minase Lemma, the governor of the national bank of Ethiopia and the boss of imperial Insurance Company. MOENCO is began to be established nine years later by taking Toyota Franchise business for Ethiopia when inch cape which is London based international organization became a major shareholder injected a considerable amount of capital. This was the milestone moment in the firm's journey to become the MOENCO of today (<https://moencoethiopia.com>).

Nowadays, MOENCO has five operational sites two in Addis Ababa, Hawassa which is launched in 1998, Bahirdar launched in 2004, and another one in ADAMA which is launched in 2010 (<https://moencoethiopia.com>).

2.2. Empirical Literature Review

When Henry Ford founded Ford Motor Company in 1903, he had one goal in mind to create a motor vehicle that was affordable to the general public. From this desire, the Model T was born

in 1908. The Model T became the first automobile to be mass produced and marketed to the middle class, and as more and more people began owning automobiles, a need grew to keep these newly prized possessions clean and presentable. This led to the uprising of the car wash industry (Donnelly, 2002).

Maintaining vehicle have been an issue in Malaysia where we can see accidents happening in every seasonal in transportation sector. The lack of awareness towards maintenance may also lead to breakdown and malfunction. Therefore, the question comes whether the public has the awareness in maintaining their automobile, thus, this study will identify the public awareness in corrective and preventive maintenance towards personal Drivers.

The study has been carried out at University of Tun Hussien Onn Malaysia (UTHM) and focuses on the Drivers age from early 20s to late 40s to identify their awareness or understanding towards maintenance. The study has been conducted with quantitative method and analyzed using statistical tools by cross tabulation. Studies on awareness in maintenance of vehicle have not been carry out on individuals/users. . Averagely, the respondents score a mean of 0.6475 which means that the respondents have more Yes answered in their sets of awareness questions. The study also concluded that experience and education on the respondents has the difference in affecting their awareness (Ngadiman, 2014).

Maintenance management has been well practice in the industry. The knowledge of maintenance management has contributed to the increase of efficiency/productivity and cost saving in the productivity line. However, this study is to identify the awareness of individual towards maintenance management towards maintaining their automobile. Through observation, most of the Drivers are practicing corrective maintenance. Corrective maintenance also known as reactive strategy (Pintelon, Pinjala, & Vereecke, 2006) is a practice where task performed to identify, isolate, and rectify a fault so that the failed equipment, machine, or system can be restored to an operational condition within the tolerances or limits established for in-service operations (Ngadiman, 2014).

Preventive maintenance also known as proactive strategy (Pintelon et. al., 2006) is a servicing by personnel for the purpose of maintaining equipment and facilities in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures

either before they occur or before they developed into major defects. This maintenance may cost more but it is good for machineries in a long run (Ngadiman, 2014).

Car wash system involved a winch system that automatically pulled the vehicle through a tunnel, but the washing of the vehicle was still provided through manual labor. Like Automated Laundry, this involved men soaping, rinsing, and drying the vehicle as it moved down the line. Six years later, a gentleman by the name of Thomas Simpson invented the first semiautomatic car wash system in 1946. A majority of the manual labor was removed through Simpson's invention, but not entirely. This car wash system involved hooking a conveyor belt to the bumper of the vehicle which pulled it through a tunnel. An overhead water sprinkler was then used to wet the vehicle down, which was followed by three sets of manually operated brushes for cleaning, and an air blower for drying (Davison, 2013).

In 1951, the first fully automatic car wash system came to fruition in Seattle, WA. Opened by three brothers Archie, Dean, and Eldon Anderson this revolutionized the way people washed their vehicles and led to incredible investment opportunities for many businessmen. The automated car wash system involved pulling the vehicle through the tunnel, soap being sprayed on the vehicle by large machinery, automated brushes scrubbing down the vehicle, nozzles being used to rinse the vehicle off, and large air blowers to dry the vehicle (Davison, 2013).

From here, many car wash owners began installing fully automated car wash equipment at their businesses. Automatic car washes have continued to evolve ever since, and the industry remains incredibly successful today. From stand-alone car washes, to car washes at dealerships, gas stations, and elsewhere, automatic car wash systems are prominent around the globe (Davison, 2013).

2.3. Research Gaps

The gap in this specific study is lack of adequate source document, reference books and pre-existing study related to the assessment of operational challenges of preventive car maintenance and wash services and project interventions to minimize the challenges of operational maintenance services.

Moreover, the skill and knowledge, experience and practice in participating of the researcher in different research works. In addition, time to collect relevant documents to conduct in intended time as per the researcher.

2.4. Conceptual Framework

The framework below conceptualized the assessment of preventive car maintenance and how different factors affect or enhance preventive car maintenance service delivered at optimum/improved level by preventive cars maintenance provider organizations. Presence of different departments was enabled MOENCO to provide the existing extent of preventive car maintenance service for customers in the city as per the requirement of customers, interest and choice.

Regarding on the scope of the study, time constraint and limitation of adequate potentials of resources and institutions capacity, the researcher is unable to cover the contents of conceptual framework like wastewater treatment processes, designing and planning and distribution. Therefore, the researcher pointed these contents as research gap caused by the uppermost reasons. Thus, they are put in recommendation part for other researchers for further study.

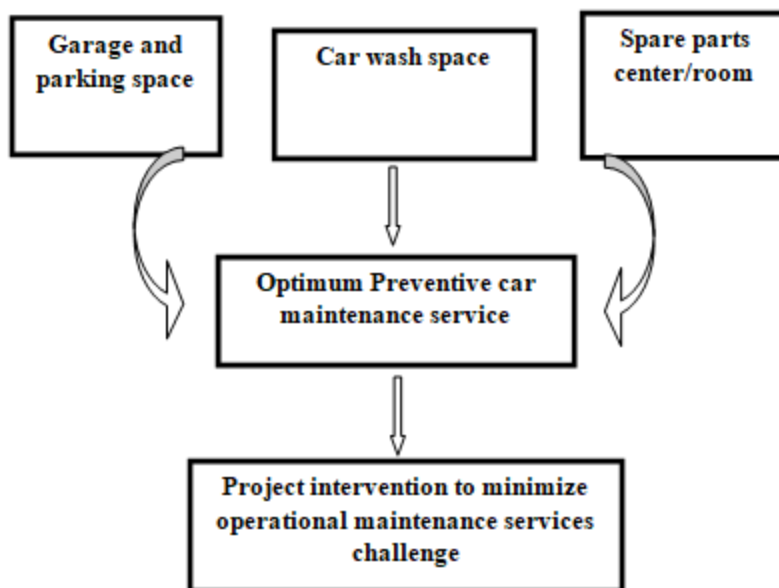


Figure 2.1- Conceptual framework

Source; Designed by the researcher

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Description of the Study Area

The new modern building complex, which is within the vicinity of Bole in Addis Ababa city center, it has a vast area of 33,000 square meters. The new building comprises purpose built modern offices, the garages, (Toyota& Machinery) the learning center and the spare parts distribution center.

3.2. Methods and Materials

3.2.1. Study Design

The study design is descriptive, in this type of research study either the entire population or a subset thereof is selected, and from these individuals, data were collected to help answer research questions of interest. The descriptive design includes phenomena being researched and characteristics of population. In addition, to describe the internal validity does not require characteristics of population. It used for statistics of data, average and frequencies. The advantage of qualitative design is that the amount of data gathered by this research and which can be used for future references, it gives overviews of study which is helpful to determines variables used for study and the limitation of the study can use for development or as a useful tools.

The study design incorporates quantitative as well as qualitative research approach. Qualitative had been used to enhance the quantitative results of the study and fills the gap where quantitative survey unable to fill.

Quantitative data to be obtained through survey questionnaire were entered into computer for analysis using Statistical Packages for Social Science (SPSS-25) software and excel to make analysis on quantitative data.

Accordingly, the data were edited, coded, and cleaned. Some consistency checks were verified by running descriptive statistics that used to verify the output by using frequencies tables and the

mean values of variables (Bruvold, 1998), which are relevant to describe preventive car maintenance service and operational challenges of preventive cars maintenance and wash provided by MOENCO, Ethiopia. The analysis part had been done by using descriptive analysis.

Narration made because data were collected by semi-structured interview from different department team leaders in MOENCO, Bole branch in Addis Ababa city. Finally, the researcher was assorted them (qualitative and quantitative analysis) together and made discussion accordingly the collected data to accomplish the research successfully as per the objectives of the research/study.

3.2.2. Study Population

The study populations were car owners of MOENCO Ethiopia of Addis Ababa city and work who had been provided operational/maintenance service of preventive car maintenance and wash in MOENCO Ethiopia in Addis Ababa.

3.2.3. Data Sources

Both primary and secondary sources of data were used to gather information. The primary data of the study was collected from eligible respondents (car owners who had been accessed preventive car maintenance and wash and employees were working in MOENCO Ethiopia selected as respondent for the particular study). Whereas secondary data was collected through review of documents, books, journals, reports, websites etc. was used to gather the intended information.

3.2.4. Sample Size Determination and Sampling Techniques

3.2.4.1. Sample Size Determination

According to the current report of Ministry of Transport, in Addis Ababa around 630,440 cars were registered. However, it was difficult to identify the number of preventive car maintenance and wash, which had been accessed operational maintenance service at MOENCO, Ethiopia; Bole center, the number of cars that had been accessed maintenance service in this center had large in number. Therefore, the total population of cars that had accessed maintenance service in MOENCO was expected to be more than 10,000. So, it was allowed for using Cochran formula.

The researcher was applied Cochran (1963:75) formula to yield a representative sample for proportions which were selected for the study.

To estimate the sample size of participants/respondents in the study, the researcher was applied the formula; Cited by (Israel, 1992):

$$n = \frac{Z^2}{e^2} pq$$

Where, n = Sample size required

p = The estimated proportion of an attribute that is present in the population, (expected prevalence).

$$q = 1 - p$$

Z = Z- Score associated with appropriately chosen level of confidence (95%) with the table value of 1.96.

e = The desired level of precision

Therefore, assume p=.5 (maximum expected prevalence).Accordingly, the desired level of precision 5% with 95% level of confidence the Z value equals 1.96. The estimated sample size was described by:

$$n = \frac{(1.96)^2}{(0.05)^2} [0.5(0.5)] \approx 384$$

Also, adding 5% contingency for expected non-response rate, the final sample size of car owner who had access preventive car maintenance and wash selected as respondent to participate in the study was described as;

$$n = 384 + 5\%(384) = 384 + 21 = 405$$

This estimated sample size was distributed to randomly selected customers who had access operational service from MOENCO Ethiopia as respondents with probability proportional to size taking into consideration time and resource allocation to the study.

3.2.4.2. Sampling Techniques

The study area was selected purposively from car owners who had access preventive car maintenance and wash of MOENCO Ethiopia in Addis Ababa city.

Then the calculated sample size was distributed based on probability proportional to size/number of customers of MOENCO. Finally, the customer's/car owners were selected using Simple Random Sampling method after gathering the list of customers were selected using lottery method.

3.3. Data Collection Techniques

Questionnaires and semi- structured interview were prepared/used as primary data/ information source collection tools to access adequate information for assessment of operational challenges of preventive car malignance and wash services provided by MOENCO; Ethiopia at Bole branch and implication for project implication.

The questionnaire prepared in two different languages such as English and Amharic in order to access adequate information/ input to accomplish the study as per the objectives of the study for the eligible respondents. The survey questionnaires had been taken (prepared) that were useful for this study because it presented the views of sample population and extract reliable information about the assessment of preventive car maintenance service and operational challenges of preventive car maintenance and car wash services provided by MOENCO, Ethiopia; implications for project interventions. It was prepared as tool to guide and gather relevant information for this particular study.

Semi-structured interview is prepared in Amharic language in order to collect information from key informants of the interview. The semi- structured interview had been presented to the interviewee in order to collect data for this particular study, from interviewee from different department of MOENCO Bole branch; the technical service manager and facility manger of MOENCO, Ethiopia; Bole branch in Addis Ababa city was used to collect data about assessment of operational challenge of preventive car maintenance and car wash services provided by MOENCO, Ethiopia; implications for project interventions. Besides, it was used to make

narration on the assessment of operational challenges of preventive car maintenance and car wash services provided by MOENCO, Ethiopia based on the collected information during the field survey.

3.4. Methods of Data Analysis

Quantitative data to be obtained through structured questionnaire were entered into computer for analysis using Statistical Packages for Social Science (SPSS-25) software and excel to make analysis on quantitative data, which were collected by the researcher from different data sources.

Accordingly, the data were edited, coded, and cleaned. Some consistency checks were verified by running frequency tables. The analysis part had been done by using descriptive analysis.

Narration had been made because data were collected by semi-structured interview from different department team leaders in MOENCO Ethiopia. Finally, the researcher was mixed them (qualitative and quantitative analysis) together to accomplish the research successfully. Descriptive statistics for the statistical significance of the dummy/discrete variables were tested.

3.4.1. Variables in the Study

To assess the extent/condition of preventive car maintenance and car wash, the researcher was reviewed literature in depth, one of the earliest suggestions was the operational service delivery of preventive car maintenance and car wash and related situation. Factors include service delivery time (provide service in appropriate time), quality of operational service delivery and customer satisfaction.

3.5. Ethical Consideration

The research was conducted upon securing ethical approval. Official letter from the School of Informatics Centre for Department of Project Management, St. Mary's University was used to request permission from MOENCO Ethiopia and to whom they might concern. After the permission was received then the study was conducted, by consent the respondents through notifying the objectives of the study, data to be gathered from them should be kept confidential and important for the study and participation was based on willingness.

CHAPTER FOUR

DISCUSSIONS AND RESULTS

The researcher was distributed questionnaire and interview to gather information for this particular study. Four hundred and five (405) questionnaires were distributed to collect sample survey data for this study in Addis Ababa city and key informant interview for two managers of technical and facility departments of MOENCO, Ethiopia Bole branch. The respondents were selected to this particular study to access information about assessment of operational challenges of preventive car maintenance provided by MOENCO Ethiopia Bole branch. Also, structured interview was prepared for heads of department in MOENCO Ethiopia Bole branch.

4.1. Time scheduled by customers to access preventive maintenance services

In this section, the researcher was presented the customers responses based on the contents of the questionnaire in terms of preventive car maintenance and car wash services provided by MOENCO as per customers` time schedule to access operational maintenance and wash services from MOENCO.

Table 4.1 Time to access car maintenance and wash service delivery

	Frequency	Percent
Once per year	9	2.2
Twice per year	35	8.6
Three times per year	36	8.9
Four times per year	325	80
Total	405	100

Table: 4.1 indicated that 2.2% of respondents were accessed maintenance service once per year, 8.6 % of respondents were accessed maintenance service once per year, 8.9 % respondents were accessed maintenance service three times per year and 80 % of respondents were accessed maintenance service four times per year.

In general, these results indicated that about 88.9 % of the respondents were accessed cars maintenance services three times and four times per year. Therefore, the respondents/customers

are accessed car maintenance service from MOENCO. This could have positive implications in terms of appropriate car maintenance service delivery availability of MOENCO for its customers in the city.

4.2. Service delivery of operational maintenance of preventive cars

This section described the customers’ response in terms of operational challenges of preventive car maintenance and wash services provided by MOENCO, Ethiopia Bole branch.

4.2.1. Readiness of MOENCO to cooperate customers

Table 4.2 Readiness to cooperate customers

	Frequency	Percent
Strongly agree	48	11.8
Agree	325	80
Difficult to decide	32	7.9
Total	405	100

Table 4.2 indicates that about 11.8% of the respondents were replied that MOENCO has strongly readiness in order to cooperate its customers, 80 % of the respondents were replied that we agree MOENCO has readiness in order to cooperate its customers, 7.9 % respondents were replied that it is difficult to decide MOENCO has readiness to cooperate its customers.

In general, about 92.1% of the respondents were replied that MOENCO has readiness in order to cooperate its customers as per their choice. Therefore, MOENCO has readiness in order to serve the customers as per their choice. This result could have positive implications in terms of providing appropriate car maintenance service delivery for its customers.

4.2.2. Willingness to provide appropriate service to customers

Table 4.3 Willingness to provide appropriate service to customers

	Frequency	Percent
Strongly agree	42	10.3
Agree	295	72.7
Difficult to decide	28	6.9
Disagree	40	10.1
Total	405	100

Table: 4.3 also indicates that about 10.3% of the respondents were replied that MOENCO has strongly readiness in order to cooperate its customers in terms of appropriate maintenance service provision, 72.7% of the respondents were replied that MOENCO has agree readiness in order to cooperate its customers in terms of appropriate maintenance service provision, 6.9 % respondents were replied that it is difficult to decide MOENCO has readiness to cooperate its customers in terms of appropriate maintenance service provision.

In general, about 10.1 % of the respondents were replied that MOENCO has readiness in order to cooperate its customer as per their choice. Therefore, MOENCO has readiness in order to serve the customers as per their choice. This result could have positive implications in terms of providing appropriate car maintenance service delivery for its customers.

4.2.3. Customers handling situation

Table 4.4 Customer handling situation

	Frequency	Percent
Strongly agree	44	10.8
Agree	300	73.9
Difficult to decide	34	8.4
Disagree	3	6.7
Strongly disagree	24	5.9
Total	405	100

Table: 4.4 indicates that about 10.8% of the respondents were strongly agree that MOENCO handling customers by providing appropriate service, 73.9% of the respondents were agree that

MOENCO handling customers by providing appropriate service, 8.4% respondents were replied that it is difficult to decide MOENCO handling customers by providing appropriate service. Also, about 6.7% of the respondents were replied that MOENCO disagree about the situation of customers handling.

In general, about 84.7% MOENCO has appropriate situation for customers handling situations. This result could have positive implications in terms of providing appropriate car maintenance service delivery for its customers.

4.2.4. Customers trust on MOENCO

Table 4.5 Customers trust on MOENCO

	Frequency	Percent
Strongly agree	64	15.8
Agree	313	77.1
Difficult to decide	21	5.2
Disagree	7	1.7
Total	405	100

Table: 4.5 indicated that 15.8% of respondents were strongly agree in terms of providing trust on MOENCO to access maintenance service, about 77.1 % of respondents were agree in terms of providing trust on MOENCO to access maintenance service, about 5.2 % respondents were replied that it is difficult to decide in terms accessing maintenance service from MOENCO and 1.7 % of respondents were replied that no trust on MOENCO to access maintenance service.

In general, these results indicated that about 92.9 % of the respondents had trust on MOENCO in order to access. This could have positive implications in terms of appropriate car maintenance service delivery availability of MOENCO for its customers in the city.

4.2.5. Using original/suitable spare parts

Table 4.6 Using spare parts during equipment damage

	Frequency	Percent
Strongly agree	52	12.8
Agree	303	74.9
Difficult to decide	43	10.6
Disagree	8	1.7
Total	405	100

Table: 4.6 indicated that 86.8% of respondents were accessed original spare parts of the damaged components their cars during accessing maintenance service in the company, 10.6% of respondents were unable to decided accessing the original spare parts of the damaged components of their cars during accessing maintenance service in the company, 1.7 % respondents were disagreed that accessing original spare parts of the damaged components of their cars during accessing car maintenance services in the company.

In general, about 86.8 % of the respondents were accessed Original spare parts of the damaged components of their cars were accessed during cars` maintenance services in the company. Therefore, this result could have positive implication in terms of appropriate car maintenance service in the company. Beside, customers have trust on the company to access spare parts replacement the damaged components of their cars in the company.

4.2.6. Efficiency of MOENCO to provide appropriate maintenance service

Table 4.7 Efficiency to provide appropriate maintenance service

	Frequency	Percent
Agree	325	80.3
Difficult to decide	38	9.4
Disagree	42	10.3
Total	405	100

Table 4.7 specify about 80.3 % of respondents were replied that we agree MOENCO is efficient to provide appropriate maintenance service, also about 9.4% of the respondents were unable to decide the efficiency of MOENCO in terms of provision of appropriate cars maintenance services and about 10.3% of the respondents were replied that MOENCO is inefficient to provide appropriate maintenance service.

In general, 80.3 % of customer’s were agreed that MOENCO is efficient to provide appropriate maintenance service for its customers. To the contrary, about 20% of the customers didn’t agree that the company is inefficient to provide appropriate car maintenance services in the company. This result were indicated that the negative implication of the company in order to provide appropriate cars maintenance services.

4.2.7. Provision of satisfactory service

Table 4.8 Provision of satisfactory service

	Frequency	Percent
Strongly agree	23	5.7
Agree	267	65.8
Difficult to decide	45	11.1
Disagree	33	8.1
Strongly disagree	37	9.1
Total	405	100

Table: 4.8 indicates that 5.7% of respondents were strongly agreed that the company provided satisfactory service for customers, 65.8% of respondents were agreed that the company provided satisfactory service for customers, 11.1% of respondents were in doubt the company provided satisfactory service for customers, 8.1% of respondents were disagreed the company provide service for customers and 9.1% of respondents were strongly disagreed the company provided satisfactory service for customers.

In general, these results indicated that about 71.5 % of the respondents were agreed that company provided satisfactory service for customers. On the other hand, 28.5% of

respondents/customers were unsatisfied by the company's service provision. Therefore, this result could have negative implication in terms of provision of satisfactory service for customers.

4.2.8. Availability of garage for maintenance and car parking services

Table 4.9 Availability of garage for maintenance and car parking services

	Frequency	Percent
Strongly agree	405	405
Total	405	100

Table: 4.9 indicated that about 99.8% of respondents were strongly agreed that MOENCO has garage and parking lots for cars. Therefore, the respondents/customers were accessed garage and car parking service from MOENCO. This result could have positive implications in terms of availability of adequate space for garage and parking lots for customers in order to access car maintenance service from MOENCO.

4.2.9. Information access to the customers

Table 4.10 Information access to the customers

	Frequency	Percent
Strongly agree	44	10.8
Agree	285	70.2
Difficult to decide	59	14.5
Disagree	17	4.2
Total	405	100

Table: 4.10 indicated that 10.8% of respondents were strongly agreed that the company provided adequate information for customers in terms of cars maintenance and new cars selling in various modes of information transmission, about 70.2 % of respondents were agreed that the company provided adequate information for customers in terms of cars maintenance and new cars selling in various modes of information transmission, 4.2%of respondents were disagreed that the company provided adequate information for customers in terms of cars maintenance and new cars selling in various modes of information transmission.

In general, these results indicated that about 81% of the respondents were agreed that the company provided adequate information for customers in terms of cars maintenance and new cars selling in various modes of information transmission. This could have positive implications in terms of providing information for customer's to deliver better cars maintenance service and new cars selling.

4.2.10. Loyalty of the company for customers

Table 4.11 Loyalty of the company for customers

	Frequency	Percent
Strongly agree	28	6.9
Agree	346	85.2
Difficult to decide	24	5.9
Disagree	7	1.7
Total	405	100

Table: 4.11 indicated that 6.9% of respondents were strongly agreed that the company is loyal to its customers hence customers were parking their cars for accessing maintenance service, 85.2 % of respondents were agreed that the company is loyal to its customers hence customers were parking their cars for accessing maintenance service, 5.9% respondents were in doubt for agreed that MOENCO is loyal to its customers hence customers were parking their cars for accessing maintenance service and 1.7% of respondents were disagreed that the company is loyal to its customers hence customers were parking their cars for accessing maintenance service.

In general, these results indicated that about 92.4% of the respondents were agreed that the company is loyal to its customers hence customers were parking their cars for accessing maintenance service. Therefore, the company is loyal for its customers. This result could have positive implications for customers in order to use cars maintenance service in the company.

4.2.11. Priority to provide spare part replacement service

Table 4.12. Priority to provide spare part service

	Frequency	Percent
Strongly agree	10	2.5
Agree	56	13.8
Difficult to decide	43	10.6
Disagree	296	72.9
Total	405	100

Table: 4.12 indicated that 2.5% of respondents were strongly agreed that MOENCO gave more priority for service provision than selling new cars, 13.8% of respondents were agreed that MOENCO gave more priority for service provision than selling new cars, 10.6 % of in doubt to decide MOENCO gave more priority for service provision than selling new cars, 72.9% of respondents were disagreed MOENCO gave more priority for service provision than selling new cars. In general, about 72.9% of respondents/customers believed that MOENCO were gave priority for new cars selling than cars service provision. Therefore, the respondents/customers are accessed car maintenance service from MOENCO. This result could have negative implications in terms of prior cars maintenance service than selling new cars in MOENCO.

4.2.12. Price of maintenance service

Table 4.13 Price of maintenance service

	Frequency	Percent
Strongly agree	6	1.5
Agree	61	15
Disagree	338	83.3
Total	405	100

Table: 4.13 indicated that 1.5% of respondents were strongly agreed that the maintenance payment being after accessing cars maintenance, about 15% of respondents were agreed that the maintenance payment being after accessing cars maintenance, about 83.3% of respondents were disagreed that the maintenance payment being after accessing cars maintenance. This result

could have negative implications for customers in terms of payment car maintenance service delivered by MOENCO.

4.2.13. Situation for car maintenance

Table 4.14 Situation for car maintenance

	Frequency	Percent
Strongly agree	24	5.9
Agree	370	91.1
Difficult to decide	11	2.7
Total	405	100

Table: 4.14 indicated that 5.9% of respondents were strongly agreed that the situation of car maintenance by MOENCO is acceptable in terms of customer choice, 91.1% of respondents were agreed that the situation of car maintenance by MOENCO is acceptable in terms of customer choice, 8.9 % respondents were agreed that the situation of car maintenance by MOENCO is acceptable in terms of customer choice, about 2.7% were in doubt in order to agree that the situation of car maintenance by MOENCO is acceptable in terms of customer choice. In general, this result indicated that about 97% of the customers were agreed that the situation of car maintenance by MOENCO is acceptable in terms of customer choice. Therefore, the respondents/customers agreed that the situation of car maintenance by MOENCO is acceptable in terms of customer choice. This result could have positive implications in terms of appropriate car maintenance service delivery in terms of customers' choice.

4.2.14. Availability of spare parts

4.15. Availability of spare parts

	Frequency	Percent
Yes	346	85.3
No	59	14.5
Total	405	100

Table: 4.15 indicated that 85.3% of respondents were replied that there is availability of adequate spare parts of cars in MOENCO, 14.5% of respondents were replied that there is no availability

of adequate spare parts of cars in MOENCO. In general, these results indicated that about 85.2 % of the customers were replied that there is availability of adequate spare parts of cars in MOENCO. Therefore, the customers are accessed spare parts for their cars in MOENCO. This could have positive implications in terms of availability of spare parts of cars in MOENCO for its customers.

4.3. Major finding

4.3.1. Customers perspective

- ✓ About 88.9 % of the respondents were accessed maintenance service three times and four times per year in MOENCO Bole branch. This result could have positive implications in terms of appropriate car maintenance service delivery in MOENCO for its customers. As a result, MOENCO paid attention for provision of frequent preventive car maintenance service delivery for the customers as per their requirement.

4.3.2. Company perspectives

4.3.2.1. Positive implications

- ✓ About 92.1% of the respondents were replied that MOENCO has readiness in order to cooperate its customer as per their choice. This result could have positive implications in terms of providing appropriate car maintenance service delivery for its customers.
- ✓ About 84.7% of customers of satisfied by MOENCO`s customer handling situations. As a result, MOENCO should care to attract more by improving its customer handling situations to provide improved cars maintenance service for the customers. This result could have positive implications in terms of providing appropriate car maintenance service delivery for its customers.
- ✓ About 92.9 % of the respondents had trust on MOENCO in order to access maintenance service for customers. This could have positive implications in terms of appropriate car maintenance service delivery.
- ✓ About 81% of the respondents were agreed that MOENCO provided adequate information for customers in terms of cars maintenance and new cars selling in various modes of information transmission. This could have positive implications in terms of providing information for customers to deliver better cars maintenance service and new cars selling.

This result should be considered as opportunity to MOENCO to attract new customers in the future.

- ✓ About 92.4% of the respondents were agreed that MENCOC is loyal to its customers hence customers were parking their cars for accessing maintenance service. Therefore, MOENCO is loyal for its customers by providing parking lots. This result could have positive implications for customers in order to use cars maintenance service.
- ✓ About 97% of the customers were agreed that the situation of car maintenance by MOENCO is acceptable in terms of customer choice. This result could have positive implication in terms of appropriate cars maintenance services in terms of customers' choices/requests.
- ✓ About 85.2 % of the customers were replied that there is availability of adequate spar parts of cars in MOENCO. The customers are accessed spare parts for their damaged cars from the company. This result could have positive implication in terms of availability of spare parts of damaged components of cars.

4.3.2.2. Negative implications

- ✓ In general, 80.3 % of customer's were agreed that MOENCO is efficient to provide appropriate maintenance service for its customers. To the contrary, about 20% of the customers didn't agree that the company is inefficient to provide appropriate car maintenance services in the company. This result were indicated that the negative implication of the company in order to provide appropriate cars maintenance services.
- ✓ About 72.9% of respondents/customers believed that MOENCO were gave prior attention for new cars selling than cars maintenance services provision. This result could have negative implication in terms of provision of preventive cars maintenance for customers. Therefore, it should be pushed customers to search other organizations to owe car maintenance service in other companies.
- ✓ About 83.3% of respondents were disagreed that the maintenance payment being after accessing cars maintenance. This result could have negative implications for customers in terms of payment cars maintenance services by MOENCO.

4.4. Project interventions

The research had been forwarded the following points as project interventions relied on the negative implications of the major findings of this particular study;

- ✓ In general, about 80.3 % of customer's were agreed that MOENCO is efficient to provide appropriate maintenance service for its customers. To the contrary, about 20% of the customers didn't agree that the company is inefficient to provide appropriate car maintenance services in the company. This result were indicated that the negative implication of the company in order to provide appropriate cars maintenance services.
- ✓ About 72.9% of respondents/customers believed that MOENCO were gave prior attention for new cars selling than cars maintenance services provision. This result could have negative implication in terms of provision of preventive cars maintenance for customers. Therefore, it should be pushed customers to search other organizations to owe car maintenance service in other companies.
- ✓ About 83.3% of respondents were disagreed that the maintenance payment being after accessing cars maintenance. This result could have negative implications for customers in terms of payment cars maintenance services by MOENCO.

4.5. Responses of key informants

4.5.1. Advantages of customers to access maintenance and car wash services

As interviewees replied that MOENCO is ready in order to co-operate and access service and willingness to provide appropriate information about the company as well as advice for its customer as per customers' choice/request. The fundamental role/goal of MOENCO is attraction and handling of customers by providing adequate advice and providing satisfactory maintenance services. These prominent basic activities could have to attract customers to wards MOENCO by building good image of our company; these activities could have positive implications to the company to attract customers. Therefore, customers were visited to access operational car maintenance and wash services to the customers.

In addition, the availability of original/suitable spare parts cars is the cause for our customers to visit the company. Thus, customers were selected our company to access our maintenance

services. Furthermore, customers had trust to access original spare parts of their cars to replace the damaged components of their car in suitable manner. This occurrence could have positive implications to the company in terms of visiting and access appropriate car maintenance services in the company.

As the interviewee (manager of technical department) relied that the company is efficient to provide operational preventive cars maintenance services because the company has skillful and knowledgeable employees to give maintenance services. Also, the technical department gives consultation and training to the customers before maintenance service to damaged cars. Therefore, customers confident on the efficiency of MOENCO in maintenance service delivery and professional skill to access the service. This event has been showed the positive implication of our company in view of providing appropriate maintenances service.

In addition the interviewee replied that the company was gave long time appointment to the customers to provide car maintenance services caused by inadequate space for garage and parking services in the company. Therefore, there is delay of accessing cars maintenance in our company to provide operational preventive car maintenance and wash services. This situation has negative implication to our company to attract customers in order to access car maintenance service in the company. Therefore, the company plans to decentralize different branches in the city to provide operational preventive cars maintenance and services. Expansion of the company to access garage and cars parking is the prominent intervention of the company to provide adequate operational preventive cars maintenance and wash services in appropriate time as per customers request to access the maintenance services.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusions

There were a number of issues relating to Assessment of Operational Challenges of Preventive Cars Maintenance and Wash Provided by MOENCO, Ethiopia; Addis Ababa at Bole Branch, The result of issues rose in the study was perceived that there is a need to develop a holistic approach and assess the extent of preventive car maintenance service delivery by MOENCO Ethiopia in Addis Ababa city.

Assessment of Preventive car maintenance and wash: The case of MOENCO in Addis Ababa city; it has impacts upon many issues like customer trust, interest and satisfaction, loyalty of the organization, efficiency of the organization to provide better service for customers and economic issues in two different directions. Besides, examine trend of car maintenance service in the organization in terms of maintenance time, maintenance and replacement of spare parts price, trust on the organization and customers' satisfaction. These were the strength of MOENCO to access appropriate preventive cars maintenance and wash services. These results could have positive implications in provision of preventive cars maintenance and wash services in the company. Finally, examine change in customers' attitude towards in use of cars maintenance service in MOENCO. Thus, issues need to be taken into account at all stages related to the existing situations in the study.

In general, 80.3 % of customer's were agreed that MOENCO is efficient to provide appropriate maintenance service for its customers. To the contrary, about 20% of the customers didn't agree that the company is inefficient to provide appropriate car maintenance services in the company. This result were indicated that the negative implication of the company in order to provide appropriate cars maintenance services. This could be MOENCO hence customers tried to search others companies to access cars maintenance services.

About 72.9% of respondents/customers believed that MOENCO were gave prior attention for new cars selling than cars service provision. This result could have negative implications in terms of provision of preventive cars maintenance for customers. Therefore, it should be pushed

customers to search other organizations to owe car maintenance service. This could be trait of MOENCO in the future to push its customers.

About 83.3% of respondents were disagreed that the maintenance payment being after accessing cars maintenance. This result could have negative implications for customers in terms of payment car maintenance service delivered by MOENCO. As a result, unexpected expense after car maintenance service might be discouraging customers to take their cars to MOENCO in the future. It should be accounted as challenge of MOENCO hence customers search other organization to possess access of car maintenance service.

5.2 Recommendation

Assessment of Preventive car maintenance and wash: The case of MOENCO in Addis Ababa at Bole Branch, Ethiopia could be effective in terms of the objectives of this particular study. The following recommendations should be considered.

- Customer's requirement, choice, interest, customers handling, loyalty of the organization, efficiency of the organization and trust on the organization are important factors to provide satisfactory preventive car maintenance service for customers of MOENCO. Thus, these factors should be required to pay due attention to insure the provision of appropriate preventive cars maintenance service in MOENCO for its customer. Therefore, there should be a need to pay attention for the upper most factors to customer satisfaction.
- About 80% of the customers were agreed that MOENCO is efficient to provide appropriate maintenance service for its customers. About 20% of the respondents were disagreed that the company efficiency to provide preventive car maintenance. The result implicated that MOENCO had gap in terms of organizational efficiency as well as professional skill to provide adequate service for its customers. Therefore, MOENCO, there is the need to provide training to enhance professional skill and organizational efficiency to provide better preventive car maintenance for its customers.
- About 83.3% of respondents were disagreed that the maintenance payment being after accessing cars maintenance. This result could have negative implications for customers in

terms of payment car maintenance service delivered by MOENCO. As a result, unexpected expense after car maintenance service might be discouraging customers to take their cars to possess preventive car maintenance service in MOENCO in the future. It should be accounted as challenge of MOENCO hence customers search other organization to possess access of car maintenance service. Therefore, there is a need to give attention for MOENCO in terms of time scheduled in order to put payment agreement with its customers.

- The negative implications were coined out from the major findings of this particular study needs project interventions to optimize the provision of operational preventive cars maintenance and wash services in the company.
- Finally, further studies are required to generate empirical evidence on the assessment of preventive car maintenance and wash to enhance the service as per acceptable manner for customer's requirement, interest, choice maintenance service delivery:

REFERENCES

- Banerjee, A. V., & Duflo, E. (2008). *The Experimental Approach to Development Economics: ECONOMICS*. Cambridge: National Bureau of Economic Research .
- Brito, E. P. (2007). Customer choice of a car maintenance service provider: A model to identify the service. *International Journal of Operations & Production Management* , 464-481.
- Cochran, W. G. (1963). *Sampling Techniques*. New York.
- Coleman, C. S. (2017). *Predictive Maintenance and the Smart Factory*. Deloitte.
- Davison. (2013, April 23). *History Tuesday: The Car Wash*.
- Donnelly, T. M. (2002). *The European Automobile Industry: escape from parochialism*. *European Business Review*.
- Encyclopedia, W. t.
- Gujrati. (2004). *Basic Econometrics (4th ed.)*. New York: The McGraw-Hill Companies.
- <https://moencoethiopia.com>. (n.d.). *MOENCO ETHIOPIA*. Retrieved from <https://moencoethiopia.com>
- ibid.
- Introduction to Vehicle Maintenance and Servicing-NCERT*. (2019, March 5). Retrieved from <https://ncert.nic.in>
- K.Binder, A. (2020, November 12). *Book on Automotive Industry*.
- Lai, K. L. (2000). *Practices of Preventive Maintenance and Replacement for Engines: A Case study*. *European Journal of Operational Research*, 124, 294-306.
- Ngadiman, Y. (2014). *IDENTIFICATION OF PUBLIC AWARENESS IN PREVENTIVE MAINTENANCE FOR PERSONAL AUTOMOBILE*. Faculty of technology and business, Malesya; YunusNgadiman.
- Ormerod, K. J. (2016). Illuminating elimination: public perception and the production of potable water reuse. *WIRES water* , 3:537-547.
- Pankhurst, R. (. (2001). *The Ethiopians: A History (Peoples of Africa)*. Wiley-Blackwell; New Ed edition. ISBN 0-631-22493-9.
- Punch, H. (2006). *Developing Effective Research Proposals 2ed*. London: SAGE Publication Ltd.
- Rose, C. (2020). *Growing up Automotive: A Book for Aspiring Young Technician and Unaware Consumer*.
- Transport, M. o. (2020, September 26). Number of vehicles registered by the authority.

APPENDICES

APPENDIX I:

QUESTIONNAIRES TO BE FILLED BY CAR OWNERS/CUSTOMERS

Dear respondents;

This questionnaire is prepared (designed) to collect data for the purpose to Assessment of Preventive car maintenance and car wash on the case of MOENCO Ethiopia: The case of MOENCO Ethiopia in Addis Ababa at Bole. To achieve this purpose your response to the questions presented below has a great value. Thus, kindly you are requested to read and give response for them clearly and genuinely.

General instruction

1. Please circle or “X” mark on your choice that appropriately represents your responses in multiple choice questions.
2. To the questions with alternatives that do not match to your response, please write your appropriate response on the space provided.

PART I. CAR OWNERS BACKGROUND

- 1- Name of respondent _____
- 2- Enumeration city _____
- 3- Date of enumeration _____
- 4- Age _____
- 5- Sex
 - 1- Male
 - 2- Female
- 6- Ownership Right
 - 1- Government
 - 2- NGO
 - 3- Hired in private organization
 - 4- Private owned

PART II. TRENDS OF PREVENTIVE CAR MAINTENANCE USES

1- How often do you access preventive car maintenance service in MOENCO?

1- Once per year

2- Twice per year

3- Three times per year

4- Four times per year

2- Do you have adequate preventive car maintenance service in MOENCO in context of productive equipment/ spare parts?

1- Yes

2- No

3- Do the price of spare parts price/cost is affordable?

1- Yes

2- No

4- If your answer is “choice 2” for question 3 put your suggestion/reason on the provide space

5- What is your opinion on the provision of preventive car maintenance service is efficient in context for the customers?

1- Strictly disagree

2- Agree to moderately

3- Strongly agree

4- Any other opinion

6- If your answer is “choice 1” for question 5 put your suggestion /reason on the provided space

7- If your answer is “choice 3” for question 5 put your suggestion /reason on the provided space

8- If your answer is “choice 4” for question 5 put your suggestion/ reason on the provided space

Part III. Customer perceptions towards in using preventive car maintenance

9- What is your opinion if you use the preventive car maintenance service in other service providers than MOENCO?

1- Strictly disagree to use

2- Agree to use moderately

3- Strongly agree to use

4- Any other opinion to use

10- If your answer is “choice 1” for question 9 put your suggestion /reason on the provided space

11- If your answer is “choice 3” for question 9 put your suggestion /reason on the provided space

12- If your answer is “choice 4” for question 9 put your suggestion/ reason on the provided space

13- Do you use preventive car maintenance service in other car maintenance service firms?

1- Yes 2- No

14- Do you change your perception/attitude in order to use preventive car maintenance service in other firms being as customer?

1- Yes 2- No

15- If your answer is “choice 1” for question 14 put your suggestion/ reason that causes to change your perception/ acceptance to use other firms

16- If your answer is “choice 2” for question 14 put your suggestion/ reason that causes to change your perception/ acceptance to use other firms

Part IV. Causes to use preventive car maintenance service in MOENCO

17- What causes the customers to use preventive car maintenance service in MOENCO?

- 1- Availability of productive equipment
- 2- Efficient service delivery of MOENCO
- 3- Affordability of cost/ price of service delivery
- 4- Accessibility of service delivery in appropriate time
- 5- Customer acceptance in MOENCO`s service provision
- 6- Environmental consideration of equipment/cars

APPENDIX II

Questionnaire prepared to collect data from customers in Amharic language

ቅድስት ማርያም ዩኒቨርሲቲ ፕሮጀክት ማኔጅመንት ማስተርስ ክፍል

ይህ መጠይቅ የተዘጋጀው በአዲስ አበባ ቦሌ ሞኔንቲ ኢትዮጵያ የሚሰጠው የመኪና ጥገናና የመኪና እጥበት አገልግሎት ጥራቱንና የደንበኞችን እርካታ ያማካለ መሆኑን መረጃ ለመሰብሰብና ለመገምገም ነው። ይህ መጠይቅ መላኾች የእርስዎ ምላሽ ለዚህ ጥናት ትልቅ የሆነ ውጤት ስላለው የእርስዎን ትክክለኛ ምላሽ በመስጠት እንዲተባበሩን በትህትና እጠይቃለን።

አጠቃላይ መመሪያ:

1. እባክዎ የ"" ወይም የ"X" ምልክትን ለጥያቄዎቹ የእርስዎን ምላሾች በትክክል

የሚወክለውን በመረጡት ቦታ ላይ ያስቀምጡ።

2. ከመልስዎ ጋር የማይዛመዱ አማራጮች ላሏቸው ጥያቄዎች እባክዎ በተዘጋጀው ክፍት ቦታ ላይ ተገቢውን ምላሽ ይጻፉ።

ክፍል 1: የመላሽ አጠቃላይ አውድ/መግለጫዎች

1. ፆታ

ሀ/ ሴት ለ/ ወንድ

2. የባለቤትነት መብት

- ሀ. የመንግስት
- ለ. መንግሥታዊ ያልሆነ ድርጅት
- ሐ. በግል ድርጅት ውስጥ የተቀጠረ

መ. የግል ባለቤት

3. የመኪናው አይነት

ሀ. ቶዮታ ካምሪ

ረ. ቶዮታረሽ

ለ. ቶዮታ አቫንዲ

ሰ. ቶዮታ ራቭ4

ሐ. ቶዮታ ኮሮላሴዳን

ሸ. ቶዮታ ላንድ ክሩዘር ፕራዶ

መ. ቶዮታ ያሪስ ሃቸ ባክ

ቀ. ቶዮታ ላንድ ክሩዘር 200

ሠ. ቶዮታ ያሪስ ሴዳን

በ. ሌላ-----

4. የመኪና ጥገና አጠቃቀም አዝማሚያዎች

ክፍል 2:- የመኪና ጥገና አሰጣጥን የተመለከቱ መጠይቆች

1. በሞኔንኮ ውስጥ የመኪና ጥገና አገልግሎት በምን ያህል ጊዜ ያገኛሉ?

ሀ. በዓመት አንድ ጊዜ

ለ. በዓመት ሁለት ጊዜ

ሐ. በዓመት ሦስት ጊዜ

መ. በዓመት አራት ጊዜ

2. በሞኔንኮ ውስጥ ከጥገና መሳሪያዎች/መለዋወጫ እቃዎች አንፃር በቂ የመኪና ጥገና አገልግሎት ያገኛሉ?

ሀ. አዎ

ለ. አይደለም

3. ከሞኔንኮ ይልቅ በሌሎች አገልግሎት ሰጪዎች ውስጥ የመከላከያ የመኪና ጥገና አገልግሎትን ከተጠቀሙ የእርስዎ አስተያየት ምንድን ነው?

ክፍል 3:-ከድርጅቱ የአገልግሎት ጥራት ጋር የተያያዙ ጥያቄዎች

እባክዎ ከዚህ በታች በሰንጠረዥ የተዘረዘሩትን አረፍተ ነገሮች በማንበብ ስለድርጅቱ (ሞኔንኮ) አገልግሎት አሰጣጥ የተረዱትን እና የጠበቁትን ከዚህ በታች በተቀመጠው/በተዘረዘረው ደረጃ እንዲሞሉ በትህትና እጠይቃለው፡፡

1. በጣም እስማማለው
2. እስማማለው
3. ለመወሰን ያስቸግራል
4. አልስማማም
5. በጣም አልስማማም

ተ.ቁ ጥር	መጠይቆች	በጣም/አ	አ/ው	ለመወሰን ያስቸግራል	አል/ም	በጣም/አል
1	ድርጅቱ በተወሰነ የጊዜ ገደብ ውስጥ አደረጋለው ብሎ ቃል የገባውን ይፈፅማል					
2	ድርጅቱ ለአገልግሎት ቅድሚያ ይሰጣል					
3	የድርጅቱ ሰራተኞች ለደንበኞች ግላዊ አድልዎ/ አፅንኦት አላቸው					
4	ድርጅቱ ከሰህተት ነፃ የሆነ አገልግሎት ይሰጣል					
5	ችግር ሲያጋጥም/ሲኖር ድርጅቱ በቅንነት መፍትሄ ይሰጣል					
6	ባለሙያዎች አስፈላጊው የጥገና አገልግሎት መቻ መስጠት እንዳለበት ያሳውቃሉ/ይናገራሉ					
7	የድርጅቱ ጠጋኞች/ባለሙያዎች/ሰራተኞች ፈጣን አገልግሎት ይሰጣሉ					
8	የድርጅቱ ሰራተኞች ሁልጊዜም ደንበኞችን ለመርዳት ዝግጁ ናቸው					
9	የድርጅቱ ሰራተኞች የደንበኞችን ጥያቄ ለመመለስ እና ፍላጎታቸውን ለማሳካት አይዘገዩም/ፈቃደኛ ናቸው					
10	የድርጅቱ ሰራተኞች በትህትና ያስተናግዳሉ					
11	የድርጅቱ ሰራተኞች አስፈላጊውን ጥገና መስጠት የሚችሉበት በቂ እውቀትና ልምድ አላቸው					

12	የድርጅቱ ሰራተኞች ፀባይ የደንበኞችን በራስ መተማመን ያሳድጋል					
13	የድርጅቱ ሰራተኞች ደንበኞችን በአግባብ ተቀብለው ያስተናግዳሉ?					
14	የድርጅቱ ጥገናና ንብረት ልውውጥ አስተማማኝ ነው?					
15	ድርጅቱ ለሁሉም ደንበኞች የሚመች የሥራ ሰአት አለው					
16	ድርጅቱ የእርስዎን ፍላጎት ቀዳሚ ያደርጋል					
17	የድርጅቱ ሰራተኞች የእርስዎን ልዩ ፍላጎት ይረዳሉ?					
18	ድርጅቱ ወቅቱንና ንብረትዎን ያማካለ የጥገና መሳሪያዎች አሉት					
19	ድርጅቱ ለመኪና ማቆሚያ የሚሆን በቂ እና አስተማማኝ ቦታ አለው					
20	የድርጅቱ አካላዊ ሁኔታ ሲታይ ማራኪ ነው					
21	የድርጅቱ የእንግዳሚ ረፊድ ጥሩ አቀማመጥ አለው					
22	ድርጅቱ የሚሰጠውን አገልግሎት በተመለከተ እንደ በራሪ ወረቀቶች፣ የተለያዩ ፅሁፎችና የመሳሰሉትን መረጃ ማግኛ መንገዶች አሉ					

ክፍል 4:- ከዚህ በታች የተዘረዘሩት ጥያቄዎች ደንበኞች በድርጅቱ አገልግሎት አሰጣጥ ዙሪያ የገመቱትን/የሚጠብቁትን ለማጥናት ይረዳ ዘንድ የተዘጋጀ ነው።

ተ.ቁ ጥር	መጠይቆች	በጣም/አ	እ/ው	ለመወሰን ያስቸግራል	አል/ም	በጣም/አል
1	ጥገና ሰጪ ድርጅቶች በተወሰነ የጊዜ ገደብ ውስጥ አደርጋለሁ ብሎ ቃል የገቡትን አገልግሎት መስጠት አለባቸው					
2	ጥገና ሰጪ ድርጅቶች በተወሰነ የጊዜ ገደብ ውስጥ አደርጋለሁ ብሎ ቃል የገቡትን አገልግሎት መስጠት አለባቸው					
3	ጥገና ሰጪ ድርጅቶች ለአገልግሎት ቅድሚያ መስጠት አለባቸው					

4	የድርጅቱ ሰራተኞች ለደንበኞች ግላዊ አድልዎ/ አፅንኦት ማድረግ አለባቸው					
5	ጥገና ሰጪ ድርጅቶች ከሰህተት ነፃ የሆነ ጥገናና አገልግሎት መስጠት አለባቸው					
6	ጥገና ሰጪ ድርጅቶች ግርሰ ፈጠር በቅንነትና በፍጥነት መፍታት አለባቸው					
7	ሰራተኞች አገልግሎት በምን ያህል ጊዜ ውስጥ እንደሚሰጥ በትክክል መናገር አለባቸው					
8	ሰራተኞች አገልግሎት በፍጥነት መስጠት አለባቸው					
9	ሰራተኞች ሁለጊዜ ምደንበኞችን ለመርዳት ዝግጁ መሆን አለባቸው					
10	ሰራተኞች የደንበኞችን ጥያቄ ለመመለስ መዘግየት የለባቸውም					
11	ሰራተኞች በልበቅ ንገት በትህትና እና በትዕግስት ደንበኞችን ማገልገል አለባቸው					
12	የድርጅቱ ሰራተኞች የተጠየቁትን ጥያቄ መመለስ የሚያስችል በቂ እውቀት ሊኖራቸው ይገባል					
13	የድርጅቶች ጥገናና አሰጣጥ ንብረት ልውውጥ አስተማማኝ መሆን አለበት					
14	የድርጅቱ ሰራተኞች ፀባይና መስተንግዶ የደንበኞችን በራስ መተማመን ማሳደግ/ መጠብቅ አለበት					
15	ጥገና ሰጪ ድርጅቶች ለሁሉም ደንበኞች የሚመች የአገልግሎት መስጫ ሰአት ሊኖራቸው ይገባል					
16	የጥገና ሰጪ ድርጅት ሰራተኞች ለደንበኞች ግላዊ አፅንኦት መስጠት አለባቸው					
17	ጥገና ሰጪ ድርጅቶች ለደንበኞች ፍላጎት ቅድሚያ መስጠት አለባቸው					
18	ጥገና ሰጪ ድርጅቶች ለደንበኞች ግላዊ አፅንኦት መስጠት አለባቸው					
19	ድርጅቱ ሰራተኞች የደንበኞችን ልዩ ፍላጎት መረዳት አለባቸው					
20	ጥገና ሰጪ ድርጅቶች ዘመናዊ መሳሪያዎች ሊኖራቸው ይገባል					

21	የጥገና ሰጪ ድርጅቶች አካላዊ አቀማመጥ ሲታይ ምን ዓይነት ስሜት ሊሰማቸው ይችላል?					
22	የጥገና ሰጪ ድርጅቶች በጣም ጥሩ አቀማመጥ ያለው የመኪናና የእንግዳሚ ለጋራ ሰራተኛው ይገባል					
23	ድርጅቱ የሚሰጠውን አገልግሎት በተመለከተ እንደ በራሪ ወረቀቶች፣ የተለያዩ ፅሁፎችና የመሳሰሉትን መረጃ ማግኛ መንገዶች መኖር አለባቸው					

ስለ ትብብርዎ እጅግ በጣም አመሰግናለሁ!

APPENDIX III

KEY INFORMANT INTERVIEW PREPARED IN AMHARIC LANGUAGE

ይህ የግንባር መጠይቅ የተዘጋጀበት ዋና ዋና ዓላማ በመስራቢታችሁ ለሚሰጡት የመኪና ጥገና እና እጥበት አጠቃላይ አገልግሎቶች ተገቢውን ምላሽ ለማግኘት ሲሆን የዚህ መጠይቅ ምላሽ ለተማሪው የመረጃ ግባት ብቻ የሚውል መሆኑን በመገንዘብ በተቋሙ ውስጥ ያልዎት ሃላፊነት እና የመጥይቁ ምላሽ የጥናቱ ዋና ግባት መሆኑን በመገንዘብ ነው። ስለዚህ እርሶዎም ለነዚህ በቃለ መጠየቅ ውስጥ ለተነሱት ጥያቄዎች ልባዊ ምስጋና አቀርባለሁ።

- 1- በዚህ ተቋም ውስጥ ያለዎት የሥራ ሃላፊነት ምንድን ነው
- 2- ተቋማችን ለደንበኞቹ ተገቢውን አገልግሎቶች እየሰጠ ነው ብለው ያምናሉ
- 3- በተቋማችሁ ላይ ደንበኞቻችሁ ተገቢውን እርካታ አግኝተዋል ብለው ያስባሉ
- 4- ተቋማችሁ ከጊዜ አንጻር የተቀላጠፈ አገልግሎት እየሰጠ ነው ብለው ያምናሉ
- 5- ተቋማችሁ በቂ መለዋወጫ እቃዎች አሉት ብለው ያምናሉ
- 6- በተቋማችሁ በቂ የመኪና እና የጋራ ጅብ ታ አለውን
- 7- የተቋማችሁ አጠቃላይ አገልግሎት ለመስጠት ዋና ተግዳሮቱ ምንድን ናቸው

ስለ ትብብርዎ እጅግ በጣም አመሰግናለሁ!