Chapter 4: RESEARCH RESULTS

4.1 Summary Statistics of Respondents

This chapter presents findings of the survey done to identify the customer retention built through the use of a comprehensive CRM programme in relation to the implementation level of such CRM programme in the organization.

The survey results were presented in the form of tables or written descriptions depending on the complexities and types of questions used. From personal interviews conducted, all respondents answered the questionnaires with no missing data.

Out of the 24 target population as per Appendix 1, the following are the twelve respondents received:

Franchise Holdings by Country Origin	Total Number of Respondents
Malaysia	2
Japan	4
German	2
France	1
South Korea	1
Sweden	1
Italy	1
Total	12

A brief description of the relevant company history and the franchise vehicle makes of the respondents are as follows:

4.1.1 Local Franchises

All the two (2) companies are invited to participate in this survey.

a. Company C1

The company was established in May 1983 as a joint venture between the Malaysian government, through Heavy Industries Corporation

(HICOM) and a corporation from Japan, which provides the Malaysian company with technology and production support, and other assistance.

The engines for all X1 are produced in Malaysia but designed by the Japan's Corporation.

Today, X1 has primarily catered to the mid-level family saloon sector and positioned as a clear leader in the domestic market, with a share of 60% of the car market in Malaysia.

b. Company C2

Company C2 is the marketing arm which is seen to be able to assist in the penetration of the small car concept in the local automobile market. The model X2 is branded as being the cheapest new car available. The design which is compact, modern and sleek, comes with an engine capacity ranging from 660 c.c. to 1,000 c.c., and is so affordable that more Malaysians would have the opportunity of owning their first car. X2 has achieved a market of about 32% share in Malaysia.

4.1.2 Foreign Franchises

Foreign franchise includes 10 companies of foreign franchises who are participants in the survey. Companies C3 to C6 belong to Japanese franchise holdings. Companies C7 and C8 are German franchise holdings. C9 belong to France, C10 to Sweden, C11 to South Korea and C12 to Italy.

The following is an overview of the companies:

Japanese Franchise Holdings (C3 to C6):

a. Company C3

Company C3 was founded in the year 1986 with 49% share equity from its principals from Japan as it is today. Company C3 established its Customer Relations Division in 1989 as a window for the existing and potential customers to communicate and was the first company to offer the toll-free hotline in Malaysia.

The make X3 is widely accepted by the Malaysian motoring public currently. It is well known for its integrated cost leadership and differentiation strategy, which strives to provide its customers with relatively low cost products that have some valued differentiated features.

b. Company C4

In the 1950s, Company C4 was the first to import Japanese vehicles model X4 into Singapore and Malaysia. By 1990, X4 model had become Malaysia's top selling marque. The group commenced its X4 assembly operations in 1976 under a franchise agreement. The group has since diversified into the manufacturing of automobile parts and other motor unrelated business operations.

X4 is a fairly popular non-national marque in Malaysia.

c. Company C5

Company C5 has established its relationship with its Japanese principal since 1963. It obtained the sole distribution rights for model X5 in Malaysia in 1967.

In Malaysia, Company C5 has been the leading marque in the non-national car segment since 1990. The marque has an established customer segment in the above average income group that looks to X5 when purchasing a second car.

d. Company C6

Today this company C6 is a subsidiary of a local listed company that has foreign equity participation. Under its corporate strategy of diversification, the vehicle franchise for make X6 was acquired from Japan in 1991 for local assembly, X6 is one of the popular makes in Malaysia. The brand is well known for its comfort, power and trendy for the middle-income level group.

German Franchise Holdings (C7 to C8):

e. Company C7

Company C7 was founded in the year 1899. With sufficient management skills, the organization had survived the economic slowdown in 1920's and also the Second World War. Its existence was prominent until today.

The company managed to obtain the dealership for Make X7 which is a European make and had kept the dealership till 2002. Therefore company C7 is known for distributing make X7 nationwide. Its customer group consists of people with higher level of income and could afford to purchase such vehicle.

Today, company C7 is a major dealer of X7 products in Malaysia.

X7 is number one in market share in the upper class niche market with its marque signifying status and success in life.

f. Company C8

Established in 1988, Company C8 was appointed as the importer, assembler, wholesaler and distributor for a European make X8, until June 2003. Today, Company C8 is the main dealer for make X8 in the country and operates 8 branches across Malaysia.

Company X8 has adopted the customer centric approach to ensure that the customers own one of the best cars in the world as well as having access to a host of privileges and benefits from the organization.

France Franchise Holdings:

g. Company C9

Company C9 was established in the year 2001 and is a new subsidiary company of C7. The company C9 is distributing another European make X9, under C7's business strategy of diversification.

Being European make, X9 is quite popular with the middle income group who goes for comfort and brand exclusivity. Though being new, Company C9 has the benefit of an established infrastructure in CRM under the company C7 and established distribution network.

South Korea Franchise Holdings:

h. Company C10

Company C10 was formed in Malaysia in collaboration with a motor corporation in South Korea in early 2001 to carry out CKD operations and distribution of make X10 in the 1.8 and 2.0 litre range in engine capacity.

The wide range of X10 models available offer Malaysians an alternative choice, which is not only of excellent value but also at affordable price.

Sweden Franchise Holdings:

i. Company C11

Company C11 has had a presence of its European make X11 in Malaysia since 1960 and its first car assembly plant in Malaysia was operational in 1967.

The make X11 is reputed as the safest automobile in the world. The organization C11 has pioneered the field of car safety and their cars are built on the principles of safety, quality and environmental care for modern families.

Italy Franchise Holdings:

j. Company C12

Having formed in 1988, the organization C12 started to sell the European make X12 in Malaysia. X12 was very popular as Malaysian Police Motorized units until 1990 when they were replaced by the Malaysian cars, the Proton. Currently X12 is an important CBU car model still running on the road in perfect condition and is well received by the motoring public in general.

4.2 Interpretations and Analysis of Measures

Data derived from questionnaires were divided into three (3) sections as follows:

Section I: discussing about the user profile and the company particulars regarding the nature of franchise and mode of execution.

Section II: relates to the effective CRM programme and is divided into six parts as follows:

Part 1 looks into the CRM programme usage and the usefulness of CRM to the organisation.

Part 2 attempts to identify the relationship between effective CRM programme and its contribution to company's profitability.

Part 3 looks into the comprehensiveness of the CRM programme in terms of the availability of information technology used in CRM programmes to support the execution of an effective CRM programme in the automobile industry.

Part 4 relates to the implementation level of the CRM programme, including both the benefits and barriers of implementing a CRM programme in the organization.

Part 5 looks into the various instruments that could be used in measuring the effectiveness of CRM programme.

Part 6 endeavours to identify the dependent variable, namely the customer retention rate (CR), which is used to measure customer turnover (Anderson; Jacobson, 2000). It shows how large a percentage of its customer portfolio the company retains yearly. The lost relationship, which shows the churn rate, on the other hand, shows how large a percentage of its customer portfolio the company loses every year (Hawkins, Best, Coney, 2004).

As there are different churn rates over different time frames, the respondents were also probed to provide the churn rates for the short term which refers to 1st and 2nd year, the intermediate term which refers to the 3rd and 4th year and the long term, which refers to the 5th year and above.

Section III: contains questions to find out from the sample automobile companies whether they are satisfied with the current implementation of the CRM programme.

4.3 Section I: User Profile

This section aims to give an overview of the characteristics of the respondents' department, position held, years employed in that company, degree of involvement in the implementation and operation of CRM programme, types of franchise, mode of execution and whether the company implements any CRM programme currently. For the purpose of this study, the user profile is categorized under local franchise and foreign franchise holdings. The variables are analysed as follows:

4.3.1 Respondents Department

Overall, Table 4.3.1 of the study found that out of the total respondents of 12, 58.3% were from Sales/Marketing Department, 25% from IT Department and 16.7% from Strategic Department at the headquarter level.

For local franchise holdings, all respondents are from Sales/Marketing and for foreign franchise holdings, 50% are from Sales/Marketing, 30% from IT and 20% from the Strategic Department.

This mix of respondents' Departments is well balanced because Sales and Marketing Department in this study plays a significant role as the initiator and planner for the implementation of CRM as part of a marketing plan. IT Department is important because it is the facilitator for the implementation and functionality of the CRM programme. The role of Strategic Department, which formulates and introduces some CRM concepts and ideas to the company cannot be overlooked and sidestepped.

Table 4.3.1 Users' Department Based on Type of Franchise Holdings

Dept	**Overall**	Local	Foreign Franchise						
	No. (%)	No. (%)	Japan	German	France	Sweden	South Korea	Italy	Overall No. (%)
A	**2 (16.7)**	-	2	-	-	-	-	-	2 (20)
C	**3 (25.0)**	-	1	1	-	-	1	-	3 (30)
D	**7 (58.3)**	2 (100)	1	1	1	1	-	1	5 (50)
Total	**12 (100)**	2 (100)	4	2	1	1	1	1	10 (100)

Note: Dept.

A = Strategic

C = Information Technology

D = Sales/ Marketing

4.3.2 Position Held

Overall, the majority of the respondents as shown in Table 4.3.2 are General Managers, and IT Managers, each accounting for 25%. This is followed by Senior Managers, making up 16.7%. Others are Sales and Dealers Managers, Product or Research Manager, which accounted for 8.3% each.

For local franchise holdings, the respondents are Research Manager and Senior Manager, at 50% each. For foreign franchise holdings, the majority are General Managers and Product Managers.

The above analyses show that the respondents are mainly General Managers (GM) and IT Managers (25% each). As top management member, GM is responsible for overseeing the entire organisation, including the establishment of long-term company-wide goals. In this respect, GM plays an important role for successful CRM introduction and implementation in the organisation.

Table 4.3.2 Respondents' Designations as at 1.1.2004

Degn	**Overall**	Local	Foreign Franchise						
	No. (%)	No. (%)	Japan	German	France	Sweden	South Korea	Italy	Overall No. (%)
A	**1 (8.3)**	-	1	-	-	-	-	-	1 (10)
B	**3 (25.0)**	-	2	-	-	-	-	1	3 (30)
C	**0 (0.0)**	-	-	-	-	-	-	-	-
D	**1 (8.3)**	-	-	-	-	1	-	-	1 (10)
E	**3 (25.0)**	-	1	1	-	-	1	-	3 (30)
F	**1 (8.3)**	-	-	1	-	-	-	-	1 (10)
G	**1 (8.3)**	1 (50)	-	-	-	-	-	-	-
H	**2 (16.7)**	1 (50)	-	-	1	-	-	-	1 (10)
Total	**12 (100)**	2 (100)	4	2	1	1	1	1	10 (100)

Note: Degn (Designations)

A = Officer, Corporate Affairs
B = General Manager
C = Marketing Services Manager
D = Sales and Dealers Manager
E = IT Manager
F = Product Manager
G = Research Manager
H = Senior Manager

4.3.3 Years Employed in This Company

Overall, Table 4.3.3 reflects that the target respondents for this survey vary in years employed in their companies from less than 5 years to 24.9 years. Whilst those employed from 10 to 14.9 years makes up 8.3% of the total respondents, the largest group of respondents are those employed below 5 years. 16.7% are those employed from 5 to 9.9 years. The respondents employed from 15 to 19.9 years in these companies make up 25% of the total respondents. 16.7% of the respondents are those employed from 20 to 24.9 years.

For local franchise holdings, all the respondents at 100% have been employed 5 to 9.9 years. For the foreign franchise holdings, the largest group of the respondents at 40% are employed less than 5 years. 10% of the respondents are with the company 10 to 14.9 years. This is followed by those employed 15 to 19.9 years at 30%. 20% of the respondents are employed 20 to 24.9 years.

Table 4.3.3 Years Employed in This Company as at 1.1.2004

Yrs Empl	**Overall**	Local	Foreign Franchise						
	No. (%)	No. (%)	Japan	German	France	Sweden	South Korea	Italy	Overall No. (%)
A	**4 (33.3)**	-	-	1	-	1	1	1	4 (40)
B	**2 (16.7)**	2 (100)	-	-	-	-	-	-	0 (0)
C	**1 (8.3)**	-	-	-	1	-	-	-	1 (10)
D	**3 (25.0)**	-	2	1	-	-	-	-	3 (30)
E	**2 (16.7)**	-	2	-	-	-	-	-	2 (20)
Total	**12 (100)**	2 (100)	4	2	1	1	1	1	10 (100)

Note: Yrs Empl (Years Employed)

A = Less than 5 years

B = 5 – 9.9 years

C = 10 – 14.9 years

D = 15 – 19.9 years

E = 20 – 24.9 years

4.3.4 Degree of Involvement in CRM

Overall, the major group of respondents as per Table 4.3.4 are involved in support service at 50%. Whilst 25% are planners, 16.7% are users of CRM programmes in the company. A minority at 8.3% are involved as a planner as well as service provider.

For local franchise holdings, the respondent is either a planner or support service. The foreign franchise holdings, the majority at 50% are support service providers while 20% of the respondents are planner and users respectively. However, 10% are involved as both a planner and support service provider.

Table 4.3.4 Degree of Involvement in CRM

Deg. Of Invl	**Overall**	Local	Foreign Franchise						
							South		Overall
	No. (%)	No. (%)	Japan	German	France	Sweden	Korea	Italy	No. (%)
A	**3 (25.0)**	1 (50)	-	-	-	-	1	1	2 (20)
B	**6 (50.0)**	1 (50)	3	1	-	1	-	-	5 (50)
C	**2 (16.7)**	-	-	1	1	-	-	-	2 (20)
D	**1 (8.3)**	-	1	-	-	-	-	-	1 (10)
Total	**12 (100)**	2 (100)	4	2	1	1	1	1	10 (100)

Note: Deg. of Invl (Degree of Involvement)

A = Planner

B = Support services

C = User

D = Planner and support services

4.3.5 Vehicle Franchise Holdings

Overall, Table 4.3.5 of the study found that out of the total respondents of 12, up to 16.7% are local franchise holdings which refers to Malaysian cars. Out of the foreign franchise holdings, the Japan franchise holdings makes up 33.3% of the total respondents. Whilst 16.7% are from the German makes, French, Sweden, Italian holdings each is accounted for 8.3% of the respondents. South Korean holdings is at 8.3% of the respondents.

Table 4.3.5 also shows that there are two (2) Malaysian franchise holdings and ten (10) others making up the foreign franchise holdings. As the automobile organisations in Malaysia are mostly Japanese franchise holdings, this study includes four (4) Japanese franchise holdings, making up 40% of the total respondents.

Table 4.3.5 Vehicle Franchise Holdings by Country Origin

Hldg. By Cty	**Overall**	Local	Foreign Franchise						
	No. (%)	No. (%)	Japan	German	France	Sweden	South Korea	Italy	Overall No. (%)
A	**2 (16.7)**	2 (100)	-	-	-	-	-	-	0 (0)
B	**4 (33.3)**	-	4	-	-	-	-	-	4 (40)
C	**2 (16.7)**	-	-	2	-	-	-	-	2 (20)
D	**1 (8.3)**	-	-	-	1	-	-	-	1 (10)
E	**1 (8.3)**	-	-	-	-	1	-	-	1 (10)
F	**1 (8.3)**	-	-	-	-	-	1	-	1 (10)
G	**1 (8.3)**	-	-	-	-	-	-	1	1 (10)
Total	**12 (100)**	2 (100)	4	2	1	1	1	1	10 (100)

Note: Hldg by Cty (Holdings by Country Origin)

A = Malaysian
B = Japanese
C = German
D = French
E = Sweden
F = South Korean
G = Italian

4.3.6 Mode of Execution

Overall, Table 4.3.6 of the study found that 50% of the total respondents of 12 have Completely Knocked-Down (CKD) mode of execution with 16.7% having Completely Built-Up (CBU) execution. About one third at 33.3% have both CKD and CBU modes of execution.

For the local franchise holdings, it has exclusively 100% CKD mode of execution in car assembly. For foreign franchise holdings, 40% of the respondents have CKD mode of execution while 20% have only CBU mode of execution. Those that have CKD and CBU modes of execution make up 40% of the respondents.

Table 4.3.6 Mode of Execution

MOE	**Overall**	Local	Foreign Franchise						
	No. (%)	No. (%)	Japan	German	France	Sweden	South Korea	Italy	Overall No. (%)
A	**3 (25.0)**	1 (50)	-	-	-	-	1	1	2 (20)
B	**6 (50.0)**	1 (50)	3	1	-	1	-	-	5 (50)
C	**2 (16.7)**	-	-	1	1	-	-	-	2 (20)
Total	**12 (100)**	2 (100)	**4**	2	1	1	1	1	10 (100)

Note: MOE (Mode of Execution)

A = CKD

B = CBU

C = Both CKD and CBU

4.3.7 Company Undertaking CRM Programme

All the respondents included in this study have undertaken the CRM programme.

4.4 Section II: Effective CRM Programme

4.4.1 Part 1: Usage and Usefulness of CRM Programme

This part looks into the usage of CRM programme and its usefulness to the organisation as a whole.

4.4.1.1 Overall Findings

Table 4.4.1.1 reflects total respondents' mean score for each of the statements, which relates to the usage of the CRM programmes in the organisation. The higher the mean score, the stronger will be the respondents' agreement to the statements relating to the usage of the CRM programme in the organisation.

Based on the mean score derived from the survey responses, the following statements have been arranged to reflect the respondents' extent of agreement (in the scale of 1 to 4) that the usage of CRM programme will help the organisation to:

A_{02}: CRM helps us to identify the customer to target.

A_{01}: Our customer database is constantly updated,

A_{03}: We have systems to reach specific customer segments.

A_{04}: CRM has helped our company to identify the various customer needs.

A_{08}: CRM has helped our company to achieve a higher number of repeat customers.

A_{05}: CRM is efficiently maintained in our company (based on cost and benefit analysis).

A_{06}: CRM has helped our company to significantly increase profit.

A_{07}: CRM has helped our company to increase the average profit contributed by each customer.

A_{09}: CRM has helped our company to inter-link our delivery channels.

A_{10}: CRM has helped our company integrate the front-end and back office functions.

Overall, the statement A_{02} has the highest mean at 3.67, which means that the respondents strongly agreed that CRM helps them to identify the customer to target. This is followed by A_{01} that is to mean that their database is constantly updated. As indicated, CRM not only helps the automobile marketer to reach specific customer segments, but also has helped their company to identify various customer needs.

Table 4.4.1.1Usage and Usefulness of CRM Programme

No.	**Overall**	Local	Foreign Franchise						
	Mean	Mean	Japan	German	France	Sweden	South Korea	Italy	Overall Mean
A_{01}	**3.42**	3.00	3.75	3.0	3.0	4.0	4.0	3.0	3.5
A_{02}	**3.67**	4.00	4.00	3.0	4.0	4.0	3.0	3.0	3.6
A_{03}	**3.25**	3.00	3.75	3.0	4.0	2.0	4.0	2.0	3.3
A_{04}	**3.25**	3.50	3.50	3.0	4.0	2.0	3.0	3.0	3.2
A_{05}	**3.08**	3.00	3.50	3.0	3.0	2.0	3.0	3.0	3.1
A_{06}	**3.00**	3.00	3.00	3.0	4.0	2.0	3.0	3.0	3.0
A_{07}	**2.92**	3.00	3.00	2.5	4.0	2.0	3.0	3.0	2.9
A_{08}	**3.17**	3.00	3.75	2.5	4.0	2.0	3.0	3.0	3.2
A_{09}	**2.92**	3.00	3.25	2.5	4.0	2.0	3.0	2.0	2.9
A_{10}	**2.92**	3.00	3.00	2.5	4.0	2.0	3.0	3.0	2.9
Tot μ	**31.58**	31.5	34.5	28.0	38.0	24.0	32.0	28.0	31.6
Avr μ	**3.16**	3.15	3.45	2.8	3.8	2.4	3.2	2.8	3.16

Note:

Tot μ = Total Mean
Avr μ = Average Mean

4.4.1.2 Comparative Study

This section is a comparative study of local and foreign franchise holdings on the usage of CRM programme in the organisation.

Based on the same table (Table 4.4.1.1), it shows that there is no material difference between local and foreign franchise holdings on the usage and usefulness of CRM programme in the organisation.

However, the mean score for statements A_{09} and A_{10} for the foreign franchise holdings are lower at 2.9 when compared to the local franchise holdings. This means that the foreign franchise holdings do not seem to agree strongly that they should use the CRM programme to help their company to interlink their delivery channels or to integrate the front-end and back office functions.

4.4.2 Part 2: Ranking of CRM Factors

This part of the study shows the listing of CRM factors as ranked by all respondents in the order of importance in effectiveness in increasing the profitability in an organisation. The number 1 denotes the "most important" and 9 "the least important".

4.4.2.1 Overall Findings

Table 4.4.2.1. takes total respondents'. mean score as a criteria, and rank in the order from the most important to the least important in effectiveness in increasing profitability for the organisation.

1. B_{01} Individual customer satisfaction.
2. B_{02} Individual customer loyalty.
3. B_{03} Individual product or service profitability.
4. B_{04} Gaining new customers.
5. B_{06} Saving back customers, i.e. convincing them to stay with our company.
6. B_{07} Getting existing customers to buy new products (cross-sell/upsell)
7. B_{05} Winning back customers, i.e. convincing them to rejoin our company.
8. B_{08} Improving productivity through reduction in response time.

9. B_{09} Elimination of costs from unprofitable customers.

As illustrated in Table 4.4.2.1, overall, respondents ranked B01 "individual customer satisfaction" with mean at 2.42 as the most important CRM factor in increasing profitability for the organisation. This is followed by "individual customer loyalty" at 3.92 as mean. While "improving productivity through reduction in response time" was rated as less important, the least important was "elimination of costs from unprofitable customers".

Table 4.4.2.1Ranking of Mean of CRM Factors

No.	CRM Fac.	**Overall**	Local	Foreign Franchise						
		Mean	Mean	Japan	German	France	Sweden	South Korea	Italy	Overall Mean
1	B_{01}	**2.42**	4.5	2.0	1.5	1.0	1.0	1.0	6.0	2.0
2	B_{02}	**3.92**	5.5	1.75	5.5	6.0	2.0	3.0	7.0	3.6
3	B_{03}	**4.33**	5.0	3.5	4.5	2.0	7.0	5.0	5.0	4.2
4	B_{04}	**4.42**	5.5	4.5	4.5	8.0	4.0	2.0	1.0	4.2
5	B_{06}	**5.00**	6.5	5.0	4.5	7.0	3.0	6.0	2.0	4.7
6	B_{07}	**5.42**	4.5	5.25	5.0	3.0	6.0	7.0	9.0	5.6
7	B_{05}	**5.92**	6.0	6.75	5.5	9.0	5.0	4.0	3.0	5.9
8	B_{08}	**6.33**	5.0	8.0	5.0	4.0	8.0	8.0	4.0	6.6
9	B_{09}	**7.25**	2.5	8.25	9.0	5.0	9.0	9.0	8.0	8.2

Note: CRM Fac. (CRM Factors)

4.4.2.2 Comparative Study

A comparative study of local and foreign franchise holdings on ranking of CRM factors which are important in measuring profitability for an organisation shows that there are difference in opinion with regard to B_{09} (elimination of costs from unprofitable customers), B_{02} (individual customer loyalty) and B_{07} (getting existing customer to buy new products, i.e. cross-sell/upsell).

	Rankings	
	Local	Foreign
B_{09}: Elimination of costs from unprofitable customers	1	9
B_{02}: Individual customer loyalty	6	2
B_{07}: Getting existing customer to buy new products (cross-sell/upsell)	3	6

The local franchise holdings rated B_{09} (elimination of costs from unprofitable customers) as the most important factor in increasing profitability for the organisation whereas the foreign franchise holdings ranked it as the least important factor. The local franchise holdings also begs to be different on factors B_{02} (individual customer loyalty) and B_{07} (getting existing customer to buy new products, i.e. cross-sell/upsell) which was ranked as 6^{th} and 3^{rd} positions respectively.

Foreign franchise holdings on the other hand, ranked B_{02} as 2^{nd} in importance and B_{07} as the 6^{th} important factor effective in increasing profitability for the organisation.

4.4.3 Part 3: Comprehensiveness of CRM Programme

This part relates to the availability of various information technology used in CRM programmes to support the execution of an effective CRM programme in the organisation.

4.4.3.1 Overall Findings

Table 4.4.3.1 reflects the mean score of the statements, which relate to the comprehensiveness of CRM programme used in the organisation. The

higher the mean score, the more the usage rate relating to the specific facility of CRM programme.

Based on the mean score derived, the findings concluded that the following CRM facilities have the most usage rate to support the execution of an effective CRM programme, which would include the following information technology.

High level (with mean score ranging from 3.00 to 3.75) of comprehensiveness of CRM programme would include the use of the following as described by the statements:

C_{02}: Telephone

C_{05}: Sales support, i.e. after sales support

C_{04}: Internet website

Medium level (with mean score ranging from 2.00 to 2.92) of comprehensiveness of CRM programme would include the use of the following as described by the statements:

C_{07}: Data warehousing which facilitates the storage of information

C_{03}: Direct contact

C_{06}: Datamining facilities which facilitate the sharing of information

C_{09}: Enterprise Resource Planning (ERP) software, which facilitates integration of front end and back office operations.

C_{08}: Enterprise Wide Application (EWP) software, which facilitates data interchange with system

Low level (with mean score $\leq$ 1.58) of comprehensiveness of CRM programme would include the use of the following as described by the statements:

C_{01}: Call centre

C_{10}: E-commerce

Stephen McBride (2000) established that the facilities available to facilitate the easy access of information are call centres/contact centres, websites, direct contact facilities, interactive media and online application.

As CRM is currently at the infancy stage in the operation of business, this research findings concluded that the set up of call centre and the use of e-commerce remain at low level of comprehensiveness of CRM programme which is very little used for both local and foreign franchise holdings.

Table 4.4.3.1Comprehensiveness of CRM Programme

No.	**Overall**	Local	Foreign Franchise						
	Mean	Mean	Japan	German	France	Sweden	South Korea	Italy	Overall Mean
C_{01}	**1.58**	1.5	2.75	0.5	0.0	4.0	0.0	0.0	1.6
C_{02}	**3.75**	3.0	4.00	3.5	4.0	4.0	4.0	4.0	3.9
C_{03}	**2.92**	2.5	2.25	3.0	4.0	4.0	3.0	4.0	3.0
C_{04}	**3.00**	3.5	3.25	3.0	3.0	4.0	3.0	0.0	2.9
C_{05}	**3.33**	2.5	4.00	3.0	4.0	3.0	3.0	3.0	3.5
C_{06}	**2.75**	2.5	3.25	3.0	2.0	3.0	4.0	0.0	2.8
C_{07}	**2.92**	3.5	3.50	2.5	3.0	3.0	3.0	0.0	2.8
C_{08}	**2.00**	2.5	2.50	3.0	3.0	0.0	0.0	0.0	1.9
C_{09}	**2.08**	0.0	3.25	3.0	3.0	0.0	3.0	0.0	2.5
C_{10}	**0.92**	1.5	1.00	1.0	2.0	0.0	0.0	0.0	0.8
Tot μ	**25.25**	23.0	29.75	25.5	28.0	25.0	23.0	11.0	25.7
Avr μ	**2.53**	2.30	2.98	2.55	2.80	2.50	2.30	1.10	2.57

Note:

Tot μ = Total Mean

Avr μ = Average Mean

4.4.3.2 Comparative Study

This section is a comparative study of local and the foreign franchise holdings on comprehensiveness of CRM programmes.

Table 4.4.3.1 of the study shows that e-commerce is very little used for both local and foreign franchise holdings in respect of CRM programme. It is interesting to note that ERP software is not used at all for the local franchise holdings.

4.4.4 Part 4: Implementation Level of CRM Programme

Table 4.4.4.1 of the study shows the mean scores relating to the factors affecting the implementation level of CRM programme in the organisation. Statements D_{01} to D_{08} relate to the benefits in implementing CRM in the organisation whereas statements D_{09} to D_{17} relate to the barriers in implementing it.

From the survey findings, the higher the mean score, the more extensively will be the factors affecting the implementation level of the CRM programme in the organisation.

Each of the following statement has been arranged according to the mean score derived from the survey findings.

The following statements have the mean score above the average mean of 3.19 for the total 12 respondents. The first statement (D_{02}) – CRM improves the response time to customer request for information – has the highest mean score of 3.50:

D_{02}: Improve response time to customer request for information.

D_{08}: Ability to react effectively against new entrants.

D_{15}: Management consistently provides the support during the implementation phase.

D_{09}: Difficulty in measuring customer loyalty.

D_{03}: Deliver product that meets the customer requirement.

D_{04}: More responsive technical support.

D_{13}: Cost of operations increases significantly in implementing CRM programme, i.e. setting up call centres, data warehousing and datamining facilities, etc.

D_{14}: Implementation of CRM programme is very time consuming.

Based on the survey findings, the factor stated in the statement D_{02}, which has the highest mean score, benefits the customer the most by providing instant access to the status of orders made by customers. This is in line with Hewson Group and Microsoft (2000) finding that with these facilities, customer satisfaction will be enhanced and will build the customer confidence and in turn will strengthen their loyalty towards the company.

On the other hand, the survey findings concluded that the factor stated in the statement D_{11} – cultural issues related to the employees' attitude and resistance to change increase – has the lowest mean score of 2.75. This does not benefit the customer at all. This factor will only hinder the speed of CRM implementation and increasing the budgeted costs of implementation through delay (Peppers and Rogers, 2001).

The survey findings also concluded that the factor stated in the statement D_{13} – cost of operations increases significantly in implementing CRM programme, setting up call centres, data warehousing and datamining facilities – has the mean score of 3.33, meaning that technology could also act as a barrier to the implementation of the CRM programme due to the high implementation cost involved (Hatton and Blue, 1999).

Statements with mean scores below the average mean score of 3.19 are listed as follows:

D_{12}: Proper standard had been carefully designed for successful CRM programme implementation.

D_{01}: Customer data sharing across business units.

D_{06}: Reduce the cost of customer acquisitions.

D_{07}: Improve cross selling of other products and services.

D_{17}: Programmes for safeguarding the security and privacy of data in CRM programme have been carefully outlined.

D_{05}: Greater breadth of solution options.

D_{16}: The employees fully understand how to implement the CRM programme.

D_{10}: Process-reengineering costs increase due to wider project scope and larger customer information.

D_{11}: Cultural issues related to employees' attitude and resistance to change increase.

Table 4.4.4.1Implementation level of CRM Programme in the Organisation

No.	**Overall**	Local	Foreign Franchise						
	Mean	Mean	Japan	German	France	Sweden	South Korea	Italy	Overall Mean
D_{01}	**3.08**	3.50	3.00	2.5	2.0	4.0	3.0	4.0	3.0
D_{02}	**3.50**	3.50	3.50	3.0	3.0	4.0	4.0	4.0	3.5
D_{03}	**3.33**	3.50	3.25	3.0	4.0	4.0	3.0	3.0	3.3
D_{04}	**3.33**	3.50	3.25	3.5	4.0	4.0	2.0	3.0	3.3
D_{05}	**3.00**	3.50	3.00	2.5	4.0	2.0	3.0	3.0	2.9
D_{06}	**3.08**	3.50	3.00	2.5	4.0	3.0	3.0	3.0	3.0
D_{07}	**3.08**	3.00	3.00	3.5	4.0	3.0	3.0	2.0	3.1
D_{08}	**3.50**	4.00	3.50	2.5	4.0	4.0	3.0	4.0	3.4
D_{09}	**3.42**	3.50	3.75	2.5	4.0	4.0	3.0	3.0	3.4
D_{10}	**2.83**	6.50	3.00	2.0	3.0	3.0	2.0	3.0	2.7
D_{11}	**2.75**	3.00	2.50	2.5	3.0	2.0	3.0	4.0	2.7
D_{12}	**3.17**	3.50	3.25	3.0	3.0	3.0	4.0	2.0	3.1
D_{13}	**3.33**	3.00	3.75	3.0	4.0	4.0	3.0	2.0	3.4
D_{14}	**3.33**	3.50	3.50	2.5	4.0	4.0	3.0	3.0	3.3
D_{15}	**3.50**	3.50	4.00	2.0	4.0	4.0	4.0	3.0	3.5
D_{16}	**3.00**	2.50	3.25	2.5	4.0	4.0	3.0	2.0	3.1
D_{17}	**3.08**	3.00	3.25	2.5	4.0	4.0	3.0	2.0	3.1
Tot μ	**54.33**	57.00	55.75	45.5	62.0	60.0	52.0	50.0	53.8
Avr μ	**3.19**	3.35	3.28	2.68	3.65	3.53	3.06	2.94	3.16
		High	**High**	**Low**	**High**	**High**	**High**	**Low**	

Note:

Tot μ = Total Mean

Avr μ = Average Mean

Remarks:

High = mean score > 3.19

Low = mean score < 3.19

4.4.5 Part 5: Measuring the Effectiveness of CRM Programme

This section discusses about the instruments used for measuring the effectiveness of the CRM programmes in the organisation.

Table 4.4.5.1 relates to the instrument that automobile organisations could use to measure the effectiveness of the CRM programme performance.

On an overall basis, rated with the highest score at seven (7) each is the customer retention reviews and customer satisfaction through the growth of the individual customer portfolio. The next popular instrument is the statistical method on profit analysis such as customer solution profit model, time profit model and profit multiplier model. Other method such as attracting new customers that is using new customer portfolio is equally popular.

Table 4.4.5.1Instruments Used for Measuring the Effectiveness of CRM Programme in the Organisation

No.	Overall	Local	Foreign Franchise						
	Freq.	Freq.	Japan	German	France	Sweden	South Korea	Italy	Overall Freq.
EM_{01}									
Ind. C^r	7	1	2	1	1	1		1	6
Rev.	3	1		1					1
1&2	2		2				1		3
	12	2							10
EM_{02}									
Ind. C^r	7	1	1	2	1	1		1	6
Rev.	0								0
1&2	4		3				1		4
None	1	1							0
	12	2							10
EM_{03}									
CSPM	3		1	1		1			3
PMM	2	1						1	1
TPM	3		2	1					3
1&2	2		1				1		2
1&2&3	1				1				1
None	1	1							0
	12	2							10

No.	**Overall**	Local	Foreign Franchise						
	Freq.	Freq.	Japan	German	France	Sweden	South Korea	Italy	Overall Freq.
EM_{04}									
COS	**2**	1		1					1
OS_{CRM}	**1**	1							0
New C	**3**		1	1				1	3
1&2	**2**		2						2
1&2&3	**3**		1		1		1		3
None	**1**					1			1
	12	2							10

Note:

Ind. C^r = Individual Customer

Rev. = Revenue

CSPM = Customer Solution Profit Model

PMM = Profit Multiplier Model

TPM = Time Profit Model

COS = Current Operating Standard

OS_{CRM} = OS after CRM implementation

New C = New Customer

4.4.6 Part 6: Customer Retention Rate

This part endeavours to identify the dependent variable, namely the customer retention rate (CR), which is used to measure customer turnover. It shows how large a percentage of its customer portfolio the company retains yearly. The lost relationship, which shows the churn rate, on the other hand, shows how large a percentage of its customer portfolio the company loses every year.

As the customer retention rate and churn rate would sum up to the total customer available, the customer retention rate can be calculated from the formula:

customer retention rate = 1 – churn rate

As churn rates differ over different time frames, different retention rates are obtained for the short term (1st and 2nd year), for the intermediate term (3rd and 4th year) and the long term (5th year and above).

4.4.6.1 Total Customer Database

Table 4.4.6.1 shows that out of the total 12 respondents, 5 organisations have a database of 50,000 and above customers. Two are local, and three are Japanese franchise holdings. The balance of the 7 organisations has a database of below 40,000 customers each. Note that CRM is still at its infancy stage in the automobile sector but local franchise holdings have an advantage of having a large database because of its large market and product saleability due to affordability.

Other foreign franchise holdings have smaller customer database size of below 40,000 customers because they started to go for CRM only recently. It needs time to build up the database through management support of comprehensiveness of CRM programme and implementation level of CRM programme in the organisations.

From the survey feedback, the size of total customer database each company has built over the years is quite substantial at below 40,000

customers currently. Such being the case, the company has to execute CRM strategy on a mass basis through the availability of technology (Brown, 2000).

Therefore, CRM is shown to be a technology enabled business strategy whereby companies leverage increased customer knowledge to build profitable relationship (Sue and Morin, 2001).

Table 4.4.6.1Total Customer Database by Franchise Holdings

Cr D/bs	**Overall**	Local	Foreign Franchise						
	No.	No.	Japan	German	France	Sweden	South Korea	Italy	Overall No.
A	**3**	-	-	1	-	-	-	1	2
B	**1**	-	-	-	1	1	-	-	2
C	**2**	-	1	-	-	-	1	-	2
D	**1**	-	-	1	-	-	-	-	1
E	**-**	-	-	-	-	-	-	-	-
F	**5**	2	3	-	-	-	-	-	3
Total	**12**	2	4	2	1	1	1	1	10

Note: Cr D/bs (Customer Database)

A = Less than 10,000

B = 10,000 to 19,999

C = 20,000 to 29,999

D = 30,000 to 39,999

E = 40,000 to 49,999

F = Above 50,000

4.4.6.2 Annual Customer Relationship Built

Table 4.4.6.2 of the study shows that out of the total 12 respondents, one third reported that their customer relationships built was 5 to 9.9% per year. Another one third reported that their customer relationships growth was 10 to 14.9% per year. Both local and foreign franchise holdings followed the same trend. Only the Japanese and German franchise holdings have customer relationship built above 15% annually.

Table 4.4.6.2Annual Customer Relationship Built by Franchise Holdings

%	**Overall**	Local	Foreign Franchise						
	No.	No.	Japan	German	France	Sweden	South Korea	Italy	Overall No.
A	**1**	-	-	-	1	-	-	-	1
B	**4**	1	1	1	-	1	-	-	3
C	**4**	1	1	-	-	-	1	1	3
D	**1**	-	1	-	-	-	-	-	1
E	**1**	-	1	-	-	-	-	-	1
F	**1**	-	-	1	-	-	-	-	1
Total	**12**	2	4	2	1	1	1	1	10

Note: % (Percentage)

A = less than 5%

B = 5 to 9.9%

C = 10 to 14.9%

D = 15 to 19.9%

E = 20 to 24.9%

F = 25% and above

4.4.6.3 Customer Retention Rates by Franchise Holdings

4.4.6.3.1 Overall Findings

Table 4.4.6.3 of this study shows that:

(a) The customer retention rate for the short term (1st and 2nd year – F_{031})
This is high overall at 5.75 mean score. This is due to the warranty period for the cars, which covers one year or 24,000 km mileage, whichever come first. This encourages the customers to come back to the workshop for service during which the customers are provided labour service free of charge for rectification of their faulty vehicle spare parts.

(b) The customer retention rate for the intermediate term (3rd and 4th year – F_{032})
The study reveals that the mean score for the CR rate is at 3.67 for the intermediate term. It means that CR rate deteriorates from year to year once the warranty period ends.

(c) The customer retention rate for the long term (5th year and above – F_{033})
This is rated low at 1.25 mean score. It means that the customer retention rate deteriorates to 75% and below.

To encourage more customers to come back to the workshop or spare parts department after the 2nd year when the warranty period expires, more has to be done in terms of sales promotions, public relations, launch of new models and free inspection of the customers' vehicles.

The implementation of a CRM strategy that follows would therefore require focusing on the main areas that affect customer care: customer strategy, channel and product management strategy and infrastructure strategy.

4.4.6.3.2 Comparative Study

This section is a comparative study of local and foreign franchise holdings on CR rate.

Based on the same Table 4.4.6.3, it can be observed that the customer retention rates for the following foreign makes are higher for its short term, intermediate term and long term as compared to other makes in the same category:

- German make
- Sweden make

This could be due to the prominent brands for these makes together with their favourable warranty policy of a 3-year period with unlimited mileage.

As the warranty period of these makes extended into the 3rd year, it works in favour of CR rate for the intermediate term. The slightly higher CR rate for these makes in the long term could be due to the prominent branding of the makes, which have instilled a sense of loyalty in the customer.

It is interesting to note that the CR rates for the local and Japanese franchise holdings are identical, be it short term, intermediate or long term.

Table 4.4.6.3Customer Retention Rate by Franchise Holdings

Term	**Overall**	Local	Foreign Franchise						
	No.	No.	Japan	German	France	Sweden	South Korea	Italy	Overall No.
A	**5.75**	5.5	5.5	6.0	6.0	6.0	6.0	6.0	5.8
B	**3.67**	3.0	3.0	5.5	3.0	6.0	2.0	4.0	3.8
C	**1.25**	1.0	1.0	2.0	1.0	2.0	1.0	1.0	1.3

Note: Term

A = short term customer retention rate

B = intermediate term customer retention rate

C = long term customer retention rate

4.5 Section III: Additional Information on CRM Programme

This section attempts to find out whether the automobile organisations are satisfied with the current implementation of CRM programme.

4.5.1 Overall Findings

Table 4.5.1 of this study shows that 58.3% of the respondents are satisfied with the current implementation of the CRM programme, and 41.7% are not satisfied.

4.5.2 Comparative Study

This section is a comparative study of local and foreign franchise holdings on current implementation of the CRM programme.

Based on the same Table 4.5.1, all local franchise holdings are not satisfied with the current implementation of the CRM programme. Reasons as quoted by them are:

a) "Current CRM is emphasizing on service and quality and not on Malaysian Ringgit value of CRM programme for the customers and organisation," as quoted by a Manager in Marketing at headquarter of one company.
b) "Focus is more on cultures. The link between front end and back office is lacking," was echoed by a Senior Manager in Sales/Marketing from headquarter in another company.

From survey results, all those foreign franchise holdings which are not satisfied with the current implementation of CRM programme said that it was mainly because they are either in the process of building CRM programmes or at the infancy stage of CRM programme development.

Table 4.5.1 Satisfactory Level of CRM Programme Implementation

Sat. (Y/N)	**Overall**	Local	Foreign Franchise						
	No. (%)	No. (%)	Japan	German	France	Sweden	South Korea	Italy	Overall No. (%)
Y	**7 (58.3)**	0 (0.0)	3	2	1	0	1	0	7 (70)
N	**5 (41.7)**	2 (100)	1	0	0	1	0	1	3 (30)
Total	**12 (100)**	2 (100)	4	2	1	1	1	1	10 (100)

Note:

Sat. = Satisfactory

Y = Yes

N = No

4.6 Correlation Analysis

A correlation analysis was performed on the following constructs or variables:

- CRM usage in the organisation (Proguse)
- Comprehensiveness of CRM programme (Progcom)
- Implementation level of CRM programme (Progimp)
- Customer retention (CR) rate for the short term (1st and 2nd year – F_{031}) after the vehicle purchase
- Customer retention (CR) rate for the intermediate term (3rd and 4th year – F_{032}) after the vehicle purchase
- Customer retention (CR) rate for the long term (5th year and above – F_{033}) after the vehicle purchase

The CRM usage in the organisation construct is represented by Proguse variable which is the added scores of the following variables – A_{01}, A_{02}, A_{03}, A_{04}, A_{05}, A_{06}, A_{07}, A_{08}, A_{09} and A_{10}.

The comprehensiveness of CRM programme construct is represented by the Progcom variable, which is the added scores of the following variables – C_{01}, C_{02}, C_{03}, C_{04}, C_{05}, C_{06}, C_{07}, C_{08}, C_{09} and C_{10}.

The implementation level of CRM programme is represented by Progimp variable, which is the added scores of the following variables – D_{01}, D_{02}, D_{03}, D_{04}, D_{05}, D_{06}, D_{07}, D_{08}, D_{09}, D_{10}, D_{11}, D_{12}, D_{13}, D_{14}, D_{15}, D_{16} and D_{17}. The customer retention rate for the short term is represented by F_{031} variable; the customer retention rate for the intermediate term is represented by F_{032} variable, and the customer retention rate for the long term is represented by F_{033} variable.

4.6.1 Overall Correlation Analysis

Table 4.6.1 shows the Overall Correlation Analysis on the constructs – Proguse, Progcom, Progimp and F031 for all the 12 respondents as a whole.

There is no significant relationship that exists between the comprehensiveness of CRM programme (Progcom) and customer retention rate for the short term (F_{031}).

The study found out that there is a significant relationship that exists between the implementation level of CRM programme (Progimp) and customer retention for the shot term (F_{031}) with a p-value of 0.027. As shown in Table 4.6.1, there is a negative correlation of 0.632 between implementation level of CRM programme and customer retention for the short term. This means that there will hardly be any impact from the increasing implementation level of CRM programme on customer retention rate for the short term. Most probably this is due to the warranty period of the new car offered to the customers by the organisation, which will encourage the customers to come back to the organisation for service regardless of the factors affecting implementation level of the CRM programme in an organisation.

The warranty period for new cars offered by the automobile organisations in Malaysia differs from model to model. The most common practice is a warranty of one (1) year with a mileage of 24,000 km, whichever comes first. Only the prestigious European makes like Mercedes Benz, BMW and Volvo cars offer a 3-year warranty period with unlimited mileage on the car.

For the intermediate term (3^{rd} and 4^{th} year), there is a significant relationship that exists between the CRM programme usage construct (Proguse) and customer retention construct (F_{032}) with a p-value of 0.015. As shown in Table 4.6.1, there is a negative relationship between CRM programme usage and customer retention for the intermediate term with a negative correlation of 0.678. The increase in CRM programme usage is unlikely to improve the customer retention rate for the intermediate term.

For the long term (5^{th} year and above), there is a significant relationship that exists between the CRM programme usage construct

(Proguse) and customer retention constructs (F_{033}) with a p-value of 0.012. As shown in Table 4.6.1, there is a negative relationship between CRM programme usage and customer retention for the long term with a negative correlation of 0.694. Increasing CRM programme usage is unlikely to improve the customer retention rate for the long term.

Therefore, further research will need to be done to investigate what are the CRM strategies to be used for improving the customer retention rate for the intermediate term and the long term. This applies also to prestigious European makes like Mercedes Benz, BMW and Volvo cars that offer a warranty period up to 3 years with unlimited mileage, which will contribute towards a better CR rate for the intermediate term.

Table 4.6.1 Correlations

		PROGUSE	PROGCOM	PROGIMP	F031	F032	F033
PROGUSE	Pearson Correlation	1.000	.527	.340	-.294	-.678	-.694
	Sig. (2-tailed)	.	.078	.280	.354	.015	.012
	N	12	12	12	12	12	12
PROGCOM	Pearson Correlation	.527	1.000	-.019	.087	-.021	.008
	Sig. (2-tailed)	.078	.	.953	.789	.949	.981
	N	12	12	12	12	12	12
PROGIMP	Pearson Correlation	.340	-.019	1.000	-.632	-.324	-.361
	Sig. (2-tailed)	.280	.953	.	.027	.304	.249
	N	12	12	12	12	12	12
F031	Pearson Correlation	-.294	.087	-.632	1.000	.440	.333
	Sig. (2-tailed)	.354	.789	.027	.	.152	.290
	N	12	12	12	12	12	12
F032	Pearson Correlation	-.678	-.021	-.324	.440	1.000	.880
	Sig. (2-tailed)	.015	.949	.304	.152	.	.000
	N	12	12	12	12	12	12
F033	Pearson Correlation	-.694	.008	-.361	.333	.880	1.000
	Sig. (2-tailed)	.012	.981	.249	.290	.000	.
	N	12	12	12	12	12	12

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

4.7 Assessment of Reliability

This section is the assessment of reliability of the scales of the CRM programme usage, comprehensiveness and implementation level of the CRM programmes.

Reliability applies to a measure when similar results are obtained over time and across situations. It is the degree to which measures are free from random error and therefore, yield consistent results.

a) CRM Programme Usage

From Table 4.7.1, it is noted that the α = 0.9042. According to Peter Paul, an α of $\geq$ 0:6 means that a scale is internally reliable. Hence we can conclude that the CRM programme usage scale is reliable. The most important item is A_{08} (CRM has helped our company to achieve a higher number of repeat customers) where α would drop by a large percentage from 0.9042 to 0.8751. The least important item in the scale is A_{01} (our customer database is constantly updated) with α increasing to 0.9246 if item is deleted. It is advisable to drop this item in order to enhance the reliability of the scale.

Table 4.7.1 Reliability Assessment on CRM Programme Usage

Variable	Scale Mean If Item Is Deleted	Scale Variance If Item Is Deleted	Corrected Item Total Correlation	Alpha If Item Deleted
A_{01}	28.1667	17.6061	0.0912	0.9246
A_{02}	27.9167	16.6288	0.3471	0.9113
A_{03}	28.3333	13.3333	0.7927	0.8859
A_{04}	28.3333	14.2424	0.7751	0.8868
A_{05}	28.5000	15.3636	0.6531	0.8953
A_{06}	28.5833	15.9015	0.6416	0.8972
A_{07}	28.6667	14.9697	0.7605	0.8893
A_{08}	28.4167	12.9924	0.9195	0.8751
A_{09}	28.6667	13.5152	0.8754	0.8791
A_{10}	28.6667	14.9697	0.7605	0.8893

Reliability Coefficients

N of Cases = 12.0 N of Items = 10

Alpha = **0.9042**

b) Comprehensiveness of the CRM Programme

From Table 4.7.2, it is noted that the α = 0.6755. Quoting Peter Paul earlier, an α of $\geq$ 0.6 means that a scale is internally reliable. Hence we can conclude that the comprehensiveness of the CRM programme scale is reliable. The item C_{07} (Data warehousing which facilitates the storage of information) is the most important with a drop by a large margin to 0.6085 if item is deleted. The least important is the item C_{03} (Direct contact) with α increasing to 0.7239 if item is deleted.

Table 4.7.2 Reliability Assessment on Comprehensiveness of CRM Programme

Variable	Scale Mean If Item Is Deleted	Scale Variance If Item Is Deleted	Corrected Item Total Correlation	Alpha If Item Deleted
C_{01}	23.6667	31.5152	0.2858	0.6745
C_{02}	21.5000	38.0909	0.2962	0.6645
C_{03}	22.3333	41.5152	-0.1389	0.7329
C_{04}	22.2500	34.2045	0.4465	0.6354
C_{05}	21.9167	35.3561	0.5172	0.6359
C_{06}	22.5000	34.2727	0.4341	0.6371
C_{07}	22.3333	32.2424	0.5959	0.6085
C_{08}	23.2500	30.7500	0.4479	0.6269
C_{09}	23.1667	31.7879	0.3464	0.6526
C_{10}	24.3333	32.2424	0.3919	0.6402

Reliability Coefficients

N of Cases = 12.0 N of Items = 10

Alpha = **0.6755**

c) Implementation Level of CRM Programme

Table 4.7.3 shows that the α = 0.8550. According to Peter Paul, an α of $\geq$ 0.6 means that a scale is internally reliable. Such being the case, we can conclude that the implementation level of CRM programme scale is reliable. The most important item is D_{09} (Difficulty in measuring customer loyalty) with a drop by a big margin from 0.8550 to 0.8318.

Item D_{01} (Customer data sharing across business units) is the least important with α increasing to 0.8613 if item is deleted. It is advisable to delete this item to enhance the reliability of the scale.

Table 4.7.3 Reliability Assessment on Implementation Level of CRM Programme

Variable	Scale Mean If Item Is Deleted	Scale Variance If Item Is Deleted	Corrected Item Total Correlation	Alpha If Item Deleted
D_{01}	51.2500	42.9318	0.1401	0.8613
D_{02}	50.8333	41.2424	0.4608	0.8484
D_{03}	51.0000	39.4545	0.7937	0.8377
D_{04}	51.0000	39.6364	0.4452	0.8485
D_{05}	51.3333	51.3333	0.3752	0.8512
D_{06}	51.2500	38.5682	0.6733	0.8381
D_{07}	51.2500	41.8409	0.2680	0.8560
D_{08}	50.8333	41.4242	0.3143	0.8540
D_{09}	50.9167	37.5379	0.8082	0.8318
D_{10}	51.5000	39.3636	0.6776	0.8396
D_{11}	51.5833	41.9015	0.2189	0.8594
D_{12}	51.1667	41.6061	0.3580	0.8519
D_{13}	51.0000	37.2727	0.7077	0.8347
D_{14}	51.0000	36.7273	0.6591	0.8365
D_{15}	50.8333	39.6061	0.3673	0.8541
D_{16}	51.3333	41.1515	0.3070	0.8550
D_{17}	51.2500	36.2045	0.6180	0.8392
Reliability Coefficients				
N of Cases = 12.0		N of Items = 17		
Alpha = **0.8550**				

4.8 Multiple Regression Analysis

The hypothesis was tested using SPSS version 10.01 with Multiple Regression Analysis. Multiple Regression Analysis is employed because the regression coefficient can indicate how sensitive the dependent variable is to changes in the independent variables. In analysing the data, the significant of adjusted R Square will be used. According to Peterson in Managerial Economics (1994), the value of R Square is an important indicator of how trustworthy the regression equation is. A regression equation can be used to predict the value of the dependent variable for given values of the independent variable. With multiple regression each estimated coefficient measures the impact of one variable on the dependent variable holding constant the influence of other variables. The significant F value indicates whether the independent variables are contributing significantly to the dependent variable.

The higher value of R Square the trustworthier the regression equation is. Coefficients of the independent variables with value less than 0.05 will indicate that the independent variable is significant and this contributes significantly to the dependent variable.

A hypothesis is a proposition that is empirically testable.

4.8.1 Hypothesis Testing

Hypothesis 1:

H_{01}: There is a significant relationship between the comprehensiveness of CRM programme and customer retention

H_{a1}: There is no relationship between the comprehensiveness of CRM programme and customer retention

Hypothesis 2:

H_{01}: There is a significant relationship between the implementation level of CRM programme and customer retention

H_{a1}: There is no relationship between the implementation level of CRM programme and customer retention

The regression analysis is employed to analyse the following linear model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E$$

Where,

Y = customer retention
α = constant
X_1 = comprehensiveness of CRM programme (Progcom)
X_2 = implementation level of CRM programme (Progimp)
X_3 = usage of CRM programme (Proguse)
β = regression coefficient of X_i where i=1, 2, 3
E = error term

Two methods of regression analysis were carried out and they are:

a) 'Enter' method
b) 'Stepwise' method

4.8.1.1 'Enter' Method – Customer Retention for the Short Term (1st and 2nd Year)

This is all regression model, running all dependable variables (DV) to independent variable (IV) in one shot to find out the significant variables to explain DV.

The DV is the customer retention for the short term (F031), whereas the IVs are comprehensiveness of CRM programme (Progcom) and implementation level of CRM programme (Progimp).

From Table 4.8.1.1(a), it can be concluded that the explanatory power of the regression model is 27.3%, which is from the adjusted R Square, which is 0.273.

From Table 4.8.1.1(b), the study found that the model is not significant enough and we fail to reject the null hypothesis. The p-value is 0.097.

From Table 4.8.1.1(c), the implementation level of CRM programme (Progimp) construct is found to be significant (p-value = 0.037 which is $\leq$ 0.05).

Therefore, using the 'Enter' regression model, the linear form model should be as follows:

$$Y = 7.937 + 0.005278X_1 - 0.0427X_2$$

Where,

Y = customer retention
X_1 = Progcom
X_2 = Progimp

This means that whilst the construct of comprehensiveness of CRM programme (Progcom) has a positive relationship with customer retention, the implementation level of CRM programme (Progimp) has a negative relationship with it for the short term. That is to say, the increasing level of CRM programme implementation will unlikely to have any impact on the CR rate for the short term, which could be due to the warranty period covered during the short term.

The warranty period will encourage the customers to come back to the organisation for service regardless of the factors affecting implementation level of the CRM programme in an organisation.

As explained earlier, the warranty period for new cars offered by the automobile organisations in Malaysia differs from model to model. The most common practice is a warranty of one (1) year with a mileage of 24,000 km, whichever comes first. Only the prestigious European makes like Mercedes Benz, BMW and Volvo cars offer a 3-year warranty period with unlimited mileage on the car.

It is noted that the construct of comprehensiveness of CRM programme (Progcom) is not significant and thus should be dropped from the model.

Note that if we take only Progimp construct and F_{031} construct with the dropping of comprehensiveness of CRM programme construct (Progcom) from the Multiple Regression Analysis, under 'Enter' method, the output of linear equation would be the same as that under 'Stepwise' method.

Table 4.8.1.1(a) Model Summary of the 'Enter' Regression Model on Customer Retention Scale for the Short Term (F_{031})

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.636[a]	.405	.273	.3857

a Predictors: (Constant), PROGIMP, PROGCOM

Table 4.8.1.1(b) ANOVA Analysis of the 'Enter' Regression Model on Customer Retention Scale for the Short Term (F_{031})

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.911	2	.456	3.063	.097[a]
	Residual	1.339	9	.149		
	Total	2.250	11			

a Predictors: (Constant), PROGIMP, PROGCOM
b Dependent Variable: F031

Table 4.8.1.1(c) Coefficients of the 'Enter' Regression Model on Customer Retention Scale for the Short Term (F031)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.937	1.066		7.447	.000
	PROGCOM	5.278E-03	.018	.074	.290	.779
	PROGIMP	-4.270E-02	.017	-.631	-2.452	.037

a Dependent Variable: F031

4.8.1.2 'Stepwise' Method – Customer Retention for the Short Term (1st and 2nd Year)

This looks at the overall relationship between DV and IV and finds the most significant variables to explain the DV.

From Table 4.8.1.2(a), it can be concluded that the explanatory power of the regression model is 33.9%, which is from the adjusted R Square, which is 0.339.

From Table 4.8.1.2(b), the study found that the model is indeed significant enough to reject the null hypothesis. The p-value is 0.027.

From Table 4.8.1.2(c), the Progimp construct is found to be significant (p-value $\leq$ 0.05). Therefore, using the 'Stepwise' regression model, the linear equation should be as follows:

$Y = 8.075 - 0.0428X_1$

Where,

Y = customer retention
X_1 = Progimp

From Table 4.8.1.2(d), it is found that the Progcom construct is not significant (p-value $\geq$ 0.05). Using the 'Stepwise' regression model, we failed to reject the null hypothesis. It can be concluded that there is no relationship between the comprehensiveness of CRM programme and customer retention for the short term.

Based on the linear regression model of $Y = 8.075 - 0.0428X_1$, where Y = customer retention and X_1 = Progimp, this means that the Progimp construct has a negative relationship with customer retention scale for the short term. Increased programme implementation level does not result in improved customer retention rate. From Table 4.8.1.2 (d), the variable Progcom is not significant and thus should be dropped from this model.

Table 4.8.1.2(a) Model Summary of the 'Stepwise' Regression Model on Customer Retention Scale for the Short Term (F_{031})

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.636[a]	.399	.339	.3676

a Predictors: (Constant), PROGIMP

Table 4.8.1.2(b) ANOVA Analysis of the 'Stepwise' Regression Model on Customer Retention Scale for the Short Term (F_{031})

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.899	1	.899	6.652	.027[a]
	Residual	1.351	10	.135		
	Total	2.250	11			

a Predictors: (Constant), PROGIMP
b Dependent Variable: F031

Table 4.8.1.2(c) Coefficients of the 'Stepwise' Regression Model on Customer Retention Scale for the Short Term (F_{031})

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.075	.908		8.895	.000
	PROGIMP	-4.280E-02	.017	-.632	-2.579	.027

a Dependent Variable: F031

Table 4.8.1.2(d) Excluded Variables of the 'Stepwise' Regression Model on Customer Retention Scale for the Short Term (F_{031})

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	PROGUSE	-.090	-.328	.750	-.109	.885
	PROGCOM	.074	.290	.779	.096	1.000

a Predictors in the Model: (Constant), PROGIMP
b Dependent Variable: F031

4.8.1.3 'Enter' Method – Customer Retention for the Intermediate Term (3rd and 4th Year)

This is all regression model, running all dependable variables (DV) to independent variable (IV) in one shot to find out the significant variables to explain DV.

The DV is the customer retention for the intermediate term (F032), while the IVs would include usage of CRM programme (Proguse), comprehensiveness of CRM programme (Progcom) and implementation level of CRM programme (Progimp).

From Table 4.8.1.3(a), it can be concluded that the explanatory power of the regression model is 47.2% that is from the adjusted R Square, which is 0.472.

From Table 4.8.1.3(b), the study found that the model is significant enough for us to reject the null hypothesis. The p-value is 0.044.

From Table 4.8.1.3(c), the usage of CRM programme (Proguse) construct is found to be significant (p-value = 0.012 which is ≤ 0.05).

Therefore, using the 'Enter' regression model, the linear model for customer retention for the intermediate term should be as follows:

$$Y = 10.509 - 0.296X_1 + 0.09998X_2 - 0.0004249X_3$$

Where,

Y = customer retention
X_1 = Proguse
X_2 = Progcom
X_3 = Progimp

This means that whilst the construct of comprehensiveness of CRM programme (Progcom) has a positive relationship with customer retention, the usage of CRM programme (Proguse) and the implementation level of CRM programme (Progimp) have a negative relationship with it for the intermediate term. That is to say, more usage of the CRM programme as well as the

increased level of CRM programme implementation is unlikely to improve the CR rate for the intermediate term. We note that the constructs of comprehensiveness of CRM programme (Progcom) and the implementation level of CRM programme (Progimp) are not significant and thus should be dropped from the model.

Based on the above findings, we would recommend further research to be done to investigate what are the CRM strategies to be used for improving the customer retention rate for the intermediate term.

Table 4.8.1.3(a) Model Summary of the 'Enter' Regression Model on Customer Retention Scale for the Intermediate Term (F_{032})

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785[a]	.616	.472	.9958

a Predictors: (Constant), PROGUSE, PROGIMP, PROGCOM

Table 4.8.1.3(b) ANOVA Analysis of the 'Enter' Regression Model on Customer Retention Scale for the Intermediate Term (F_{032})

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.733	3	4.244	4.280	.044[a]
	Residual	7.934	8	.992		
	Total	20.667	11			

a Predictors: (Constant), PROGUSE, PROGIMP, PROGCOM
b Dependent Variable: F032

Table 4.8.1.3(c) Coefficients of the 'Enter' Regression Model on Customer Retention Scale for the Intermediate Term (F_{032})

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.509	2.909		3.613	.007
	PROGCOM	9.998E-02	.057	.466	1.750	.118
	PROGIMP	-4.249E-04	.049	-.002	-.009	.993
	PROGUSE	-.296	.091	-.922	-3.261	.012

a Dependent Variable: F032

4.8.1.4 'Stepwise' Method – Customer Retention for the Intermediate Term (3rd and 4th Year)

This looks at the overall relationship between DV and IV and finds the most significant variables to explain the DV.

From Table 4.8.1.4(a), it can be concluded that the explanatory power of the regression model is 40.5%, which is from the adjusted R Square, which is 0.405.

From Table 4.8.1.4(b), the study found that the model is indeed significant enough for us to reject the null hypothesis. The p-value is 0.015. From Table 4.8.1.4(c), the Proguse construct is found to be significant (p-value ≤ 0.05).

Therefore, using the 'Stepwise' regression model, the linear equation should be as follows:

$$Y = 10.531 - 0.217X_1$$

Where,

Y = customer retention
X_1 = Proguse

From Table 4.8.1.4(d), it is found that the Progcom and Progimp constructs are not significant (p-value ≥ 0.05). Using the 'Stepwise' regression model, we failed to reject the null hypothesis. It can be concluded that there is no relationship between the comprehensiveness of CRM programme and customer retention for the intermediate term.

Based on the linear regression model of $Y = 10.531 - 0.217X_1$, where Y = customer retention and X_1 = Proguse, this means that the Proguse construct has a negative relationship with customer retention scale for the intermediate term. Increasing usage of CRM programme is unlikely to result in improved customer retention rate. From Table 4.8.1.4 (d), the variables Progcom and Progimp are not significant and thus should be dropped from this model.

Table 4.8.1.4(a) Model Summary of the 'Stepwise' Regression Model on Customer Retention Scale for the Intermediate Term (F_{032})

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.678[a]	.459	.405	1.0572

a Predictors: (Constant), PROGUSE

Table 4.8.1.4(b) ANOVA Analysis of the 'Stepwise' Regression Model on Customer Retention Scale for the Intermediate Term (F_{032})

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.490	1	9.490	8.492	.015[a]
	Residual	11.176	10	1.118		
	Total	20.667	11			

a Predictors: (Constant), PROGUSE
b Dependent Variable: F032

Table 4.8.1.4(c) Coefficients of the 'Stepwise' Regression Model on Customer Retention Scale for the Intermediate Term (F_{032})

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.531	2.375		4.434	.001
	PROGUSE	-.217	.075	-.678	-2.914	.015

a Dependent Variable: F032

Table 4.8.1.4(d) Excluded Variables of the 'Stepwise' Regression Model on Customer Retention Scale for the Intermediate Term (F_{032})

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	PROGCOM	.466[a]	1.918	.087	.539	.722
	PROGIMP	-.106[a]	-.412	.690	-.136	.885

a Predictors in the Model: (Constant), PROGUSE
b Dependent Variable: F032

4.8.1.5 'Enter' Method – Customer Retention for the Long Term (5th Year and Above)

This is all regression model, running all dependable variables (DV) to independent variable (IV) in one shot to find out the significant variables to explain DV.

The DV is the customer retention for the long term (F033), with the IVs to include usage of CRM programme (Proguse), comprehensiveness of CRM programme (Progcom) and implementation level of CRM programme (Progimp).

From Table 4.8.1.5(a), it can be concluded that the explanatory power of the regression model is 55.4% that is from the adjusted R Square, which is 0.554.

From Table 4.8.1.5(b), the study found that the model is significant enough for us to reject the null hypothesis. The p-value is 0.024.

From Table 4.8.1.5(c), the usage of CRM programme (Proguse) construct is found to be significant (p-value = 0.006 which is ≤ 0.05).

Therefore, using the 'Enter' regression model, the linear model for customer retention for the long term should be as follows:

$$Y = 3.625 - 0.101X_1 + 0.03614X_2 - 0.001861X_3$$

Where,

Y = customer retention
X_1 = Proguse
X_2 = Progcom
X_3 = Progimp

This means that whilst the construct of comprehensiveness of CRM programme (Progcom) has a positive relationship with customer retention, the usage of CRM programme (Proguse) and the implementation level of CRM programme (Progimp) have a negative relationship with it for the long term.

That is to say, more usage of the CRM programme as well as the increased level of CRM programme implementation is unlikely to improve the CR rate for the long term. We note that the constructs of comprehensiveness of CRM programme (Progcom) and the implementation level of CRM programme (Progimp) are not significant and thus should be dropped from the model.

Based on the above findings, we would recommend further research to be done to investigate what are the CRM strategies to be used for improving the customer retention rate for the long term.

Table 4.8.1.5(a) Model Summary of the 'Enter' Regression Model on Customer Retention Scale for the Long Term (F_{033})

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.822[a]	.675	.554	.3022

a Predictors: (Constant), PROGUSE, PROGIMP, PROGCOM

Table 4.8.1.5(b) ANOVA Analysis of the 'Enter' Regression Model on Customer Retention Scale for the Long Term (F_{033})

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.519	3	.506	5.547	.024[a]
	Residual	.731	8	9.131E-02		
	Total	2.250	11			

a Predictors: (Constant), PROGUSE, PROGIMP, PROGCOM
b Dependent Variable: F033

Table 4.8.1.5(c) Coefficients of the 'Enter' Regression Model on Customer Retention Scale for the Long Term (F_{033})

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.625	.883		4.107	.003
	PROGCOM	3.614E-02	.017	.510	2.084	.071
	PROGIMP	-1.861E-03	.015	-.027	-.124	.904
	PROGUSE	-.101	.028	-.953	-3.664	.006

a Dependent Variable: F033

4.8.1.6 'Stepwise' Method – Customer Retention for the Intermediate Term (5th Year and Above)

This looks at the overall relationship between DV and IV and finds the most significant variables to explain the DV.

From Table 4.8.1.6(a), we can conclude that the explanatory power of the regression model is 42.9%, which is from the adjusted R Square, which is 0.429. From Table 4.8.1.6(b), the study found that the model is indeed significant enough for us to reject the null hypothesis. The p-value is 0.012. From Table 4.8.1.6(c), the Proguse construct is found to be significant (p-value ≤ 0.05).

Therefore, using the 'Stepwise' regression model, the linear equation should be as follows:

$$Y = 3.569 - 0.07341X_1$$

Where,

Y = customer retention
X_1 = Proguse

From Table 4.8.1.6(d), it is found that the Progimp construct is not significant (p-value ≥ 0.05). Using the 'Stepwise' regression model, we failed to reject the null hypothesis. It can be concluded that there is no relationship between the implementation level of CRM programme and customer retention for the long term.

Based on the linear regression model of $Y = 3.569 - 0.07341X_1$, where Y = customer retention and X_1 = Proguse, this means that the Proguse construct has a negative relationship with customer retention scale for the long term. Increased usage of CRM programme does not result in improved customer retention rate.

From Table 4.8.1.6 (d), the variables Progcom and Progimp are not significant and thus should be dropped from this model.

Table 4.8.1.6(a) Model Summary of the 'Stepwise' Regression Model on Customer Retention Scale for the Long Term (F_{033})

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.694[a]	.481	.429	.3416
2	.821[b]	.675	.602	.2852

a Predictors: (Constant), PROGUSE

b Predictors: (Constant), PROGUSE, PROGCOM

Table 4.8.1.6(b) ANOVA Analysis of the 'Stepwise' Regression Model on Customer Retention Scale for the Long Term (F_{033})

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.083	1	1.083	9.278	.012[a]
	Residual	1.167	10	.117		
	Total	2.250	11			
2	Regression	1.518	2	.759	9.333	.006[b]
	Residual	.732	9	8.132E-02		
	Total	2.250	11			

a Predictors: (Constant), PROGUSE

b Predictors: (Constant), PROGUSE, PEOGCOM

c Dependent Variable: F033

Table 4.8.1.6(c) Coefficients of the 'Stepwise' Regression Model on Customer Retention Scale for the Long Term (F_{033})

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.569	.768		4.649	.001
	PROGUSE	-7.341E-02	.024	-.694	-3.046	.012
1	(Constant)	3.555	.641		5.548	.000
	PROGUSE	-.102	.024	-.967	-4.320	.002
	PROGCOM	3.667E-02	.016	.518	2.313	.046

a Dependent Variable: F033

Table 4.8.1.6(d) Excluded Variables of the 'Stepwise' Regression Model on Customer Retention Scale for the Long Term (F_{033})

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	PROGCOM	.518[a]	2.313	.046	.611	.722
	PROGIMP	-.142[a]	-.565	.586	-.185	.885
2	PROGIMP	-.027[b]	-.124	.904	-.044	.830

a Predictors in the Model: (Constant), PROGUSE
b Predictors in the Model: (Constant), PROGUSE, PROGCOM
c Dependent Variable: F033