

**AN INVESTIGATION INTO AFTER-SALES SERVICE IN THE SOUTH  
AFRICAN MOTOR INDUSTRY**

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Industrial Administration

University of Cape Town

I, Edward Chalmers Drumearn Gordon, submit this thesis for the degree of Master in Industrial Administration. I claim that this is my original work and that it has not been submitted in this or in a similar form for a degree at any University.

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## ABSTRACT

This thesis looks at after-sales service in the South African motor industry, an area where very little research has been published. The aims of the project, in addition to just gaining a better understanding of the broad subject, were to find out the relative importance, in the mind of the customer, of the car or dealer service, as well as factors such as reliability, the standard of work done by dealers, on-time delivery, etc. Other aims were to compare the service received by customers with different makes of car and relate the importance of different factors to respondent characteristics such as gender, age, etc.

The South African motor industry has become very competitive and service can be used as a powerful competitive tool to reduce costs, increase profit margins and increase market share. Service quality (indeed all quality) must be measured from the customers viewpoint and can be perceived as the difference between what the customer wants and what he or she thinks they get.

A questionnaire was carefully composed and then sent to 995 people from two lists. 354 Returned questionnaires were edited, the data captured and then analysed on a computer.

It was found that the respondents regard the car as much more important than the service they receive, but build quality (which affects reliability) and service are the two areas where manufacturers can gain a competitive advantage, and so service is still very important.

The respondents were found to be reasonable in what they wanted from their cars and the dealers. Reliability was given as the most important car factor, and so is the most important factor overall. Manufacturers should emphasise this in their advertising. Doing the work correctly was rated as the most important service factor and the respondents were prepared to pay for good service.

For both the car and the service factors, it was found that the respondents were less satisfied in the more important

factors and more satisfied in the less important factors, a fairly serious problem. There could also be a problem with staff attitude toward the customers.

In almost all the comparisons between manufacturers, respondents with Toyotas were the most satisfied, followed normally by respondents with Volkswagens. Volkswagen could have a gap with dealers knowing what their customers want, but not doing anything about it.

Company car drivers were shown to be less concerned about costs and what is happening with their cars, but still want work to be done properly and cars to be reliable.

While the project does have limitations, it has contributed to knowledge in an area where very little has been published before.

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## 1 INTRODUCTION

This project, investigating after-sales quality in the South African motor industry was suggested by Mr Graham Hardy of Volkswagen South Africa.

The motor industry in SA has become very competitive in the last decade, and after-sales service is becoming more important (see the literature survey). Although Volkswagen has done considerable market research, they would like to know more about the effects of after-sales service quality in the car market.

When purchasing a car, the consumer is not only purchasing the car, but also the service provided by the dealer who sells and services the car. Volkswagen is interested in learning more about the importance of the service, and the car itself, in influencing overall satisfaction. By the car itself is meant aspects such as performance, design, reliability etc. It was decided at the same time to do research into other related aspects of service in the motor industry.

The aims of the project were therefore :

- 1) To find out the relative importance, in the mind of a car owner, of the car and service, as well as looking at the importance of different factors such as reliability, operating hours etc.
- 2) To investigate how Volkswagen's service quality compares to that of other manufacturers.
- 3) To relate the importance given to different factors with the respondent's characteristics such as gender, age etc.
- 4) To gain a better understanding of after-sales service quality in the SA motor industry.

The project consisted of compiling a questionnaire to be sent by mail to 1000 people, editing analysing the returned questionnaires, before drawing conclusions.

The survey was confined to respondents living in the Western Cape and driving cars less than 8 years old. People driving LDV's (bakkies) were excluded.

The project is not exhaustive and has some limitations, which will be discussed in section 3.6. While the results are an indication of the situation in the market, they should not be regarded as perfect.

Relevant service quality and motor industry literature is discussed in the Literature Review, followed by a description of the procedure carried out to compile, mail, edit and analyse the questionnaire. After this the results are given and discussed, followed by the conclusions and recommendations.

## **2 LITERATURE SURVEY**

### **2.1 SA Motor Industry**

Haynes<sup>(1)</sup> noted in 1985 that "...no industry of any kind anywhere in the world has gone through such traumatic upheavals of boom and slump and boom as have beset the South African automotive industry in the past ten years." Since this was written, the situation has got worse and the industry is now in a severe recession. The new vehicle market has declined from 454 000<sup>(2)</sup> new vehicles in 1981 to 284 000<sup>(3)</sup> in 1992, a decline of 37% since 1981.

This decline in the size of the market, together with the fact that there are a large number of manufacturers relative to the size of the market<sup>(4)</sup> combine to make the motor industry extremely competitive. This has resulted in profit margins being reduced.

A cause for concern in the industry is affordability. In 1982-83, the average new car price equated to about 65% of annual personal disposable income. By 1988-89 it required 90%-95% of an average person's income to buy a new car<sup>(2)</sup>. This increase is blamed on the falling value of the Rand as well as the costs involved with Phase Six of the local content programme.

As a result of the problem of affordability, the proportion of private people buying vehicles fell from about 50% in the early 1980's to 20%<sup>(2)</sup> now, yet the private buyer is becoming more important<sup>(5)</sup>. This is because changes to perks tax have made it less beneficial to have a company car. As a result, more people are being given car allowances, where the employee must buy his own car, but the firm gives him an allowance every month. As a result of discounts given to companies, private sales are also more profitable<sup>(6)</sup>.

### **2.2 Quality**

Quality is defined as the degree to which a product meets the purpose for which it is intended<sup>(7)</sup>.

Quality is determined by the perceptions of the customers. Customers choose their product based on best value.

$$\text{VALUE} = \frac{\text{QUALITY}}{\text{COST}}$$

This shows that customers will choose the product that best suits their needs for the minimum cost. Not only must the customers get what they want, but also the product must be able to be offered at an economically competitive price.

Within a typical firm, there are four types of quality functions. These are :

Quality Engineering - Ensuring that the design aspects of the product meet the specifications.

Quality Control - Setting standards and ensuring they are met.

Quality Assurance - Setting up the systems for Quality Engineering and Control.

Quality Management - Controlling a Quality Assurance system.

Total Quality Management or TQM has become a popular concept in the last few years. Some of the many concepts that it involves include :

Do things right the first time.

Continually strive for improvement.

Solve the cause and do not just treat the symptoms.

Involve everybody - Quality improvement must be company wide.

Management must be committed to improving quality.

Give workers the responsibility for quality.

Quality applies to service as well as goods

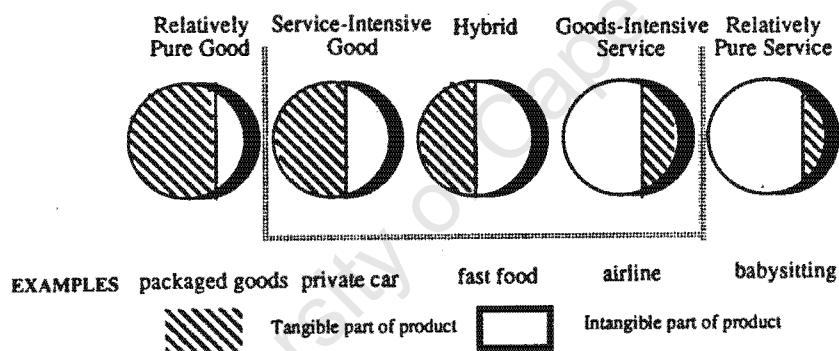
The long term aim of improving quality is to save costs as well as to attract new business by providing good quality products.

## 2.3 Service

### 2.3.1 Service - General

Kotler<sup>(8)</sup> defines a service as "...any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product." It should be noted that service involves production and so is a product in itself.

Shostack<sup>(9)</sup> argued that there was no such thing as a "pure" service or "pure" good, but instead all products had elements of goods and services, and it was the proportion of each that varied. This goods-service spectrum is shown in figure 1 below.



**Figure 1 : The Goods-service Spectrum**

It shows products ranging from relatively pure goods such as tinned food where very little service is involved, to relatively pure services such as babysitting, where very few goods are involved. A car is classed as a service-intensive good, ie. a physical product that involves a lot of service. In order to make marketing more effective, Shostack also suggests that firms attempt to move away from providing pure goods and pure service and have more of a mixture.

Zeithaml, Parasuraman and Berry<sup>(10)</sup> state that there are 4 characteristics of services that make them different to goods and pose problems for service marketers. They are:

- 1) Intangibility - The services are performances, not objects and so cannot normally be seen, felt, tasted, or touched. It is difficult to display or communicate services.
- 2) Inseparability of consumer from production - The consumer must be present during the production of most services. For example getting a haircut.
- 3) Heterogeneity - Service rendered can vary from employee to employee, consumer to consumer and from day to day. This variability makes it very difficult to standardise and control service quality.
- 4) Perishability - Services cannot be stored and so it is difficult to cope with fluctuations in demand.

### **2.3.2 Service Quality**

The consumer is the ultimate assessor of service quality<sup>(11)</sup>. It is not for the service provider to decide on the basis of his own standards that he is providing a good service, but he must find out from the consumer if the consumer is happy. If the service provider thinks he is providing a good service, and the customer does not think so, the consumer will not return if he can avoid it. As "Brand" Pretorius<sup>(12)</sup>, Managing Director of Toyota SA says "...we cannot be the judge of the quality of our service - the only judgement prerogative lies with our customers. Service excellence can therefore only be defined in the customers terms."

As a result of the intangibility mentioned in the previous section, services are very difficult for the consumer to evaluate, and hence his evaluation is normally subjective. As Pretorius puts it "...the customer perceives service in his or her own unique, idiosyncratic, human, emotional, irrational, erratic terms." Pretorius emphasises that despite this, the customer must still be the judge of service quality.

Gronroos<sup>(13)</sup> suggested two types of service quality :

1) Functional quality - the manner in which the service is delivered.

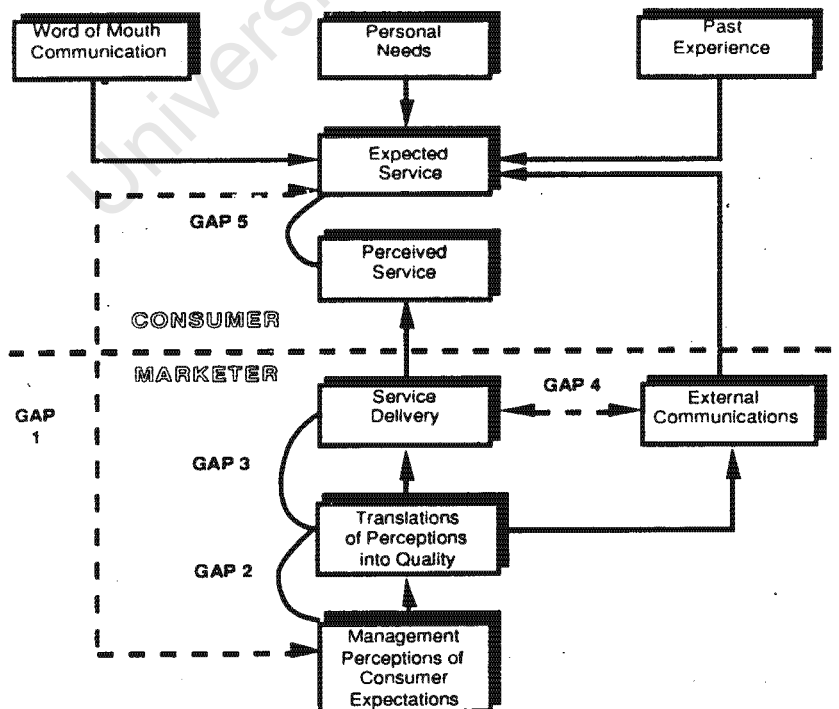
2) Technical quality - what the customer actually receives.

The customer's evaluation of service quality therefore depends on both the process and outcome of the service. The customer's reaction may be immediate, it may be delayed or it may be retrospective<sup>(11)</sup>.

### 2.3.3 The "Gaps" model and SERVQUAL

Parasuraman, Zeithaml and Berry have since 1985 produced a series of papers<sup>(14,10&15)</sup> on service quality resulting in their theories and methods becoming well known in circles concerned with service quality.

Their theories are based on the reasoning that customer's service quality evaluations are based on a comparison between their expectations and their perceptions<sup>(10)</sup> of the service they receive. It is important to note that expectations means what the customer wants, not what the customer thinks the firm will provide. In other words, the customer's feelings about service quality are based on a comparison of what he wants from the service and what he feels he is getting.



**Figure 2 : The "Gaps" Model of Service Quality**

If the customer's perceptions are less than his expectations, then he is dissatisfied. If his perceptions are equal to his expectations, then he is satisfied. Exceeding his expectations creates a very happy customer.

Parasuraman, Zeithaml and Berry postulate in the "Gaps" model<sup>(10)</sup> that the gap between customer expectations and perceptions (Gap 5), is caused by four other gaps. See figure 2.

These gaps are :

Gap 1 - a gap between what managers think the customer wants and what the customer actually wants. It is usually caused by a lack of market research or lack of communication within the firm, It results in the supplier spending time and money on things that do not matter much to the customers, and still not satisfying them.

Gap 2 - a gap between a manager's perception of customer's expectations and the quality standards that they set. This is usually caused by lack of management commitment or a perception of infeasibility ("it can't be done).

Gap 3 - a gap between the service standards set and the service delivered. It is caused by bad management, such as poor training, lack of supervision, lack of teamwork, lack of motivation, employees not informed of standards etc.

Gap 4 - a gap between the service that is delivered and what the supplier promises in its advertising. If the supplier does not deliver what it promised, this dissatisfies the customer to such an extent that it often would have been better not to have said anything at all. This gap is often caused by a tendency to overpromise - it is easy to promise, not so easy to deliver, and a lack of communication within the firm - people doing marketing do not know what the firm is able to supply.

Seeking a method of measuring service quality, Parasuraman, Zeithaml and Berry<sup>(15)</sup> created a 97 item questionnaire based on ten Service Quality Determinants<sup>(10)</sup> (factors). For each item, next to each of two statements, the respondents were

asked to mark on 7 point Likert type scales (1 = strongly disagree, 7 = strongly agree) what they felt about them. One statement measured respondents expectations and the other measured respondents' perceptions of the service received.

By subtracting the expectation score from the perception score, a measure of service quality was obtained. After testing the questionnaire, the results were analysed and the questionnaire purified to what is now called SERVQUAL, made up of five dimensions and twenty two items (forty four statements). These dimensions are :

- 1) Tangibles : Physical facilities, equipment, and appearance of personnel.
- 2) Reliability : Ability to perform the promised service dependably and accurately.
- 3) Responsiveness : Willingness to help customers and provide prompt service
- 4) Assurance : Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- 5) Empathy : Caring, individualised attention the firm provides its customers.

In early versions of SERVQUAL, in order to make sure respondents thought about the statements, half the statements were worded negatively. This was found to be confusing for the respondents, and since 1990 SERVQUAL statements have all been worded positively. There has been criticism<sup>(16)</sup> that this leads to respondents scoring all 7's for their expectations, but results do not support this.

Parasuraman, Zeithaml and Berry<sup>(15)</sup> emphasise that SERVQUAL should not be regarded as rigid and should be modified to suit a specific industry.

Suggestions of uses for SERVQUAL include market segmentation, assessing the firms service quality for the five dimensions, keeping track of service trends, comparison between branches of the same firm and comparison with competitors. Another important use is to determine the importance, in the mind of

the customer, of the different dimensions. This is done by regressing the scores for each dimension onto the overall service rating given by the respondents.

#### **2.3.4 Importance of Service**

Service is increasing in importance in most economies<sup>(13)</sup>, and it is becoming more important for manufacturers of relatively pure goods as well<sup>(16)</sup>.

In any given market, Porter<sup>(17)</sup> proposes that there are only two ways to compete, namely lowest price and product differentiation. Only one manufacturer can have the lowest cost in that market and so, for the rest of the firms, they can only compete by product differentiation. One of the most effective ways to differentiate a product is to add service or improve the service already offered. Pretorius<sup>(12)</sup> says about service : "It can be developed into the most potent competitive advantage."

One of the main objectives of a firm should be to get repeat business. If the product that the firm provides, including the service portion, is not good quality, the firm cannot expect to get repeat business from those customers. A study by the U.S. Federal Government in 1984<sup>(16)</sup> determined that nine out of ten buyers do not buy again from offending firms. An unhappy customer tells 20 others of bad service and a happy customer tells 8 others.

Retaining customers by providing good service saves marketing costs, because it costs five times more to get new customers<sup>(12)</sup> than it does to retain old customers. Happy customers are doing the marketing for free by telling others.

"Investment of time, money and effort in service gives a fantastic return" <sup>(12)</sup>. In addition to reducing marketing costs, customers are willing to pay higher prices because of the excellent service, resulting in higher profits<sup>(16)</sup>. Also, by providing good service, new customers will be attracted, resulting in increased market share and hence increased profits.

### **2.3.5 Improving Service Quality**

Both the article by "Brand" Pretorius<sup>(12)</sup> and ISO 9004-2<sup>(11)</sup> say essentially the same things about improving service quality. These are outlined in this section.

The most fundamental requirement for improving service quality is management commitment. Improving service, and indeed all quality, should become an obsession within the firm and must be continuous, not just another programme to be implemented and then forgotten about. It requires a fundamental change in organisational culture, to one that puts the customer first. If management is not committed to this, the service improvement will not be sustainable.

Customers should be seen as the firm's most valuable assets. As Pretorius puts it : "Act as if you are on the verge of losing your last customer". The aim should be to have a long term relationship with the customer - "to marry, not to have affairs".

It is crucial to understand what the customers want from service. Without this, obviously the firm cannot provide it. It is also crucial to set service standards and find out what the customers think about the present service. To find out what the customers want and what they think of the service, it is necessary to carry out market research in a systematic way. It is not good enough for employees to say what they think the customers want - the customer must be asked. It is also not good enough to rely on customer complaints as a measure of service provided - customers seldom volunteer their assessment. The U.S. Federal Government report<sup>(16)</sup> mentioned in section 2.3.4 also concluded that less than one in 6 quality problems are reported.

It is the employees who are going to be in contact with the customers and so it is essential that they are motivated and trained to provide good service. Employees cannot be expected to be motivated if the firm does not have a caring attitude towards them. Employees should have the need for customer care explained to them and should also discuss the results of

market research in order to understand what the customer wants.

All employees should be involved, not just those dealing with the customer. Other employees should be regarded as internal customers and should also be looked after. Employees should be rewarded for providing good service. Those in contact with customers should have authority to depart from procedures and make changes if this is necessary to improve service. Employees should also be encouraged to go out of their way to provide the "small touches of excellence" that can make customers so happy.

There should be communication within the firm to enable people to know what the firm's aims and objectives are and to find out about changes. Sufficient resources should be provided to enable service standards to be met.

Providing an excellent service requires continual hard work and dedication, but the rewards for the firm make them an excellent investment.

#### **2.4 Previous Research In The S.A. Motor Industry**

Considerable market research is thought to have been carried out into the South African motor industry, but most of this has been done by or on behalf of motor manufacturers. For business reasons, these firms keep this research secret and so little is publicly known about the extent and content of the research.

There does appear to be an awareness of the importance of service among the manufacturers' senior management. As "Brand" Pretorius, MD of Toyota SA<sup>(12)</sup> says "One good spin-off from the downturn is that the industry has been forced to become more aware of customer needs." Stephanus Loubser, MD of Nissan SA<sup>(18)</sup> says : "The time has come for everybody in the service industry in South Africa to stop talking about a commitment to customer care and to implement actions which will be of lasting value to the customer."

Boshoff and du Plessis<sup>(19)</sup> undertook a pilot study of marketing efforts among 20 motor dealers in the Port

Elizabeth area. They found that the marketing by these firms is poor. With a few exceptions, the respondents did not strategically plan their marketing effort, did not conduct their marketing in a formal, structured manner and the dealers depended on the manufacturers for important aspects of their marketing. They also concluded that the marketing efforts of manufacturers and dealers were not well coordinated.

Du Plessis and Boshoff<sup>(20)</sup> investigated differences between what customers regarded as important, and what new car sales personnel thought customers regarded as important. Customers were asked to fill in against 65 criteria (mostly car related), on a scale from 1 (totally unimportant) to 6 (extremely important), the relative importance of the criteria. Sales personnel were asked to fill in on the same questionnaire what they thought the customers regarded as important. The results for the customers and sales personnel were then compared.

There were found to be significant differences between customers and sales personnel in 39 of the 65 criteria. The importance of this is that it indicated that the sales personnel did not understand what the customers wanted, and were therefore not in a position to provide a good service by satisfying them.

In another paper resulting from the same questionnaire, du Plessis and Boshoff<sup>(4)</sup> found that there were significant differences in the relative importance given by male and female customers for 15 of the 65 criteria. They point out that with the increasing competition in the motor industry, it is necessary to pay more attention to market needs and with 45% of SA drivers being female, this is an important segment of the market.

South African Associated Newspapers conducted three comparable surveys in 1981<sup>(21)</sup>, 1982<sup>(22)</sup> and 1983<sup>(23)</sup> into the relative importance of thirty factors. In 1981, the five most important factors were : reliability, roadholding, performance, fuel consumption and quality of build. In 1982,

fuel consumption, build quality and safety increased in importance compared to 1981. In 1983, interior space became more important and fuel consumption less important than 1982.

The Cape Times<sup>(18)</sup> reported in 1993 that the main irritants for service in the motor industry were : work not done correctly the first time, work not completed on time, and poor communication with the customer.

## **2.5 Summary of Literature Review**

Strong competition in the South African motor industry, caused by a declining market and many manufacturers, has resulted in service quality increasing in importance. This is because improving service quality is an extremely important way of competing and results in higher profits.

All products can be placed on a spectrum varying from pure good to pure service. Four characteristics of services differentiate them from goods. These are : Intangibility, Inseparability, Heterogeneity and Perishability.

Service quality must be measured from the customer's viewpoint only. Customers do this by comparing what they perceive they get from the service with what they want from it. The gap between these two is caused by four smaller gaps between the organisation and the customer and within the organisation. Service quality can be measured by means of the SERVQUAL questionnaire.

Improving service requires a commitment from management and must be ongoing. Market research must be conducted to determine customer service and needs. Employees must be trained and motivated to provide good service.

Previous research in the motor industry has shown that there is a lack of formal market research by dealers, male and female customers have some different needs to one another and their sales personnel have a different impression of customer needs to the customers actual needs.

### **3 PROCEDURE**

#### **3.1 Preparation**

After looking at the advantages of both interviews and mailed questionnaires, it was decided to use mailed questionnaires to gather the information for this project. The advantages of a mail survey, as given by Alreck and Settle<sup>(24)</sup>, are :

Sample size - It is easier and quicker to get a large sample using a mail survey.

Control of the Questions - All questions are identical and so interviewer bias is removed.

Processing - Structured answers make the data easier to process.

Geographical Spread - Data can be obtained easily from respondents spread over a large area.

Cost - mail surveys are cheaper than personal interviews.

Anonymity - mail surveys can be conducted anonymously, while interviews can not.

Respondent Convenience - Respondents can fill in a mail questionnaire at their leisure, leading to a better response.

The disadvantages of mail surveys are :

Non-response Bias - People who do not return questionnaires, could bias the results.

Questionnaire Composition - Because the respondent must fill the questionnaire in alone, it must be carefully designed to be understandable and cover all possible responses.

Interaction - There is no interaction between the researcher and respondent and so the researcher may miss important points that could come up in an interview.

It was decided that to get reasonable results, between 100 and 200 returned questionnaires would be needed. The expected response rate was between 10% and 15%. This figure came from The Survey Research Handbook<sup>(24)</sup> as well as from talking to

people at the University of Cape Town who have conducted mail surveys in the past. From this expected response rate and the required response, it was worked out that 1000 questionnaires would have to be sent out.

### **3.2 Name List Acquisition**

In order to send out the questionnaires, it was necessary to obtain a list or lists of car owners. Volkswagen were prepared to supply a list of people who had bought cars from them. It was also decided to send the questionnaire to people who did not own a Volkswagen, in order to get a more representative sample and to find out information about Volkswagen's competitors.

Volkswagen, who were sponsoring the project, were very reluctant for a competitor, such as Toyota, or a competitor's dealer to be approached for a list of customers, similar to the Volkswagen list. The reason for this was that the competitor would then want the information that Volkswagen was sponsoring.

Old Mutual were approached for a list of users of company vehicles. They were willing to provide this information, but it was not freely available and would have required a considerable amount of programming to get out of their computer system. Consequently, they could not supply it.

Shell were also approached for a list of people with company owned cars. They felt that sending a questionnaire to their employees would be an invasion of their employees' privacy and so they would not provide a list.

PFV Insurance Brokers were then approached for a list of car insurance policy holders. They were willing to provide a list of policy holders, but could not supply a list of car policy holders. It was decided to use this list. There was an assumption that of the people with insurance policies, a large proportion would drive either a company or private car and so the response rate would be sufficiently high. A list of 500 names of policy holders from within the Western Cape was therefore obtained. Because of the nature of the source,

the majority of the respondents were expected to have privately owned vehicles.

A random list of 500 people within the Western Cape who had bought a vehicle from Volkswagen in the previous 3 years, was obtained from Volkswagen. The list consisted only of people's, not company names, and so the majority of the respondents were expected to drive private vehicles, similar to the PFV list. The reason so many Volkswagen owners were required, was because more detailed analysis of Volkswagen's service quality was to be done than that of other manufacturers, resulting in more Volkswagens owners' names being needed for accuracy.

The two list sources were different and so some bias was inevitably brought into the results. While this is regrettable and it would have been better to have lists from Volkswagen's competitors, this was not possible. It was felt that this was the best that could be done under the circumstances.

### **3.3 Questionnaire And Cover Letter Formulation**

#### **3.3.1 Creation Method**

Questionnaire creation is not easy and requires careful thought. To get this one completed required many changes and redrafts. Most of the changes made, and the reasons for them will, for the sake of brevity, not be discussed.

During the creation of the questionnaire, much use was made of The Survey Research Handbook by Alreck and Settle. This gave valuable information on the techniques of questioning and common mistakes to avoid.

The method used was an iterative one of creating a draft, testing it, correcting problems that appeared during testing and then testing it again on somebody different. After the first two or three drafts, most of the changes involved changing the wording of questions and instructions, and then getting the layout correct.

In addition to testing the questionnaire on 5 people, people experienced in questionnaire creation were asked to comment

and give advice on draft copies. These people were the project supervisor Mr Gordon Lister, Professor Don Foster of the UCT Psychology Department and Associate Professor Trevor Wegener of The UCT Statistics Department.

### **3.3.2 The Questionnaire**

In this section, the final questionnaire that was created is discussed. This questionnaire can be found in Appendix 1.

In the questionnaire, it was felt that it was better to ask for too much information and not use some of it for the analysis, than to discover during analysis that there was not enough information. There was one danger in doing this, that people would be put off by the length and not respond. It was decided therefore to limit it to four A4 pages, equivalent to both sides of A3 being printed.

The easiest section for the respondent to fill in was the section up to question 7 asking about car details. By putting this first, it would build up the respondents confidence and so he or she would be less likely to give up. If the sections that require careful thought were to be placed at the beginning, it would cause people to be scared off, resulting in a lower response rate.

After the car details, the next easiest to fill in was the personal details section. This was placed after the car details because it was felt that some people could feel threatened by giving personal details, so putting them off. Alreck and Settle recommend putting the demographics section at the end, but as there were no very sensitive questions (such as race) in this particular demographics section, it was felt that it was better to put it second.

Question 12 is a straight question asking the respondents the relative importance of Dealer service or the car.

Questions 13 measures the respondent's expectations and the relative importance of the different factors, while question 14 measures their perception of what they are receiving. The quality for each of the factors can be determined, by comparing their perceptions and expectations.

Questions 13 and 14 are based on SERVQUAL, however SERVQUAL had twenty two statements for each part and that was only for measuring service. For this project it was also necessary to include factors relating to the car (Reliability, Efficiency etc.) and so it would have become very long if all twenty two statements from SERVQUAL and other statements about the car were included. It was therefore decided to reduce the number of statements in each question to ten relating to service and five relating to the car.

Initially, the same instructions as in SERVQUAL were used, but during testing this was found to be confusing. The wording was changed and in question 13, the word "importance" was included to make it less confusing. The sentence asking the respondents not to give all the statements the same rating, was also included as there had been a tendency for some people to rate everything as very important.

Question 15 parts a, b and c were asked to get the respondents' perceptions of their whole experience as well as dealer service and their car. Part d was included to see if, in the respondents experience, the whole product (vehicle and service) lives up to its advertising image (Gap 4 in the "Gaps" model).

The respondents' choice of next car (Question 16) is a measure of satisfaction with their present car. If their next car will be the same make as their present make, then they must be satisfied. This is not an absolute measure of satisfaction though, because people can choose a different make for reasons other than being dissatisfied with their present make. This question could also indicate future buying trends in the motor industry. For example many more people may indicate a preference for a particular make than have that make at the moment.

Asking people for reasons why they would buy a particular make next, gives useful insight into the reasons why people buy a particular make. This can be different to the importance of the different factors obtained from question 13

which refers to what the respondent feel at present, ie after the purchase, not before.

Asking respondents if they would recommend their present make to friends and colleagues (Question 17) gives a measure of customer dissatisfaction. It was thought that most people would say that their car was good even if they were only barely satisfied and would only not recommend it, if they were very unhappy with it.

Question 20 was included to investigate Gap 1, the service provider not knowing what the customers want.

Question 21, asking for suggestions on ways to improve service, as well as the other questions asking for comments were included because using structured answers, there can be bits of information that are missed and asking these unstructured questions can reveal that information. A disadvantage is that this information is more difficult to edit and process.

### **3.3.3 The Cover Letter**

As there was no direct contact between the researcher and the respondents, it was necessary to win the cooperation of the respondents so that they would fill the questionnaire in. To do this, it was necessary to answer all the questions they might have about the questionnaire using a cover letter. This cover letter was critical as it could determine the response rate.

In the cover letter created (see Appendix 1), the first paragraph explained to the respondents what the project and questionnaire were all about and appealed to them for their help by filling it in. The 2nd paragraph was included to build up the respondents confidence, so that they felt it was not too difficult for them to fill in. In order to get a better response rate, people who did not meet the criteria (A car less than 8 years old), were asked to pass their questionnaire on to somebody else .

The cover letter was printed on UCT School of Engineering Management letterheads and no mention was made of Volkswagen

sponsoring the project. This was because mentioning Volkswagen could bias the result (Some people may like or hate Volkswagens) and also using the UCT name indicated that it was for academic research and not for commercial gain, resulting in more people responding.

### **3.4 Questionnaire Finishing**

#### **3.4.1 Translation**

It was decided to translate the questionnaire and cover letter into Afrikaans. This was done partly because Afrikaans is an official language of South Africa, but mainly because it is courteous to the respondents to enable them to fill the questionnaire in, in their own language. Professor Foster of the UCT Psychology Department estimated that if the questionnaire was only sent out in English, about half the Afrikaans speaking people who would respond to an Afrikaans questionnaire, would actually respond. This would reduce the number of respondents by 30%.

Volkswagen offered to have the questionnaire and cover letter translated by a professional in Uitenhage. Copies were faxed to Volkswagen and then passed on to the translator. The Afrikaans versions were then faxed back. When copying these versions onto the word processor, it was noticed that there were many mistakes with the translation. Jan Esterhuyse, a lecturer with the UCT Education Department, teaching teachers to teach Afrikaans, was approached to correct the translations. He was not impressed with the translation and made numerous corrections.

A statement in the other language was included at the top of the English and Afrikaans cover letters to say that the other language was on the reverse of the page.

#### **3.4.2 Layout and Printing**

The cover letters (English and Afrikaans), and the questionnaires were printed from the word processing package using a laser printer in the School of Engineering Management and then photocopied by the UCT Printing Department.

The cover letters were printed on either side of an A4 sheet, while each questionnaire (comprising four sides of A4) was printed on both sides of an A3 sheet and folded once to form a booklet.

Half the English and Afrikaans questionnaires were printed with page numbers and half without. Those with page numbers were sent to those people from the PFV list and those without page numbers to the people from the Volkswagen list source. This was done so that although the questionnaire was anonymous, it was still possible to tell which list the respondent came from.

#### **3.4.3 Mailing Piece Assembly**

The person receiving a questionnaire will usually accept or reject it within the first 30 seconds. In order to get a high response rate, it is vital that a good impression is created and the person's attention is captured when it is opened up, and so great care was taken when assembling the final mailing piece.

Two men employed by the author's neighbour were employed to assemble the 1000 mailing pieces. After being shown exactly what to do, they worked well and with hardly any mistakes. It took 2 days to complete.

The questionnaires were each folded into an A4 sized booklet and the cover letter was placed on top of the two of them. They were then folded to fit into the A5 mailing envelope.

The return envelope (See Appendix 1) was a good quality white one, with the return address (School of Engineering Management, UCT) put on the outside with a good quality rubber stamp. A 35c stamp was stuck onto the envelope. This was expected to give a better response than a business reply service, because people do not want to waste the stamp and so return the questionnaire. It also gives an impression of quality.

The return envelope was placed between the folded cover letter in such a way that when the bundle was taken out of the mailing envelope and unfolded, the first thing that was

seen by the person was the cover letter with its UCT letterhead and the return envelope with its stamp.

The mailing envelope had a printed label, obtained from the list sources, placed on the front and the return address stamped on the back for any that had to be sent back by the post office. Also placed on the back of the envelope was the sticker shown below in figure 3.



**Figure 3 : Mailing Envelope Sticker**

This label was considered very important for a good response. It catches the person's attention, is humorous and is asking their help - all things that would help get a better response.

### **3.5 Data Processing**

#### **3.5.1 Data Editing**

It took about seven weeks for the returning questionnaires to slow to a trickle. These then required editing. The reasons for this were :

- 1) To facilitate data capture - Answers not pre-coded, but written, such as make, model and any comments required coding so that the data could be captured on computer.
- 2) To correct obvious errors - Some people made obvious errors in filling in their questionnaire and these were corrected. A typical example of this would be when the people say that their car is serviced by a franchised dealer and then when asked who services the vehicle, put down the name of a non-franchised garage (this was checked

with the phone book). When correcting these mistakes, great care had to be taken not to misinterpret what the respondents were saying.

- 3) To get a "feel" for what the respondents think - By looking over the returned questionnaires and editing them, the researcher can get a "feel" of what the respondents think. Though this is subjective, it can lead to useful insights.

When coding the different uncoded answers, the general method was to make a list of the answers for about 50 questionnaires, put codes on these and if any different answers were discovered, these were added to the list. Each questionnaire was given a number to identify it.

The comments that were given, required careful editing because they were very diverse, yet many had only subtle differences or were saying similar things in different ways. They were put into fairly broad categories.

### **3.5.2 Data Capture**

After it had been edited, the data from the questionnaires was captured by the data capture section of the UCT computing centre onto the VAX mainframe. The data was then put onto a floppy disk in ASCII format.

It was then attempted to import this data into Statgraphics, the program to be used for the analysis, but the file was too big and it was not possible to import it in smaller pieces as the manual said it could. Eventually, with the help of Jackie Sommerville of UCT User Support Services, the file was imported, but the information was jumbled. Eventually the file was imported into Statgraphics Plus, a more advanced version for 386 and 486 computers. This worked and the file was then exported from this as a D-Base file which was successfully imported into Statgraphics. The whole process of importing took a week.

### **3.5.3 Computer Analysis**

At first it was thought that a spreadsheet program such as Lotus or Quattro would be sufficient to analyse the data.

These programs are easy to use and have operators for logical functions, but unfortunately, when doing calculations they regard blank spaces as zeros. This means that if a respondent leaves a question out, the computer includes it in the calculation as a zero. This would bias the results and so a spreadsheet would not be satisfactory.

Associate Professor Wegener of UCT Statistics Department, was approached for advice on statistical analysis programs. Two programs which are able to cope with blank spaces, were suggested.

BMDP is a very powerful program running on the VAX mainframe, the main disadvantages of which were that it could not be run at home or elsewhere on a personal computer and the printouts had to be collected from the computing centre.

Statgraphics is a less powerful statistical program running on personal computers. It is site licensed for UCT and so the manuals and disks were available from the computer library. Because very sophisticated statistics were not needed for this analysis and the ease of using the program on a personal computer, Statgraphics was chosen.

Statgraphics was found to be adequate for the analysis, but it was not very user friendly, particularly when compared to a spreadsheet.

Some parts of the program did not have an on-line help facility and it was not very useful when it was available.

The data editing was not friendly, with it being necessary to save the data, leave the editor, run a function or command and then return to the editor to make other changes.

The error messages were not informative as they could have applied to any number of causes.

There appeared to be few conventions for use of functions or commands in different parts of the program. For example the functions in the data and recoding editors were different.

While all these things were annoying, the program still managed to do its job and the analysis was completed.

### **3.6 Limitations of the Project**

As so little work has been published on service quality in the South African motor industry, this project was intended as a pilot study. The results should therefore be regarded as indications of what is happening in the marketplace. The limitations of the project are :

- 1) Mailing list sources - two different sources were used and this could bias the results.
- 2) The majority of the people on the mailing list were private owners, and though private buyers are becoming more important, the majority of cars sold are still to companies.
- 3) The study was limited to the Western Cape only.
- 4) No sophisticated statistical methods were used to verify the accuracy of the data.
- 5) As in all questionnaires, the people who did not respond could behave differently to those who did, so biasing the results.
- 6) Due to time pressure, test questionnaires could not be sent out, and although some were tested on friends and expert opinions sought, places where improvements could be made were noticed when the returned questionnaires were edited.

## **4 RESPONSE**

### **4.1 Response Rate**

995 Questionnaires were sent out, of which 354 useful ones were returned, giving an overall response rate of 35.6% This was much higher than expected.

The response rate for those people from the Volkswagen list was 41.3% and for those from the PFV list 29.5%. This difference was to be expected because some of the respondents from the PFV list would not have cars, and others would have vehicles, such as bakkies or old cars, that did not meet the criteria for the questionnaire. The respondents from the Volkswagen list all had bought a Volkswagen car within the last 3 years.

There are a number of possible reasons for the very high response rate :

- 1) People feel strongly about their cars. Some people are interested in car design and maintenance, while those who are not, still feel strongly because they have paid a lot of money for their cars and usually are fairly dependent on them. They therefore have an immediate interest in the questionnaire and so are more likely to respond.
- 2) Most people who have cars have at some time experienced poor service from a garage, which can be very frustrating. This again creates an interest for the respondent, resulting in a higher response rate.
- 3) It was thought that as the questionnaire came from UCT and it was explained that it was for a masters degree, sympathy was created in the respondent's mind, resulting in a higher response rate.
- 4) The sticker placed on the back of the mailing envelope (see section 3.4.3) catches the respondent's attention, as well as being humorous and polite.
- 5) The postage stamp placed on the return envelope and the careful layout and assembly of the questionnaire give it

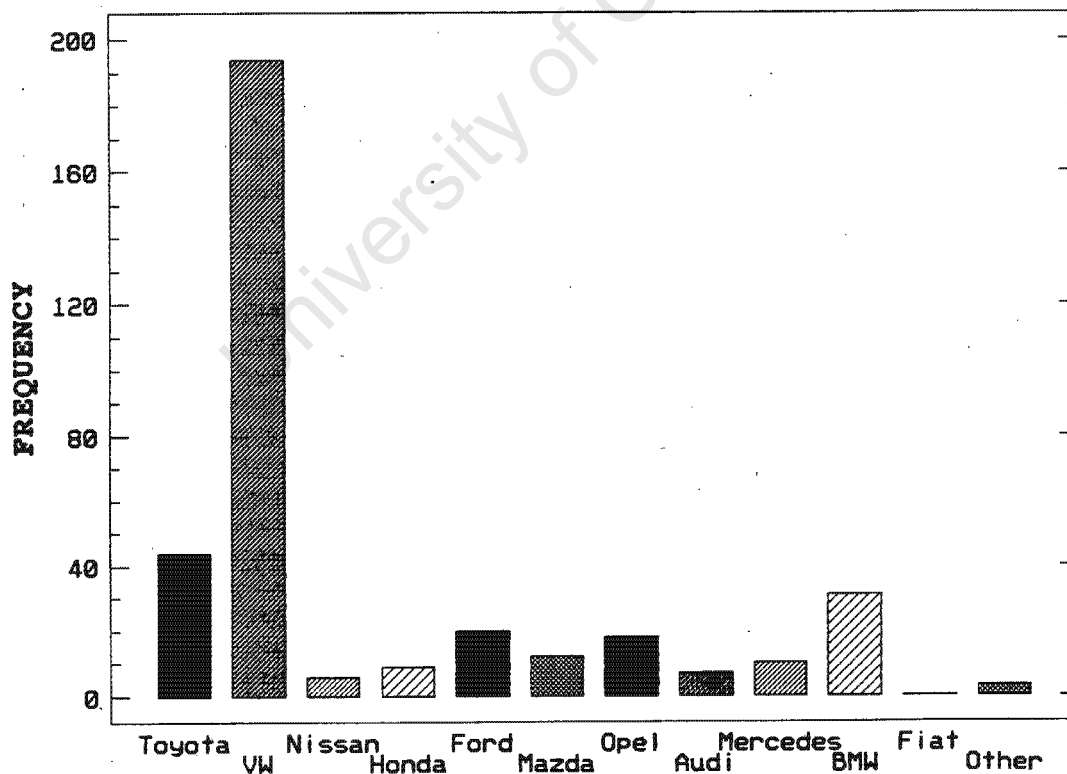
an impression of quality. Also there is a natural tendency not to want to waste the stamp and so people respond.

- 6) The questionnaire clearly stated that it was anonymous, and so people did not have to fear victimisation.

Twelve envelopes were sent back with both the English and the Afrikaans questionnaires filled in. Those that had been filled in by different people were both included, but only one of those filled in by the same person, but for different cars, was used. Some respondents included encouragement for the completion of the Masters, while others gave their address and asked for a copy of the results, a summary of which has been sent.

#### 4.2 Respondent Characteristics

The frequencies of the different makes of cars that the respondents drive, are given in figure 4 below.



**Figure 4 : Histogram of Car Makes for All Respondents**

The much larger number of Volkswagens than other makes was expected and was caused by the use of the Volkswagen list. 59% of the respondents came from the Volkswagen list, while 41% come from the PFV list.

79% of the respondents were male, and only 21% female. This is probably because men usually take more interest in cars than women and, in a typical South African marriage, the men are usually responsible for the cars. Also, in the case of married couples, most of the insurance policies on the PFV list and most of the cars the people on the Volkswagen list bought, would be in the husband's name and so the questionnaires would have been addressed to the husband. The husbands were therefore more likely to respond.

The breakdown of vehicle ownership was as follows :

77% Owned by the respondent.

22% Owned by a company.

1% Owned by somebody (such as the respondent's parents)

This high proportion of private owners was expected (see section 3.2) because both the name lists concentrated on private owners.

87% of respondents obtained their present car new, while 86% said they are intending to get their next car new.

When asked where they were having their vehicles serviced, the response was :

53% Serviced at the same franchised dealer the car was bought from.

29% Serviced at a different franchised dealer to where it was bought.

10% Serviced at a non-franchised garage.

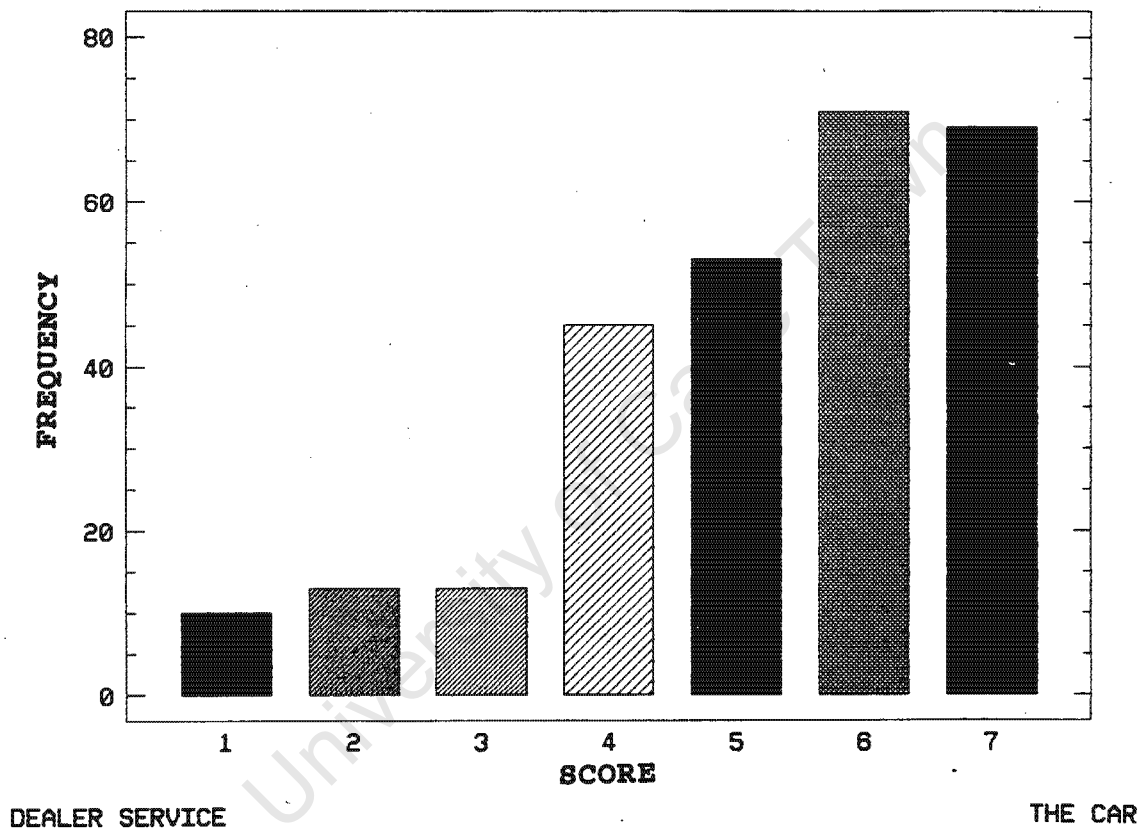
8% Serviced by themselves or a friend.

The 53% continuing to use the same dealer they bought the car from, indicates either that they are satisfied with the service, or else are fairly conservative and do not want change.

## 5 RELATIVE IMPORTANCE OF AFTER-SALES SERVICE AND THE CAR

The relative importance, in the mind of the car user, of after-sales service and the car itself, was one of the main things that Volkswagen wanted investigating.

Question 12 was a direct question asking the respondent to give the relative importance by scoring from 1 (Dealer service very important) to 7 (The car more important). A frequency plot is shown in Figure 5 below.



**Figure 5 : Histogram of Scores for Relative Importance of the Car or Dealer Service**

The mean score for the relative importance was 5.21, and the median score was 6, indicating that there is a strong feeling among the respondents that they regard the car as more important than the dealer service they receive. Only 13% of the respondents indicated that they regarded service as more important than the car, 17% indicated them to be equally important, while 70% indicated that the car was more

important. 51% of the respondents scored either 6 or 7 indicating that they regarded the car as much more important. Multiple regression was used to get the relative importance of after-sales service and car experience. This was done because respondents sometimes behave in different ways to how they say they behave and it is always worthwhile to get a different perspective.

Straight line multiple regression was used to create an equation which best modelled the importance the respondent's gave to the car and dealer service experience. The respondents ratings for their experiences of their car and the dealer service they received (Questions 15b i & ii), was regressed onto their scores for their whole experience (Question 15a). The results are in appendix 2. In other words, the regression calculated the coefficients which best satisfied the following equation for all the respondents :

$$\text{SCORE}_{\text{WHOLE EXP}} = C_{\text{CAR}} \text{SCORE}_{\text{CAR}} + C_{\text{SERVICE}} \text{SCORE}_{\text{SERVICE}}$$

$C_{\text{XXX}}$  = Calculated coefficient for car or service experience

$\text{SCORE}_{\text{XXX}}$  = Respondent's score for their car, dealer or whole experience

After calculating the coefficients, the regression formula becomes :

$$\text{SCORE}_{\text{WHOLE EXP}} = 0.84 \text{SCORE}_{\text{CAR}} + 0.17 \text{SCORE}_{\text{SERVICE}}$$

This indicates that in this model, the car score has five times the influence on the whole experience as the dealer service has. The model is able to explain 98% of the data.

An attempt was made to regress the respondents scores for car and dealer service experiences onto whether they would buy the same make again. Regressing a straight line influenced by two factors onto the next car purchase decision, which is a yes or no variable, is inherently inaccurate and so this attempt was unsuccessful. A cross-tabulation of these scores was also attempted, but this was also unsuccessful, with no clear trends being determined. This was probably because

factors other than satisfaction with the car and dealer service also influence the decision to purchase a particular make.

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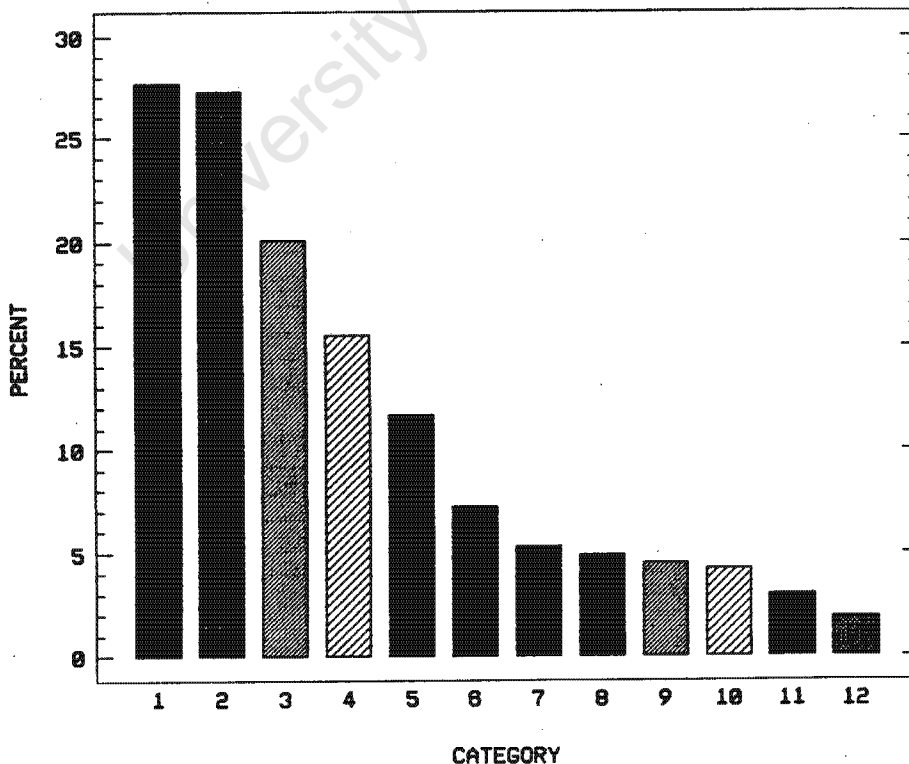
## 6 IMPORTANCE OF DIFFERENT FACTORS

### 6.1 Reasons for Next Car Choice

54% of the respondents gave their present make as their next make. 26% gave their previous, present and future cars as the same make. This would appear to indicate that about half of the people buying another car would opt for the same make. With most of the 7 manufacturers offering similar cars (at least in terms of features and performance), this indicates a certain amount of conservatism among the respondents.

After the respondents gave their choices for the make of their next car, they were asked to give reasons for their first choice, which were then classified into 12 categories. It was thought that when buyers consider a particular car, they think about many of the categories, but the reasons given are the main categories that attract them to that make.

The percentage of respondents who gave reasons in particular categories is given in Figure 6 below, with descriptions of the categories following. As some people gave more than one reason, the total adds up to more than 100%.



**Figure 6 : Reasons Given by Respondents for Choosing Their Next Car**

| <u>Number</u> | <u>Reason</u>                                 |
|---------------|-----------------------------------------------|
| 1             | Satisfied with previous car                   |
| 2             | Good Overall (ie total) quality               |
| 3             | Reliability                                   |
| 4             | Features, comfort and performance (ie design) |
| 5             | Value for money (related to price)            |
| 6             | Running costs                                 |
| 7             | Appearance and prestige                       |
| 8             | Manufacturing quality                         |
| 9             | Service quality                               |
| 10            | Safety                                        |
| 11            | Resale value                                  |
| 12            | Other Reasons                                 |

Categories 1 (previous experience) and 2 (overall quality) are measures of overall car impression and both cover a range of the other categories. In category 1, the respondent must have been satisfied with some of the other categories in order for him to want to buy the same make again, and in category 2, the respondent must think he or she will be satisfied in some of the other categories. 55% of the respondents mentioned one of these categories as reasons for their next car purchase.

Of the other categories, reliability was the most common reason given (28%) followed by the vehicle design (20%) and then value for money. It is interesting to note that running costs were not given as a reason by many people, despite the emphasis many manufacturers appear to put on fuel efficiency.

## **6.2 Respondent Scoring of Importance**

Question 13 asked the respondents to give the importance they attached to the feature described in each of 15 statements, by scoring 1 (Strongly Disagree) to 7 (Strongly Agree).

All the statements described something that most people would want, even if they did not consider it important. This meant that most of the importance scores (97%) were given as 4 or higher. This concentration of the scores at the top of the

scale, makes the scale sensitive, particularly when comparing means for the different statements. The median score would not be a good value to compare the importance of the features as the median would always be an integer and so not sensitive enough.

The standard deviation indicates how much the respondent's opinion varies. There is a clear trend visible in this table (and in Table 2), that as the mean decreases, so the standard deviation increases. This implies that there is a high degree of consensus about the more important factors, but less as the importance decreases.

Table 1 below, gives a summary of the scoring for those statements of Question 13, relating to service. The table is arranged in descending order of importance (given by the mean).

| <u>No.</u> | <u>Statement Summary</u>           | <u>Mean</u> | <u>Std. Dev.</u> |
|------------|------------------------------------|-------------|------------------|
| 13c        | Correct performance of work        | 6.81        | 0.46             |
| 13e        | Knowledgeable and competent staff  | 6.60        | 0.72             |
| 13b        | On time completion of work         | 6.45        | 0.77             |
| 13h        | Reasonable servicing & spares cost | 6.24        | 0.96             |
| 13f        | Helpfulness of staff               | 6.04        | 1.04             |
| 13g        | Free communication with staff      | 5.75        | 1.13             |
| 13d        | No delays before work started      | 5.73        | 1.15             |
| 13i        | Convenient operating hours         | 5.59        | 1.13             |
| 13j        | Convenient facility location       | 5.36        | 1.19             |
| 13a        | Staff and facility appearance      | 5.03        | 1.38             |

**TABLE 1 IMPORTANCE SCORES FOR SERVICE FEATURES**

The correct performance of the work is clearly the most important service factor as it has the highest score as well as the smallest standard deviation, indicating that there is the most agreement amongst the respondents. This makes intuitive sense as the cars are taken to the garage to have the work done.

The service facility having knowledgeable and competent staff was the second most important factor. This is linked with the importance of work being done correctly, as it is necessary for there to be knowledgeable and competent staff in order for work to be done correctly. Good staff also make communication with the customer easier.

Completion of the job on time was given as third most important factor. By putting the statement that there should be no delays before work could begin, seventh in importance, the respondents indicated that they are prepared to allow for queuing for the vehicles to be serviced, but are not very tolerant of companies not delivering when they should. It was thought that the reason for this, is that if there is a few days delay before work can begin, the respondents are able to plan for this and usually still have the use of the car as it is seldom with modern cars that a car is undriveable. If the vehicle is not ready on time after being worked on, it is much more frustrating, as this is not planned for, the customer does not have use of the car and the firm has broken its word.

The cost of servicing and spares was only put down as the fourth most important factor. This would appear to indicate that the respondents are prepared to pay a higher price if the work is done properly, the staff are competent and the work completed on time.

Staff and facility appearance was rated lowest among the service factors.

A summary of the importance scoring for the car factors is given in descending order in Table 2 below.

| <u>No.</u> | <u>Statement Summary</u>       | <u>Mean</u> | <u>Std. Dev.</u> |
|------------|--------------------------------|-------------|------------------|
| 13k        | Reliability                    | 6.77        | 0.53             |
| 13o        | Driveability                   | 6.28        | 0.88             |
| 13l        | Fuel efficiency                | 5.82        | 1.09             |
| 13n        | Comfort and feature usefulness | 5.69        | 1.05             |
| 13m        | Car appearance                 | 5.30        | 1.27             |

**TABLE 2 IMPORTANCE SCORES FOR CAR FEATURES**

Clearly the respondents regard reliability as the most important, followed by driveability. Fuel efficiency is only placed half way out of the five factors. Comfort and features as well as appearance, around which much of car advertising revolves, are regarded as least important by the respondents.

### **6.3 Factor Multiple Regression**

Another technique for determining the importance of the different factors was mentioned by Parasuraman, Zeithaml and Berry<sup>(3)</sup> (see section 2.3.3). This involves regressing the respondents quality scores (Expectations (Q14) minus perceptions (Q13)) for each of the factors onto their overall satisfaction rating (Q15a). This regression was the same straight line type as used in Chapter 5, except here more and different factors were used and a constant was also calculated for inclusion in the equation.

The ten quality scores relating to service were regressed onto the respondent's rating for their experience of dealer service (Question 15b(i)) and the five quality scores relating to the car were regressed onto the respondent's rating for their car experience (Question 15b(ii)).

The coefficients indicate the influence the respondents' score has on their dealer service experience rating and hence are a reflection of the importance of the factor. Tables 3 and 4 give a summary of the regression data for the service

| <u>No.</u> | <u>Description</u>                   | <u>Coefficient</u> |
|------------|--------------------------------------|--------------------|
| c          | Correct performance of work          | 0.21               |
| e          | Knowledgeable and competence staff   | 0.17               |
| b          | On Time completion of work           | 0.13               |
| f          | Helpfulness of staff                 | 0.12               |
| g          | Free communication with staff        | 0.06               |
| i          | Convenient operating hours           | 0.05               |
| a          | Staff and facility appearance        | 0.05               |
| d          | No delay before work started         | 0.01               |
| h          | Reasonable servicing and spares cost | -0.01              |
| j          | Convenient facility location         | -0.08              |

**TABLE 3 SUMMARY OF REGRESSION FOR SERVICE FACTORS**

and car factors, in descending order of the coefficients.

This clearly shows that the correct performance of the work is the most important service factor, followed by staff knowledge and competence, and then on time completion of the work. These three most important factors are in the same order as in section 6.2, where a different method was used to get the factor importance. The full regression data is given in Appendix 3.

| <u>No.</u> | <u>Description</u>             | <u>Coefficient</u> |
|------------|--------------------------------|--------------------|
| k          | Reliability                    | 0.39               |
| o          | Driveability                   | 0.17               |
| n          | Comfort and feature usefulness | 0.04               |
| l          | Fuel efficiency                | 0.03               |
| m          | Car appearance                 | -0.03              |

**TABLE 4 SUMMARY OF REGRESSION FOR CAR FACTORS**

Table 4 shows that reliability and driveability are much more important than the other car factors. These results are almost the same as those in section 6.2.

The coefficients lower down Table 3 and Table 4 are less reliable than the ones near the top. This is shown in the full regression data in Appendix 3 where those factors lower down have a higher significance level than those near the top. A high significance level means the coefficient is less reliable.

## **7 COMPARISON OF DIFFERENT MAKES**

In this section it was decided to concentrate only on five makes for which there were sufficient respondents. These makes were Volkswagen, Toyota, Ford, Opel and BMW.

Audi was classed as a separate make to Volkswagen because it is marketed separately, the list from Volkswagen did not include Audi owners and Volkswagen's main competitor, Toyota, does not have an equivalent to Audi, resulting in a poor comparison.

### **7.1 Comparison of Overall Satisfaction**

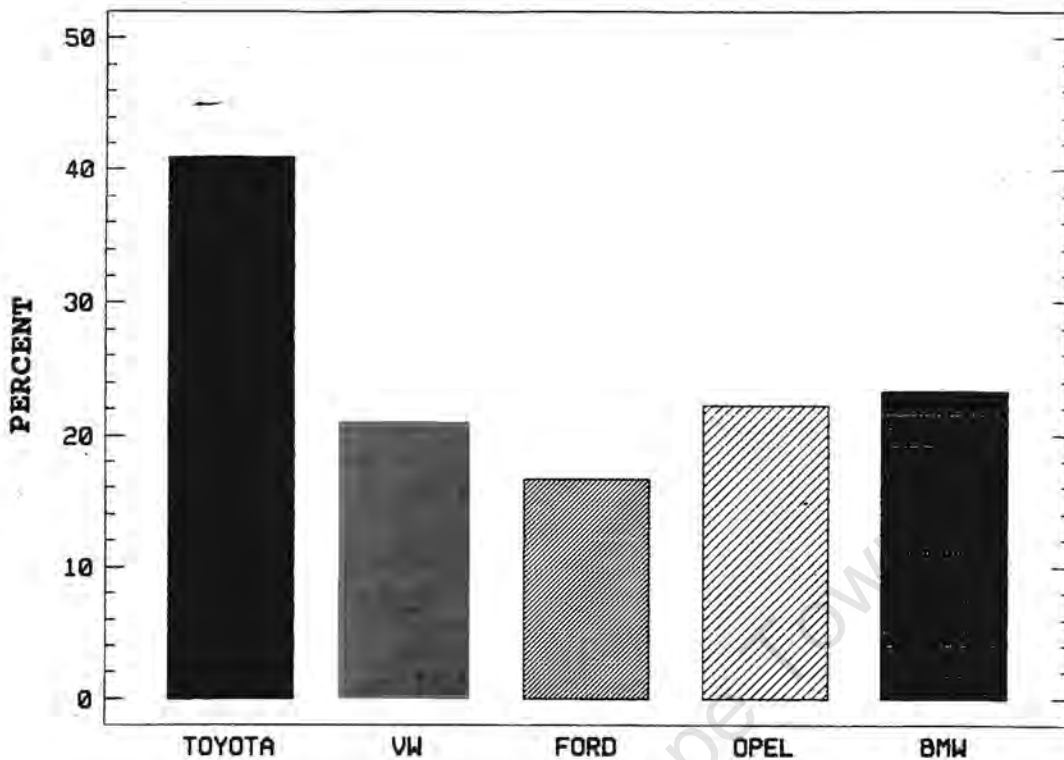
The mean whole experience (Question 15a) scores for the respondents who drive particular makes are given in descending order in Table 5 below.

| <u>Manufacturer</u> | <u>Mean</u> |
|---------------------|-------------|
| Toyota              | 6.04        |
| BMW                 | 5.83        |
| Opel                | 5.72        |
| Volkswagen          | 5.67        |
| Ford                | 5.61        |

**Table 5 : Mean Whole Experience Scores**

This shows that on average, Toyota respondents were the most satisfied with the experience of having their car.

A different method of looking at the results of the same question is to calculate the percentage of the respondents with a particular make who scored a 7 (very good) for their whole experience of having that car. This gives a measure of the level of excellence as perceived by the respondents. This is shown in Figure 7 overleaf. It shows clearly that Toyota has a much higher level of very happy respondents than the other manufacturers.



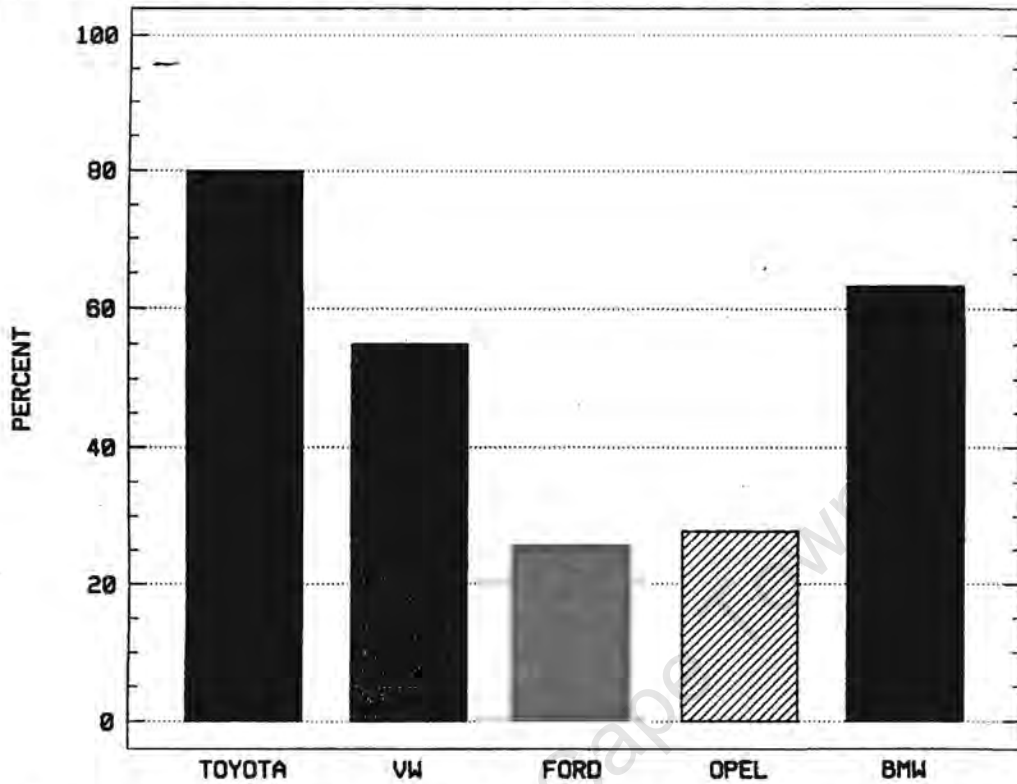
**Figure 7 Percentage of Respondents for Each Make Who Scored 7 for Their Whole Experience**

Putting the same make as the respondent's present car as a first choice is a measure of satisfaction, but not putting the same make as a first choice cannot be used as a measure of dissatisfaction. Respondents are very unlikely to buy the same make again if they are dissatisfied. Not buying the same make again could indicate dissatisfaction, but could also be caused by the respondent wanting a car not offered by the manufacturer of his or her present make (for example a Ford owner wanting to upgrade to a Mercedes).

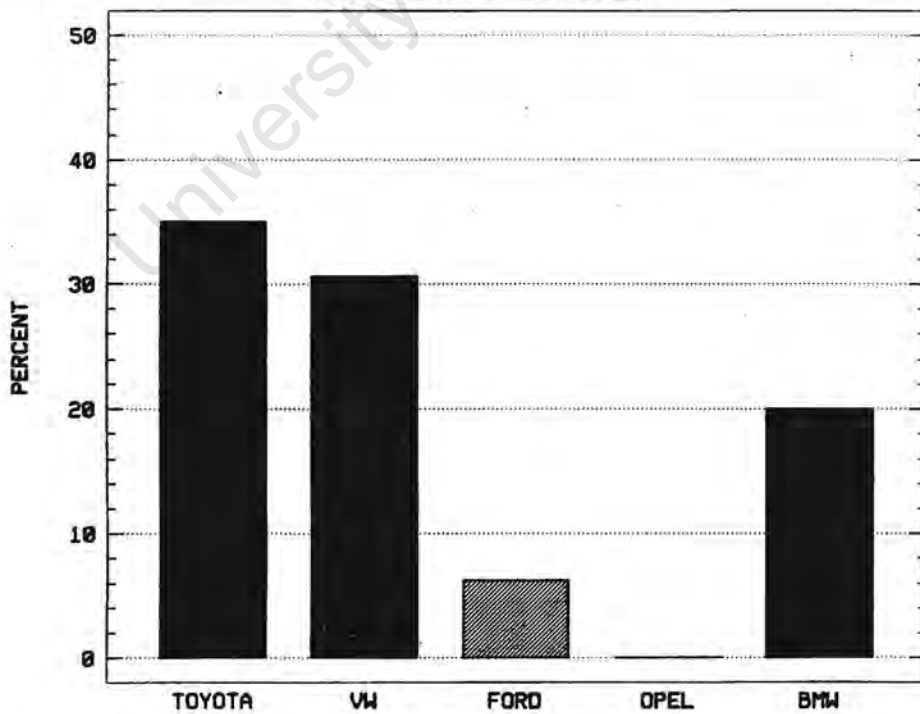
The percentage of respondents who intend to get the same make as their present make for their next car, is given in Figure 8 below.

Toyota at 80% has a much higher proportion of respondents who are planning to get the same make than BMW (63%) and

Volkswagen (55%). This would appear to indicate that Toyota drivers are very satisfied with their cars.



**Figure 8 : Percentage of Present Make With Same Make as Their Next Choice**



**Figure 9 : Percentage of Each Make of Present Car, Whose Previous and Next Cars are the Same as the Present.**

Figure 9 shows the percentage of the respondents who have a particular make at present, that is the same as their previous make, and is the first choice for their next car. This gives an indication of long term customer loyalty to a make. It shows that once again, Toyota is the leader, followed by Volkswagen and BMW.

Table 6 gives the percentage of respondents who have a particular make of car, and do not tell their friends and colleagues that, that make is worth buying (Question 17). As mentioned in section 3.3.2, this is a measure of dissatisfaction, as it was thought that respondents would say they tell others even if they were only barely satisfied, and would only not tell if they were very unhappy with the car.

| <u>Manufacturer</u> | <u>Percentage</u> |
|---------------------|-------------------|
| Toyota              | 9.1%              |
| Ford                | 15.0%             |
| BMW                 | 16.1%             |
| Volkswagen          | 16.2%             |
| Opel                | 16.7%             |

**Table 6 : Percentage of Respondents of Each Make Who Do Not Recommend Car to Friends and Colleagues.**

Four of the five manufacturers have about 16 percent of their respondents not recommending that make, and hence these people must be dissatisfied. Toyota on the other hand has only 9 percent not recommending to friends and colleagues, a considerably lower figure.

## **7.2 Comparison of Service Quality**

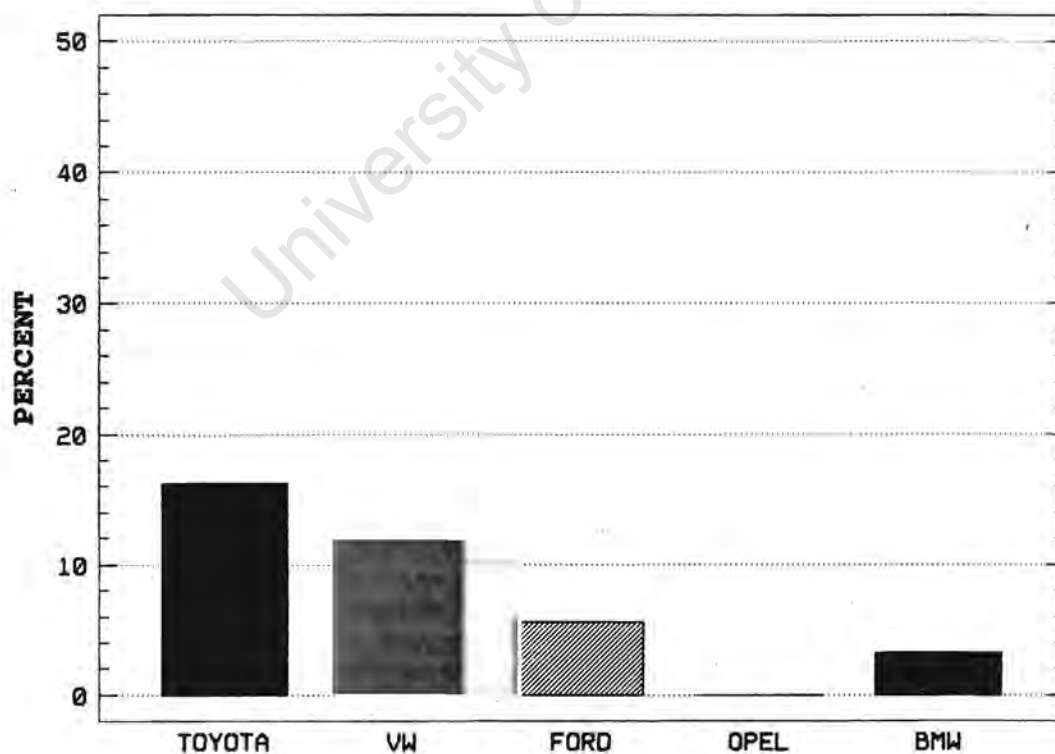
The mean scores given by the respondents for their dealer experience (Question 15b(i)) is broken down by manufacturer and presented in descending order in Table 7. Toyota has the highest score, indicating that the Toyota respondents have

had the best experiences with dealers. Volkswagen is lower, but not as low as BMW, Ford and Opel.

| <u>Manufacturer</u> | <u>Mean</u> |
|---------------------|-------------|
| Toyota              | 5.27        |
| Volkswagen          | 4.90        |
| BMW                 | 4.41        |
| Ford                | 4.33        |
| Opel                | 3.82        |

**Table 7 : Mean Scores for Respondent's Dealer Experience**

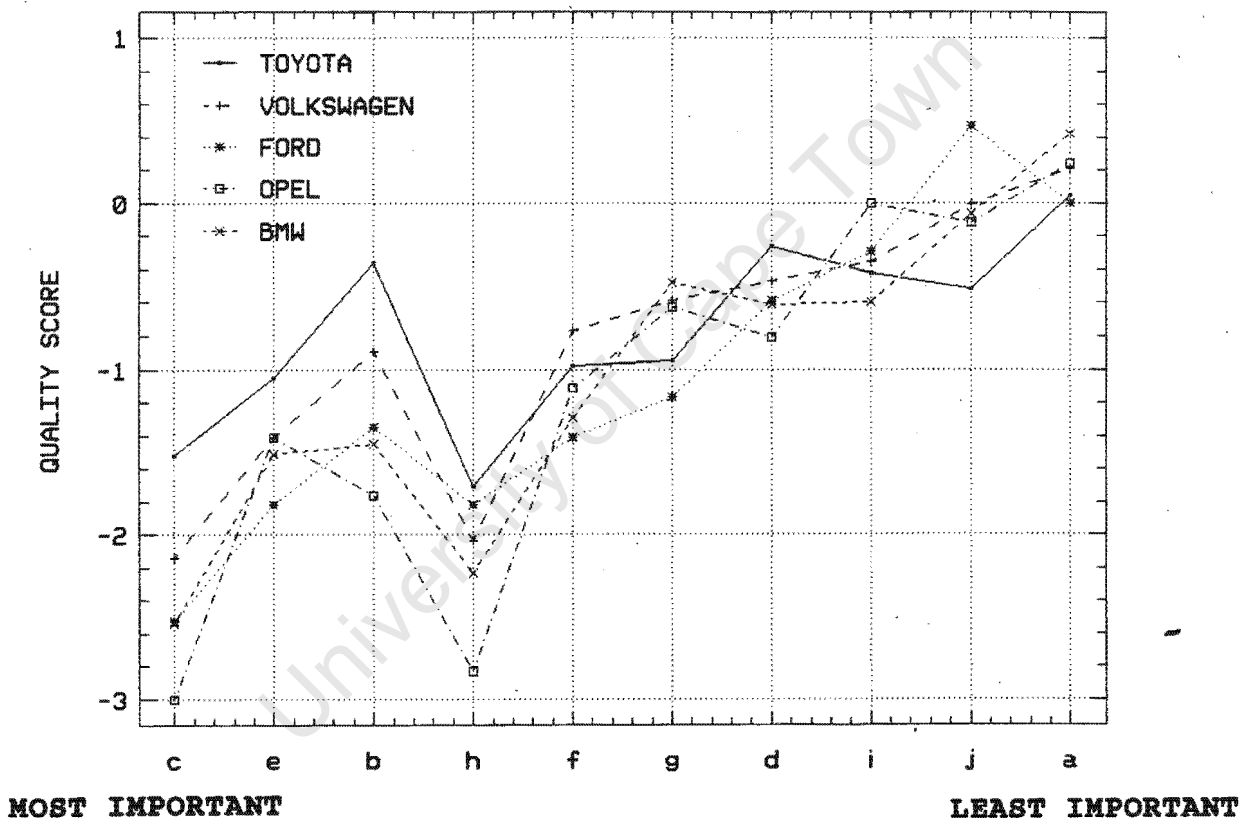
The percentages of the respondents with a particular make, who scored 7 (very good) for their dealer experience is given in figure 10. This gives a measure of the level of dealer excellence for the different manufacturers. Toyota is once again in the lead.



**Figure 10 : Percentage of Respondents of Each Make Who Scored 7 for Dealer Experience.**

As mentioned in section 6.3, the quality score was obtained by subtracting the respondent's perception score (Question 14) from the expectation score (Question 13) for each of the factors. A negative score means that the respondents are not satisfied, a zero score means that the respondents are satisfied and a positive score means that the respondents are more than satisfied.

Figure 11 gives the mean quality scores by manufacturer for each of the service factors. The service factors have been arranged in decreasing order of importance as calculated in section 6.2.



**Figure 11 : Mean Service Quality Scores vs Factor Importance**

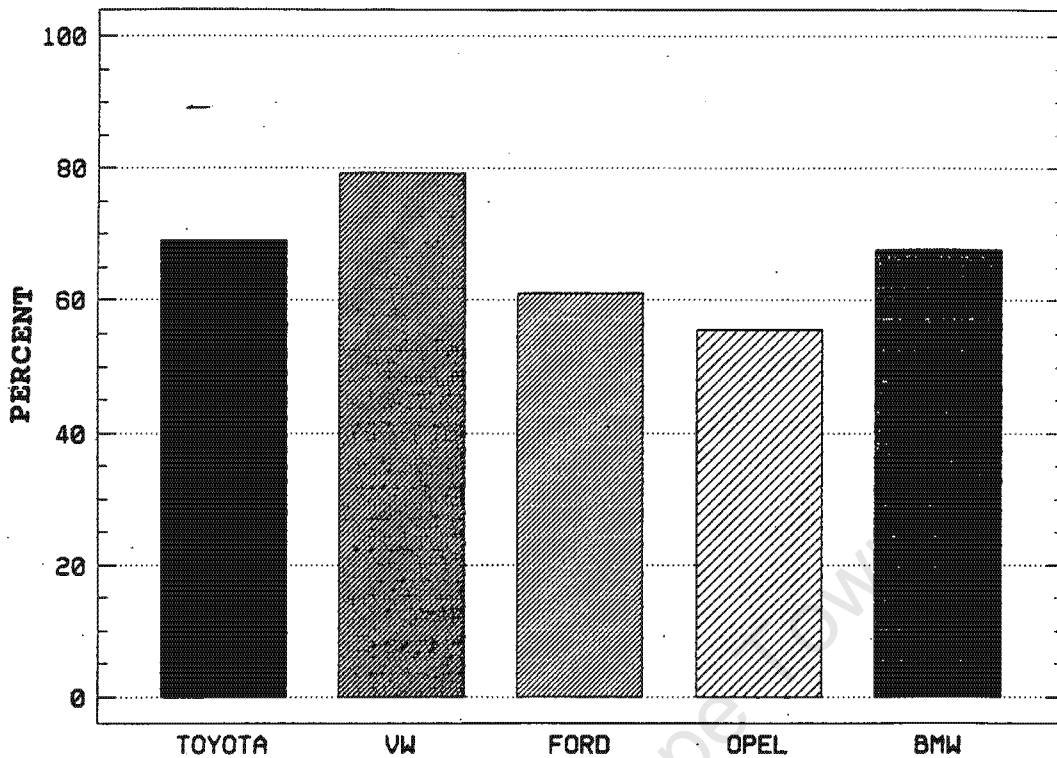
| <u>No.</u> | <u>Factor</u>                        |
|------------|--------------------------------------|
| c          | Correct performance of work          |
| e          | Knowledgeable and competence staff   |
| b          | On Time completion of work           |
| h          | Reasonable servicing and spares cost |
| f          | Helpfulness of staff                 |
| g          | Free communication with staff        |
| d          | No delay before work started         |
| i          | Convenient operating hours           |
| j          | Convenient facility location         |
| a          | Staff and facility appearance        |

Figure 11 shows that there is a trend for the more important factors to have a lower (worse) quality score than the less important factors. This is serious as it shows that the customers are not being satisfied where it counts most. In fact the only factors where any of the manufacturers satisfied their respondents were the three least important.

The respondents are not very satisfied with the cost of service and spares, despite this being put only fourth in importance. This is probably because they are not getting the service they want and so do not feel they are getting value for money. This is shown by Toyota, which has the best service rating, scoring best for cost, and Opel which has the worst service rating, scoring worst for cost.

For the most important factors, Toyota had considerably higher mean quality scores than the other manufacturers. For the less important factors, Toyota was approximately equal to or slightly less than the others. This flatter line indicates that Toyota service is better than the other manufacturers where it counts most. Volkswagen's line is flatter than Opel, Ford and BMW, but not as flat as Toyota. Volkswagen is better than Toyota in some of the less important factors, but is not as good in the more important ones.

Figure 12 gives the percentage of the respondents with a make of car who said that the dealers understand what they want from the dealers. Volkswagen dealers appear to have a higher understanding than Toyota dealers. However as was shown earlier in this section, Volkswagen respondents are less satisfied than Toyota respondents. This would appear to indicate that there is a gap with Volkswagen dealers not translating this knowledge of what the customers want into service (Gaps 2 and 3 in the "Gaps" model). The relative positions of the makes other than Volkswagen is the same for the dealer understanding and the respondent's experience.



**Figure 12 : Percentage of Make Who Say Dealer Understands What They Want.**

### **7.3 Comparison of Car Quality**

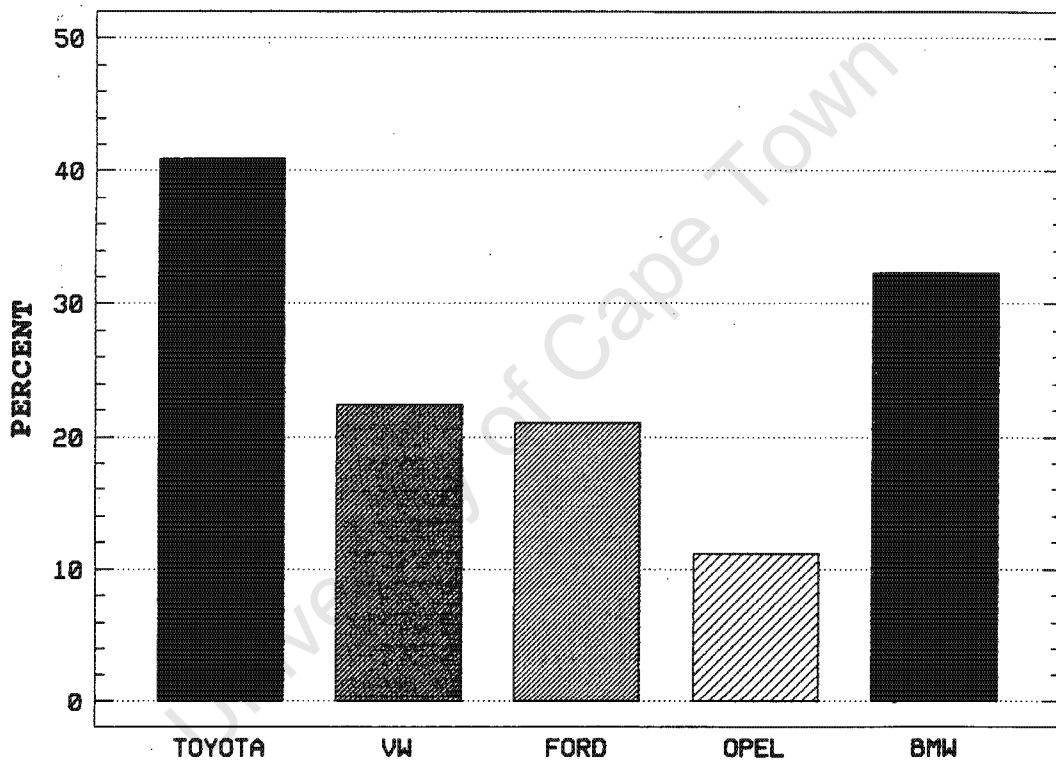
The mean ratings the respondents gave to particular makes of car are arranged in descending order in Table 8.

| <u>Manufacturer</u> | <u>Mean</u> |
|---------------------|-------------|
| Toyota              | 6.11        |
| BMW                 | 6.03        |
| Ford                | 5.84        |
| Volkswagen          | 5.78        |
| Opel                | 5.38        |

**Table 8 : Mean Scores for Respondent's Car Experience**

The level of excellence experienced by the respondents is given by the percentage of each make who scored 7 (very good) for their car experience (Question 15b(ii)), which is shown in Figure 13.

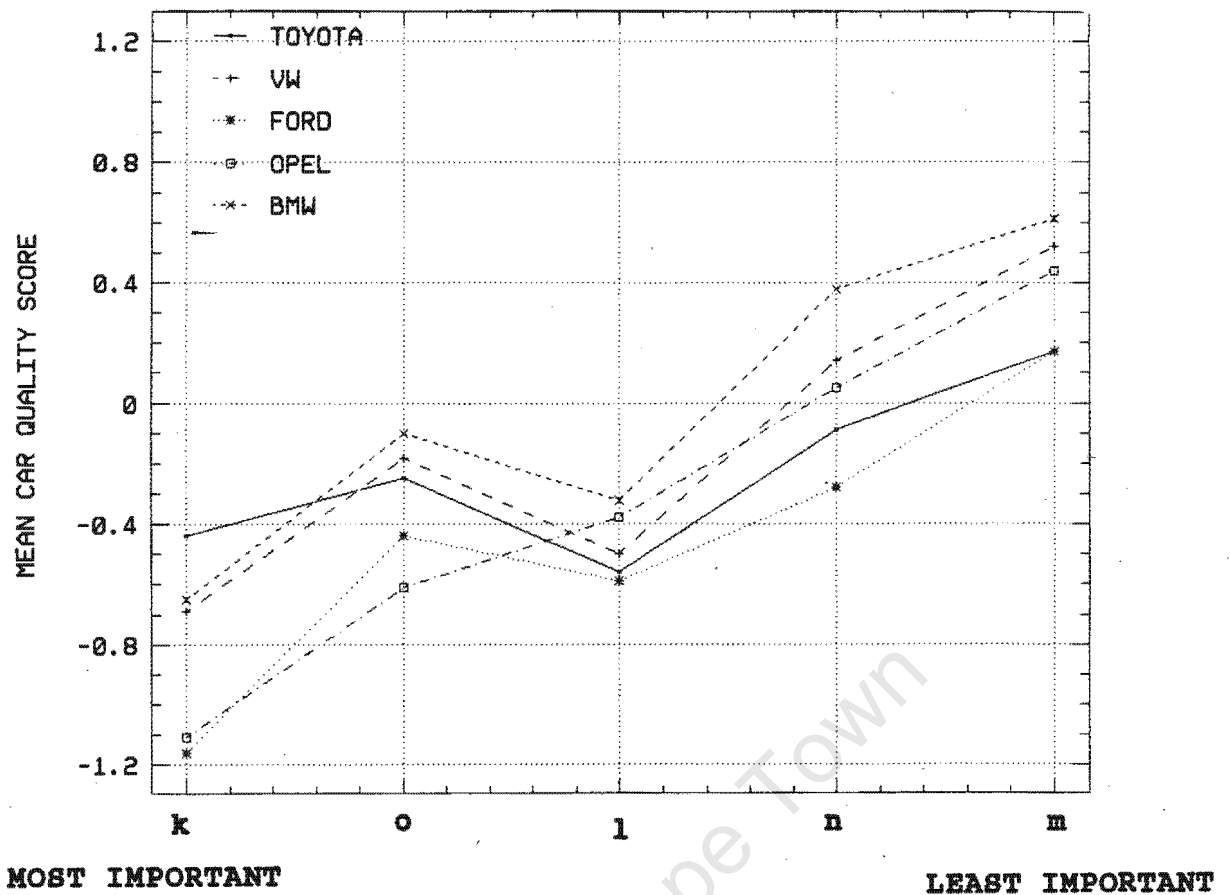
Toyota is the leader in both the mean scores and the level of excellence, getting higher ratings than BMW, despite BMWs being much more expensive and sophisticated and having a reputation for driveability. Next came Ford, Volkswagen and then Opel.



**Figure 13 : Percentage of Respondents of Each Make Who Scored 7 for Car Experience.**

Figure 14 gives the mean quality scores by manufacturer for each of the car factors. The service factors have been arranged in decreasing importance as calculated in section 6.2.

As in Figure 11, there is a trend in Figure 14 for the more important factors to have lower (worse) quality scores, and



**Figure 14 : Mean Car Quality Scores vs Factor Importance**

| No. | Factor                         |
|-----|--------------------------------|
| k   | Reliability                    |
| o   | Driveability                   |
| l   | Fuel efficiency                |
| n   | comfort and feature usefulness |
| m   | Car appearance                 |

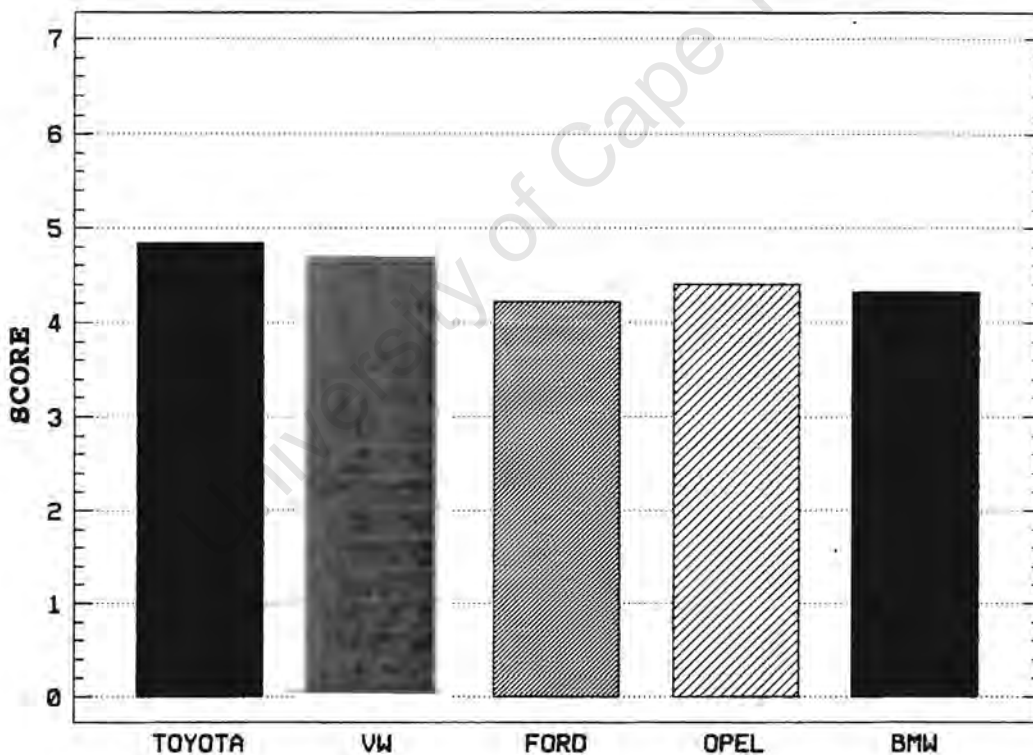
the less important factors to have higher quality scores. On the whole, the scores for the car factors are higher than those for the service factors, indicating that the respondents are fairly satisfied with their cars.

The line for Toyota is flatter than those for the other makes, indicating that Toyota is stronger in the more important factors than the other manufacturers. BMW has the highest scores in all the factors except for reliability. This is to be expected as BMW makes luxury cars and they are more expensive than the others and so the BMW respondents should be more satisfied. In Table 7 and Figure 13, the Toyota drivers rated their cars higher than BMW drivers,

again indicating the importance of reliability in the customers' perception of the car.

**7.4 Comparison of Publicity Experiences**

Figure 15 shows the mean scores the respondents gave to question 15d asking how their experiences compared to the manufacturers publicity. The scores are fairly low, but they are all more than 4 (experience equal to publicity), which indicates that the respondents don't think the manufacturers are promising much more than they are delivering (Gap 4 in the "Gaps" model). Toyota again has the highest score, followed by Volkswagen.



**Figure 15 : Average Scores for Publicity Experiences**

**8 FACTOR IMPORTANCE COMPARISONS BY CHARACTERISTICS**

**8.1 Comparison by Gender**

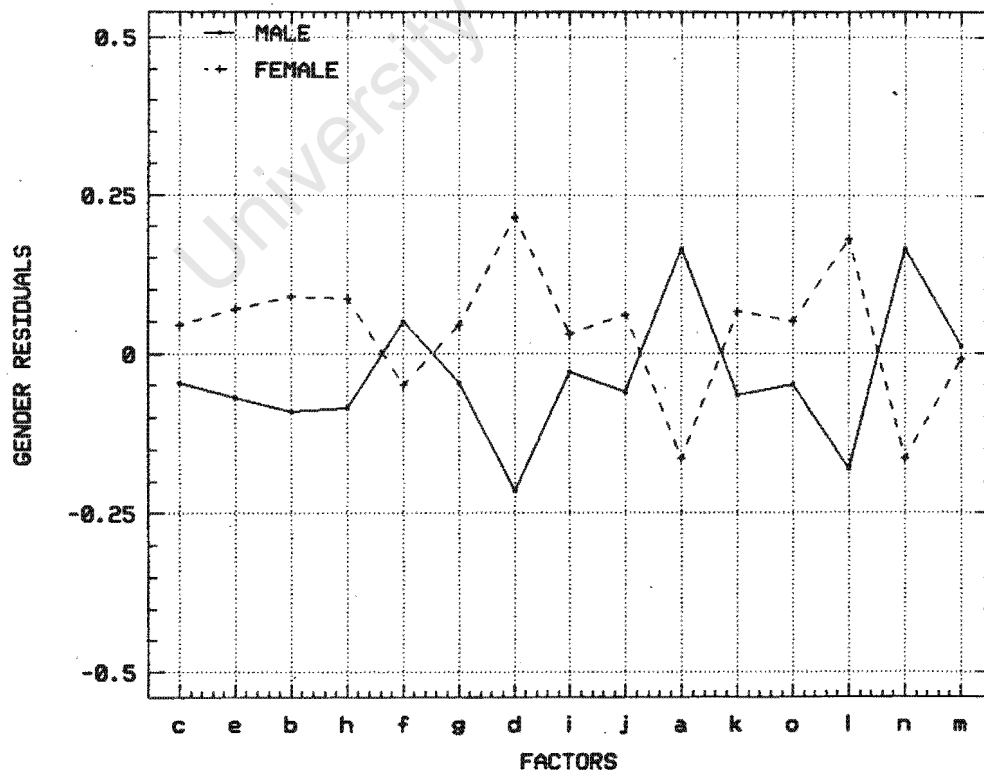
The scores given in question 12 for the respondent's idea of the relative importance of the car or dealer service (7 meaning the car is much more important than dealer service) are given in Table 9

|         | <u>Score</u> |
|---------|--------------|
| Males   | 5.14         |
| Females | 5.51         |

**Table 9 : Importance Scores by Gender**

As the scale is sensitive, this is a significant difference and shows that the female respondents regard the car as more important than dealer service.

Figure 16 shows the difference between the scores for the male and female respondents, and the average scores for the males and the females for the different factors. This has been done to make comparisons easier.



**Figure 16 : Gender Importance Residuals for Different Factors**

| <u>No.</u> | <u>Factor</u>                        |
|------------|--------------------------------------|
| c          | Correct performance of work          |
| e          | Knowledgeable and competence staff   |
| b          | On Time completion of work           |
| h          | Reasonable servicing and spares cost |
| f          | Helpfulness of staff                 |
| g          | Free communication with staff        |
| d          | No delay before work started         |
| i          | Convenient operating hours           |
| j          | Convenient facility location         |
| a          | Staff and facility appearance        |
| k          | Reliability                          |
| o          | Driveability                         |
| l          | Fuel efficiency                      |
| n          | comfort and feature usefulness       |
| m          | Car appearance                       |

There are differences between males and females for all the factors, but some are larger than others. Of the factors with larger differences, men attach more importance to the appearance of dealer staff and facilities and to vehicle comfort and features than do women. Women attach more importance to there being no delays before starting and to fuel efficiency.

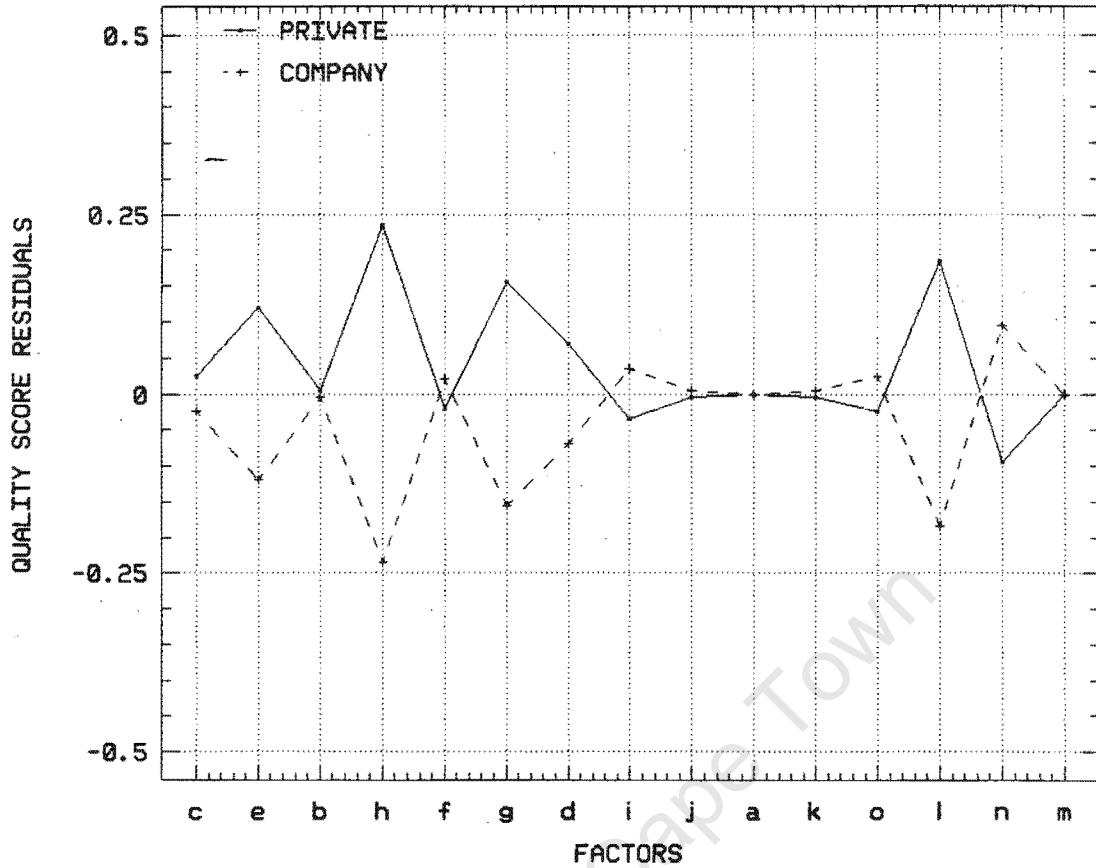
## **8.2 Comparison by Ownership**

There was very little difference between the scores the respondents, either driving company or private vehicles, gave for the relative importance of the car and dealer service.

In Figure 17, as in Figure 16, the difference between the score given for a factor and the average for company and private vehicles for that factor is given.

Drivers of company cars rate costs lower in importance than do drivers of private vehicles. The largest difference between the two is for service and spares cost and the second largest is for fuel efficiency. This makes intuitive sense as drivers of company cars do not usually have to pay for maintenance and fuel.

Multiple X-Y Plot



**Figure 17 : Ownership Importance Residuals for Different Factors**

| <u>No.</u> | <u>Factor</u>                        |
|------------|--------------------------------------|
| c          | Correct performance of work          |
| e          | Knowledgeable and competence staff   |
| b          | On Time completion of work           |
| h          | Reasonable servicing and spares cost |
| f          | Helpfulness of staff                 |
| g          | Free communication with staff        |
| d          | No delay before work started         |
| i          | Convenient operating hours           |
| j          | Convenient facility location         |
| a          | Staff and facility appearance        |
| k          | Reliability                          |
| o          | Driveability                         |
| l          | Fuel efficiency                      |
| n          | comfort and feature usefulness       |
| m          | Car appearance                       |

Company drivers scored lower than private drivers for staff knowledge and competence as well as for communication between staff and customer. They both scored similarly for the standard of work done as well as reliability, which appears

to indicate that company car drivers are less interested in what is happening with their cars, but still expect the work to be done properly and the car to be reliable.

There is also a difference for the features and comfort factor, company car drivers rated this higher than private drivers did. This could be because people who get company cars are usually in a fairly high income bracket and so less concerned about having a car merely to get around in, but are used to comfort and accessories in their lives.

### **8.3 Comparison by Age**

The scores given by the respondents for the relative importance of the car and dealer service, broken down by age, is given in Table 10. This shows that there is a tendency for respondents to rate the car as more important (increasing score) as they get older, with a particularly large increase in car importance for those over 65.

|          | <u>Score</u> |
|----------|--------------|
| 18 to 25 | 5.00         |
| 25 to 45 | 5.13         |
| 45 to 65 | 5.21         |
| over 65  | 6.06         |

**Table 10 : Importance Scores by Age**

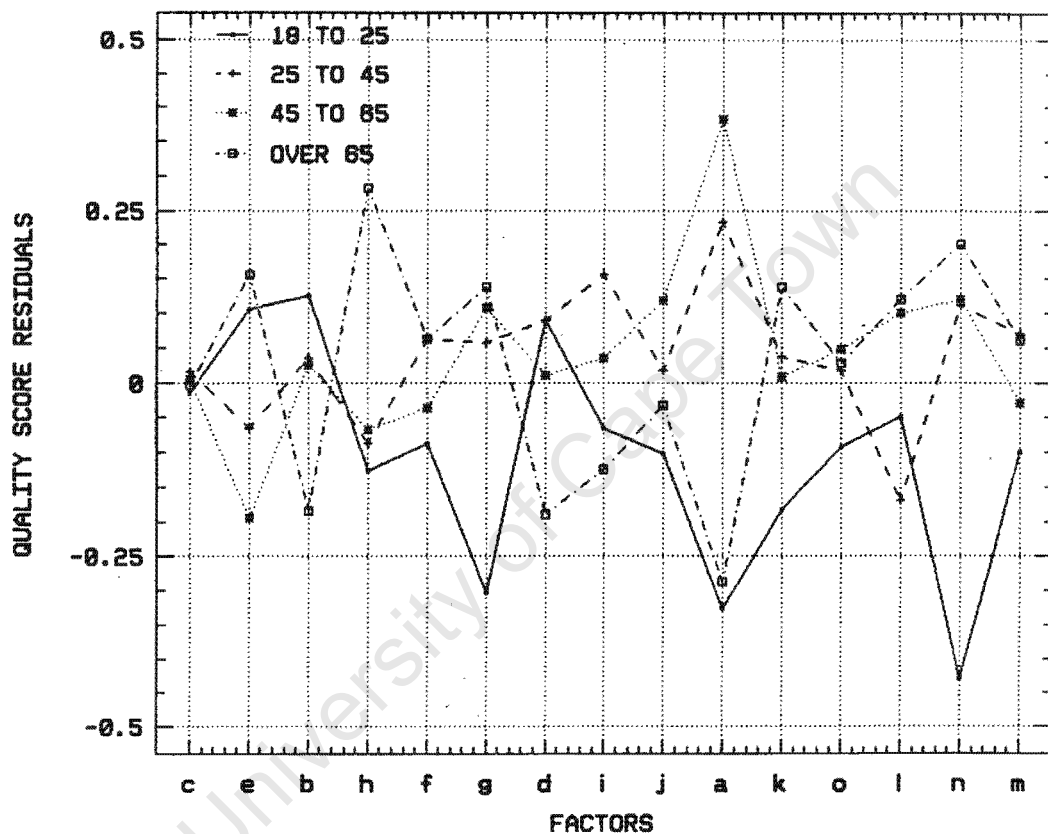
In Figure 18, as in sections 8.1 and 8.2, the difference between the score given for a factor and the average for different ages is given.

There is more scatter in Figure 18 than in the similar Figures 16 and 17, indicating that there is less agreement on factor importance between different age groups than between genders or between company and private drivers.

Figure 18 shows that all ages agree on the importance of the standard of work done. In general the 25 to 45 and 45 to 65 age groups gave similar importance to most factors,

indicating that there is not much difference in the thinking between these two groups.

There was a sharp divide over the rating given to the appearance of service staff and facilities with those younger than 25 and those older than 65 rating this feature more than 0.5 lower than the 2 groups between 25 and 65. As mentioned in section 6.2, the scale is very sensitive and so a difference of 0.5 is quite significant.



**Figure 18 : Age Importance Residuals for Different Factors**

| No. | Factor                               |
|-----|--------------------------------------|
| c   | Correct performance of work          |
| e   | Knowledgeable and competence staff   |
| b   | On Time completion of work           |
| h   | Reasonable servicing and spares cost |
| f   | Helpfulness of staff                 |
| g   | Free communication with staff        |
| d   | No delay before work started         |
| i   | Convenient operating hours           |
| j   | Convenient facility location         |
| a   | Staff and facility appearance        |
| k   | Reliability                          |
| o   | Driveability                         |
| l   | Fuel efficiency                      |
| n   | comfort and feature usefulness       |

The 18 to 25 age group gave lower importance ratings than the other age groups for communication between customer and staff, vehicle reliability, driveability and comfort and features. —

The over 65 group rated the cost of service and parts as more important than the other age groups, which were fairly close together. This is probably because most of those over 65 would be on pension and so money is quite important to them.

University of Cape Town

## **9 ADDITIONAL RESULTS**

### **9.1 Comparison of Rural and Urban Dealers**

A comparison of rural and urban respondents' car, dealer and whole experiences (Questions 15 a, bi and bii) was done and the results are shown in Table 11. As it simplified the calculations, this comparison was limited to drivers of Volkswagens who were having their vehicles serviced at Volkswagen franchised dealers.

| <u>Respondents</u> | <u>Car Exp.</u> | <u>Dealer Exp.</u> | <u>Whole Exp.</u> |
|--------------------|-----------------|--------------------|-------------------|
| Rural              | 5.93            | 5.61               | 6.00              |
| Urban              | <u>5.75</u>     | <u>4.85</u>        | <u>5.60</u>       |
| Difference         | 0.18            | 0.76               | 0.40              |

**Table 11 : Comparison of Rural and Urban Experiences**

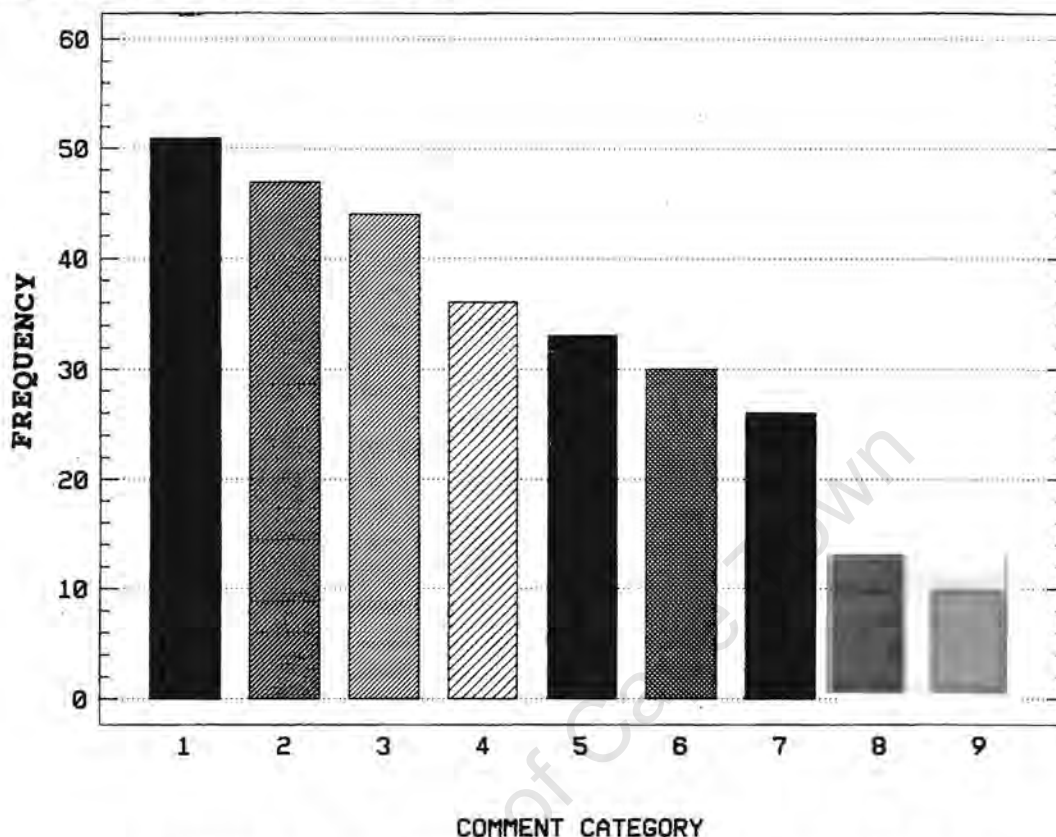
For car experiences, the difference is not very large. This was to be expected as the cars are the same in both rural and urban areas.

For dealer experiences, there is a significant difference, with the respondents in the rural areas being much more satisfied with the dealer service they receive than the respondents in urban areas. One probable reason for this difference is that rural areas tend to be fairly small communities with many people knowing each other and providing a friendlier service. Another possible reason is that often people in rural areas are less rushed, resulting in better workmanship and service.

### **9.2 Comments by Respondents**

Comments and suggestions were asked for in the questionnaire. As mentioned in section 3.3.2, these unstructured answers were difficult to process, but do provide some interesting information about things not covered by the questionnaire. The comments were categorised and the frequencies of the 9 most common categories are shown in Figure 19. With the

exception of category 8, almost all the comments were negative or suggesting ways to improve something that the respondents did not like.



**Figure 19 : Respondent Comment Frequencies**

| No. | Comment Category                          |
|-----|-------------------------------------------|
| 1   | Vehicle design, features and comfort      |
| 2   | Dealer staff attitude                     |
| 3   | Work performance                          |
| 4   | Price of vehicles, spares and servicing   |
| 5   | Communication between staff and customers |
| 6   | Manufacturing quality                     |
| 7   | Customer convenience                      |
| 8   | Satisfied customer                        |
| 9   | Description of a bad experience           |

Comments about the vehicle design, features and comfort were the most common. Examples of these were things like suggesting repositioning of switches, making more comfortable seats, etc. This was to be expected as many drivers have a few things about their cars that they would like improved.

Next most common comments were about dealer staff attitude. Typical examples were "They don't believe me", "They can't be

bothered", "Dishonest" and "Only interested in selling the car". That there were so many comments about this, indicates that it could be a problem area.

Some of the comments that the respondents gave are given below. While it is uncertain how important some of the problems mentioned are, it would be worthwhile paying attention to them and possibly doing more research.

"The staff treat women like fools"

"Convince me I can trust their judgement"

"The dealers know what you want, but can't be bothered"

"Get sales and service people involved with each other"

"They don't understand how to be perfect"

"Too much talk compared to performance"

"Unauthorised work often happens to company cars"

"To the dealers a dashboard rattle is a minor problem - to the car driver it is not"

"Give a report on the general condition of the car after servicing"

"Adapt the cars for South African conditions eg. dustproof"

"Supply the car with mudflaps to prevent stone damage"

"Fetch my car from home"

"Bring in overnight repairs"

"Workshops to open on Saturdays"

"Stay open a bit later in evenings to make fetching easier"

"Customers deserve a courtesy car when theirs is being repaired under guarantee"

"I use a non-franchised garage because they offer credit"

"Better handbook information"

"Ergonomics for people of non-standard size"

## **10 CONCLUSIONS**

The aims of this project as given in the introduction, have largely been met. Useful conclusions were able to be made (see below) about the relative importance of the car and service, the importance of different factors and comparisons of Volkswagen to other makes.

The author learned a considerable amount about after-sales service and other aspects of the motor industry. It is hoped that people at Volkswagen and others in the industry will use the results of this project to improve the quality of after-sales service.

Relating the importance of different factors to respondent characteristics yielded results, but useful conclusions could only be made for the differences between respondents driving company and private cars and for the differences between rural and urban dealers. This one aim has therefore only partially been met.

As so little work has been published on service in the South African motor industry and it is such a large field, this project was intended to be a pilot study only. It is not exhaustive and therefore the results should be regarded only as indications of what is happening in the market. The specific conclusions are :

- 1) Quality is a very important competitive tool which can be used to gain market share and increase profits. Quality must be seen from the eyes of the customer and quality received can be modelled as the customers' perception of what they receive less their expectations of what they want.
- 2) To most respondents, the car is much more important than the dealer service they receive. This is shown in Chapter 5 with both the respondent scores for question 12 and the multiple regression of car and dealer experience onto whole experience agreeing.

As most of the design work for the cars made in South Africa is done overseas, manufacturers in this country have control over 4 major areas.

- 1 Vehicle price.
- 2 Changes to the cars such as which engine sizes to make, colour, upholstery, accessories, etc.
- 3 Manufacturing quality (which affects reliability).
- 4 Service by dealers.

In order to be competitive, it is necessary to compete in all four areas. As a result of the very strong competition in the South African motor industry, the manufacturers have very little flexibility over price. Competition has also forced manufacturers to provide the features the customers want, resulting in most models having competitors with similar features.

As a result, dealer service and build quality are the two areas where manufacturers have the flexibility to gain a competitive advantage. While the respondents feel that the car is more important than dealer service, dealer service is still a vital area if the manufacturer wants to gain that competitive advantage.

- 3) Both the respondents' scoring and the multiple regression agreed on the importance of the more important service factors. Correct performance of work was rated most important, followed by knowledgeable and competent staff, on time completion of work and reasonable service and parts cost.
- 4) Both methods of obtaining factor importance agreed that reliability was the most important car factor (and therefore the most important factor overall), followed by driveability. Fuel efficiency, comfort and features and car appearance are less important than the first two.
- 5) Doing the work correctly, having knowledgeable and competent staff and completing the job on time, were all rated as more important than the cost of parts and

service. This indicates that the respondents would be willing to pay to have good service (which consists mainly of these three factors). This confirms what is said in literature, that firms providing good service can have higher profit margins. Good service would of course also attract more customers, reduce costs (as a result of less rework), and so increase profits. The respondents are not satisfied with the cost of service and spares, most probably because they do not feel they are getting good service.

- 6) The respondents are reasonable in their expectations. This is shown by the fact that they are willing to pay for good service and also that while they want the vehicle ready on time, they are prepared to wait before work can start on it. The respondents also do not expect staff and facilities to look good.
- 7) For both the car and the service factors, the respondents are less satisfied with the more important factors and more satisfied with the less important factors. This is serious, as if the manufacturers are to satisfy their customers, the respondents should be more satisfied with the more important factors. The manufacturers should put an effort into improving these factors.
- 8) In almost all the comparisons made between the five manufacturers, Toyota was the best, normally followed by Volkswagen, indicating that the respondents with Toyotas were the most satisfied. This satisfaction corresponds to the fact that Toyotas are the most popular cars in South Africa. For both the car and service, Toyota also has higher scores than the other manufacturers in the more important factors and lower scores in the less important factors, probably contributing to the higher overall scores for Toyota. Volkswagen was again second best in this area.
- 9) The respondents showed some conservatism for their choice of manufacturer, with approximately half the people buying the same make each time they choose another car.

- 10) Manufacturers should emphasise more the most important factors in their advertising, particularly the most important car factor, namely reliability (so long as their cars are actually reliable). Car features and comfort, around which much advertising revolves is regarded as lower in importance than other factors. Most respondents, however, do not feel that the manufacturers are promising more than they are giving.
- 11) For Volkswagen, there could be a gap with respondents saying that Volkswagen dealers know what the respondents want, but are not doing much about it.
- 12) Respondents with company cars are less concerned about costs than private owners. They are also less concerned about what is happening with their cars, but still expect the work to be done properly and the car to be reliable.
- 13) The comments the respondents gave indicate that there could be a problem with the attitude of staff in dealerships to the customers, and the work they should be doing.
- 14) Rural Volkswagen dealers provide a significantly better service than do urban Volkswagen dealers.

## **11 RECOMMENDATIONS**

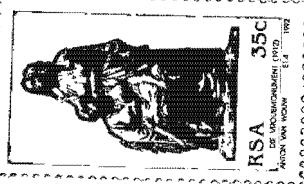
As this is a pilot study, and so little work on service in the motor industry has been published, there is an enormous amount of further work that can be researched. Some research may have been done by manufacturers, but not published to prevent other manufacturers getting the information. The project and this further work should provide information to the motor industry to enable them to improve their customers' perception of their products. The recommendations for further work are :

- 1) There are some limitations to the accuracy of the data, and so further work should be done using a more representative sample of respondents, and more sophisticated statistical analysis should be done to verify the result obtained.
- 2) As the project was only partially successful in relating factor importance to respondent characteristics (age, gender etc), more in depth studies should be done to investigate the differences between these different market segments.
- 3) Due to its important implications, further work should be done on linking satisfaction ratings to factor importance.
- 4) Investigations should be carried out to see if gaps exist with the manufacturers and dealers knowing what the customers want, but not doing anything about it.
- 5) Investigations should be conducted into the customers' comments about staff attitude as well as ways to correct this possible bad situation.
- 6) In order to see how much the customers are prepared to pay for good service, research could be done to compare the cost of typical maintenance work, how good the service is and whether the customer perceives it to be good value.

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**MASTERS THESIS QUESTIONNAIRE**

Please answer these questions as best you can. This is anonymous, so please say what you feel.

**YOUR CAR DETAILS**

1) What car do you normally drive? Make \_\_\_\_\_ Model \_\_\_\_\_

2) How old is this car ? (to the nearest half year) \_\_\_\_\_

3) What is the car's mileage (to the nearest 5000km) \_\_\_\_\_

4) Please tick who owns the car : Self \_\_\_\_\_ 1  
Company \_\_\_\_\_ 2  
Other (please state) \_\_\_\_\_ 3

5) Did you get this car new? Yes \_\_\_\_\_ No \_\_\_\_\_  
If no, how long have you had it? (to the nearest half year) \_\_\_\_\_

6)a) Who services and maintains your car now ? (please tick)  
Same dealer bought from \_\_\_\_\_ 1  
Different authorised dealer \_\_\_\_\_ 2  
Other garage \_\_\_\_\_ 3  
Serviced by myself or friend \_\_\_\_\_ 4

b) Please name the dealer/servicer \_\_\_\_\_  
Branch \_\_\_\_\_

c) If your car is not serviced by a franchised dealer, why do you have it done elsewhere?  
Less expensive \_\_\_\_\_ 1  
Better Service \_\_\_\_\_ 2  
Better Workmanship \_\_\_\_\_ 3  
Other (please state) \_\_\_\_\_ 4

7) What was your previous car ?  
Make \_\_\_\_\_ Model \_\_\_\_\_ Year \_\_\_\_\_  
No previous car \_\_\_\_\_

**YOUR PERSONAL DETAILS**

8) Sex : Male \_\_\_\_\_ 1  
Female \_\_\_\_\_ 2

9) What is your age ? (Don't forget this is anonymous) \_\_\_\_\_

**WHAT YOU HAVE EXPERIENCED FROM YOUR CAR AND YOUR MAINTENANCE FIRM**

14) Please show what you feel you are getting from your car and the firm that maintains it. Next to each statement, circle a number that shows whether you agree or disagree that the statement applies to what you have experienced. Please try not to rate them all the same unless this is what you feel.

**Strongly DISagree 1 2 3 4 5 6 7 Strongly Agree**

- |                                                                                                                |               |
|----------------------------------------------------------------------------------------------------------------|---------------|
| a) "Staff and facilities are neat and visually appealing."                                                     | 1 2 3 4 5 6 7 |
| b) "Work is completed on time."                                                                                | 1 2 3 4 5 6 7 |
| c) "Work is performed correctly the first time."                                                               | 1 2 3 4 5 6 7 |
| d) "There aren't long delays before work can be started."                                                      | 1 2 3 4 5 6 7 |
| e) "Staff are knowledgeable and competent."                                                                    | 1 2 3 4 5 6 7 |
| f) "Staff are helpful and take an interest in the customer."                                                   | 1 2 3 4 5 6 7 |
| g) "Staff and customers are able to talk freely and openly."                                                   | 1 2 3 4 5 6 7 |
| h) "The cost of servicing and spares is reasonable."                                                           | 1 2 3 4 5 6 7 |
| i) "Operating hours are convenient for customers."                                                             | 1 2 3 4 5 6 7 |
| j) "Service facilities are conveniently located."                                                              | 1 2 3 4 5 6 7 |
| k) "The car is reliable."                                                                                      | 1 2 3 4 5 6 7 |
| l) "The car is fuel efficient."                                                                                | 1 2 3 4 5 6 7 |
| m) "The car looks good."                                                                                       | 1 2 3 4 5 6 7 |
| n) "The car is comfortable and has useful features."                                                           | 1 2 3 4 5 6 7 |
| o) "The car drives well."                                                                                      | 1 2 3 4 5 6 7 |
| p) Is there something relating to your car or your maintenance firm that you would like, but are not getting ? | 1 2 3 4 5 6 7 |
- 

15) For the following questions, please circle the number on the scale from 1 to 7 you feel is appropriate for your answer.

a) How do you rate the whole experience of having your car ?

Very Bad 1 2 3 4 5 6 7 Very Good

b) How do you rate your experience of :

i) Dealer Service : Very Bad 1 2 3 4 5 6 7 Very Good

ii) The car itself : Very Bad 1 2 3 4 5 6 7 Very Good

c) If you owned a car before, how does your present car compare to your previous car for :

i) Dealer service : Much worse 1 2 3 4 5 6 7 Much better

ii) Car reliability : Much worse 1 2 3 4 5 6 7 Much better

**MEESTERSTESIS VRAELYS**

Antwoord asseblief alle vrae na die beste van u vermoë. Die vraelys is anoniem, sê asseblief dus hoe u voel.

**U MOTORBESONDERHEDE**

1) Watter motor bestuur u gewoonlik

Fabrikaat \_\_\_\_\_ Model \_\_\_\_\_

2) Hoe oud is hierdie motor? (tot die naaste halwe jaar) \_\_\_\_\_

3) Wat is die motor se kilometerlesing? (tot die naaste 5000km) \_\_\_\_\_

4) Aan wie behoort hierdie motor? : Usself \_\_\_\_\_ 1  
Maatskappy \_\_\_\_\_ 2  
Ander (verduidelik asseblief) \_\_\_\_\_ 3

5) Het u hierdie motor nuut gekoop? Ja \_\_\_\_\_ Nee \_\_\_\_\_  
Indien nie, vir hoe lank is dit in u besit? (naaste halwe jaar) \_\_\_\_\_

6)a) Wie diens en onderhou u motor tans?

Dieselfde handelaar by wie u dit gekoop het \_\_\_\_\_ 1  
'n Ander agentskaphandelaar \_\_\_\_\_ 2  
'n Ander motorhawe \_\_\_\_\_ 3  
Usself of 'n vriend \_\_\_\_\_ 4

b) Wie is die handelaar/motorhawe? \_\_\_\_\_  
Tak \_\_\_\_\_

c) Indien u motor nie deur 'n agentskaphandelaar gediens word nie, waarom is dit so? Goedkoper \_\_\_\_\_ 1  
Beter diens \_\_\_\_\_ 2  
Beter vakmanskap \_\_\_\_\_ 3  
Ander (verduidelik) \_\_\_\_\_ 4

7) Wat was u vorige voertuig?

Fabrikaat \_\_\_\_\_ Model \_\_\_\_\_ Jaar \_\_\_\_\_  
Geen vorige voertuig \_\_\_\_\_

**U PERSOONLIKE BESONDERHEDE**

8) Geslag : Manlik \_\_\_\_\_ 1  
Vroulik \_\_\_\_\_ 2

9) Hoe oud is u ? (moenie vergeet nie, hierdie is anoniem) \_\_\_\_\_

## U ONDERVINDING MET U MOTOR EN MOTORHAWE

14) Dui asseblief aan hoe u voel oor u motor en die maatskappy wat dit onderhou. Na elke stelling, omkring 'n nommer wat aandui of u saamstem of verskil van die stelling met betrekking tot u eie ondervinding. Probeer asseblief om nie al die stellings dieselfde waarde te gee tensy dit werklik die geval is nie.

Stem glad nie saam nie 1 2 3 4 5 6 7 Stem hartlik saam

- |                                                                                                       |               |
|-------------------------------------------------------------------------------------------------------|---------------|
| a) "Die personeel en fasiliteite is netjies en aantreklik."                                           | 1 2 3 4 5 6 7 |
| b) "Werk is betyds klaar."                                                                            | 1 2 3 4 5 6 7 |
| c) "Werk word die eerste keer korrek verrig."                                                         | 1 2 3 4 5 6 7 |
| d) "Daar is nie 'n lang wagtydperk voordat werk verrig word nie"                                      | 1 2 3 4 5 6 7 |
| e) "Personeel is kundig en bekwaam."                                                                  | 1 2 3 4 5 6 7 |
| f) "Personeel is behulpsaam en geïnteresseerd in die kliënt."                                         | 1 2 3 4 5 6 7 |
| g) "Personeel en kliënte kan vrylik en openlik gesels"                                                | 1 2 3 4 5 6 7 |
| h) "Die koste van diens en onderdele is billik."                                                      | 1 2 3 4 5 6 7 |
| i) "Werksure is gerieflik vir die kliënte."                                                           | 1 2 3 4 5 6 7 |
| j) "Diensfasiliteite is gerieflik geleë."                                                             | 1 2 3 4 5 6 7 |
| k) "Die motor is betroubaar."                                                                         | 1 2 3 4 5 6 7 |
| l) "Die motor is lig op brandstof."                                                                   | 1 2 3 4 5 6 7 |
| m) "Die motor is aantreklik."                                                                         | 1 2 3 4 5 6 7 |
| n) "Die motor is gemaklik en beskik oor nuttige glanspunte."                                          | 1 2 3 4 5 6 7 |
| o) "Die motor bestuur lekker."                                                                        | 1 2 3 4 5 6 7 |
| p) Is daar enigiets omtrent u motor of motorhawe wat u verlang, maar wat u nie tans verkry nie? _____ | 1 2 3 4 5 6 7 |

15) Met betrekking tot die volgende vrae, omkring asseblief die nommer op die skaal wat u voel van toepassing is.

- a) Hoe sou u u hele ondervinding met hierdie motor beskryf?  
Baie Sleg 1 2 3 4 5 6 7 Baie goed
- b) Hoe sou u u ondervinding beskryf aangaande
- i) Handelaarsdiens : Baie Sleg 1 2 3 4 5 6 7 Baie goed
  - ii) Die motor self : Baie Sleg 1 2 3 4 5 6 7 Baie goed
- c) Indien u vantevore 'n voertuig besit het, hoe vergelyk u huidige motor met u vorige motor?
- i) Handelaarsdiens : Baie Slegter 1 2 3 4 5 6 7 Baie Beter
  - ii) Voertuigbetroubaarheid : Baie Slegter 1 2 3 4 5 6 7 Baie Beter
- d) Hoe vergelyk u ondervinding met u huidige motor met wat deur die vervaardiger se publisiteit belowe word?  
Baie Slegter 1 2 3 4 5 6 7 Baie Beter (as publisiteit)



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28 October 1992

### Afrikaans Op Keersy

Dear Respondent

I am studying for my Masters degree with the University of Cape Town's School of Engineering Management. For my masters thesis, I am investigating aftersales service quality in the motor industry. For this it is necessary for me to send out a questionnaire to find out what customers want, how they feel about their cars and the service given. I am therefore asking you to help me by completing the enclosed questionnaire and returning it to me as soon as possible.

The questionnaire has been designed to be as simple as possible and should not take more than a few minutes to complete. For your convenience, a stamped addressed envelope has been enclosed. English and afrikaans questionnaires are included.

If you only drive a car more than 8 years old, or a bakkie of any age, please do not fill in this questionnaire. I would appreciate it if you could then pass the questionnaire on to somebody who meets the above requirements.

Please try to answer all the questions. If for some reason, you do not feel you can answer a question, leave it out, but please continue with the questionnaire.

All answers given are confidential and you are not required to give your name. There are no right or wrong answers, so please answer the way you feel. It is your opinions I want to know.

Thank you very much for your help

Yours Sincerely

Edward Gordon

APPENDIX 2

Model fitting results for: WHOLE EXPERIENCE

| Independent variable | coefficient | std. error | t-value | sig.level |
|----------------------|-------------|------------|---------|-----------|
| CAR EXPERIENCE       | 0.841674    | 0.024211   | 34.7639 | 0.0000    |
| DEALER EXPERIENCE    | 0.167688    | 0.028372   | 5.9102  | 0.0000    |

R-SQ. (ADJ.) = 0.9844 SE= 0.731168 MAE= 0.505071 DurWat= 2.114

339 observations fitted, forecast(s) computed for 6 missing val. of dep. var.

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**APPENDIX 3**

**Model fitting results for: Dealer Experience**

| Independent variable              | coefficient | std. error | t-value | sig.level |
|-----------------------------------|-------------|------------|---------|-----------|
| CONSTANT                          | 5.78881     | 0.122936   | 47.0881 | 0.0000    |
| Staff and facility appearance     | 0.047642    | 0.04757    | 1.0015  | 0.3174    |
| On time completion of work        | 0.130902    | 0.04917    | 2.6622  | 0.0082    |
| Correct performance of work       | 0.213529    | 0.049856   | 4.2829  | 0.0000    |
| No delay before work started      | 0.010681    | 0.048866   | 0.2186  | 0.8271    |
| Knowledgeable and competent staff | 0.172096    | 0.064394   | 2.6725  | 0.0079    |
| Helpfulness of staff              | 0.120299    | 0.058179   | 2.0677  | 0.0395    |
| Free communication with staff     | 0.063333    | 0.05562    | 1.1387  | 0.2557    |
| Servicing and spares cost         | -0.008336   | 0.039258   | -0.2123 | 0.8320    |
| Convenient operating hours        | 0.051977    | 0.04339    | 1.1979  | 0.2319    |
| Convenient facility location      | -0.084212   | 0.042362   | -1.9879 | 0.0477    |

R-SQ. (ADJ.) = 0.3638 SE= 1.175083 MAE= 0.844424 DurWat= 1.947

317 observations fitted, forecast(s) computed for 3 missing val. of dep. var.

**Model fitting results for: Car Experience**

| Independent variable           | coefficient | std. error | t-value | sig.level |
|--------------------------------|-------------|------------|---------|-----------|
| CONSTANT                       | 6.200505    | 0.065891   | 94.1027 | 0.0000    |
| Reliability                    | 0.395532    | 0.047992   | 8.2417  | 0.0000    |
| Fuel efficiency                | 0.027138    | 0.038226   | 0.7099  | 0.4783    |
| Car appearance                 | -0.027357   | 0.047139   | -0.5803 | 0.5621    |
| Comfort and feature usefulness | 0.036318    | 0.057953   | 0.6267  | 0.5313    |
| Driveability                   | 0.169001    | 0.05448    | 3.1021  | 0.0021    |

R-SQ. (ADJ.) = 0.2889 SE= 0.891214 MAE= 0.680085 DurWat= 1.857

321 observations fitted, forecast(s) computed for 3 missing val. of dep. var.