

CHAPTER 4

RESEARCH RESULTS

INTRODUCTION

This chapter presents the analysis of the data obtained from administering the questionnaires to 165 public respondents who paid utilities' bills either at TNB service centres or POS Malaysia post offices. The breakdowns of the respondents are 83 customers at TNB one-stop payments' counters and 82 customers at POS MALAYSIA one-stop payment counters. Only one set of incomplete questionnaire by the respondent was eliminated.

The results are organised as follows:

I. Demographic profile of the respondents:

a) Overall

b) At TNB counters

c) At POS Malaysia counters

II. The research findings and testing of hypothesis

III. Discussion of the major data findings

1919

1919

1919

1919

1919

1919

1919

1919

1919

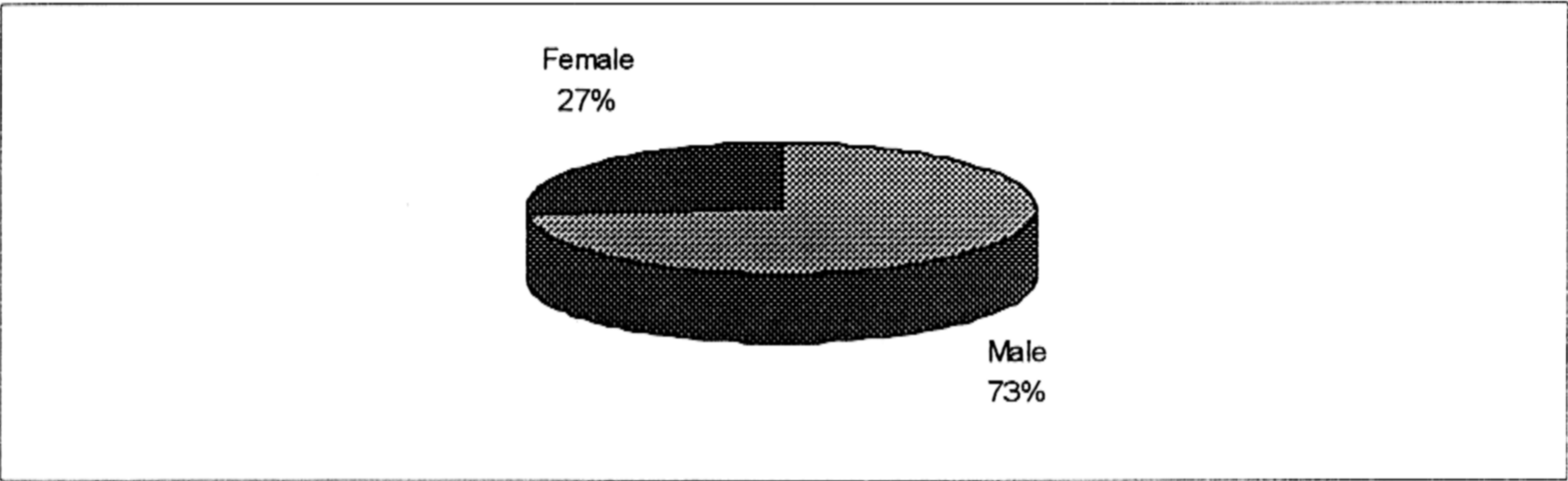
1919

1919

DEMOGRAPHIC PROFILE OF RESPONDENTS

Table 4.1: Sex group distribution of respondents

SEX	At TNB		At POS Malaysia		OVER ALL TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Male	68	81.9	53	64.6	121	73.3
Female	15	18.1	29	35.4	44	26.7



The respondents are evenly distributed between the sexes. It is found that males are more than females. A total of 81.9% of the respondents who paid bills at TNB service counters is male. A slightly smaller percentage of male paid bills at POS Malaysia. Generally, male dominates in paying utilities’ bills, this could be due to most males prefer to handle utilities matters than female or female prefers this chore to be done by the males.

THEORY OF THE EARTH

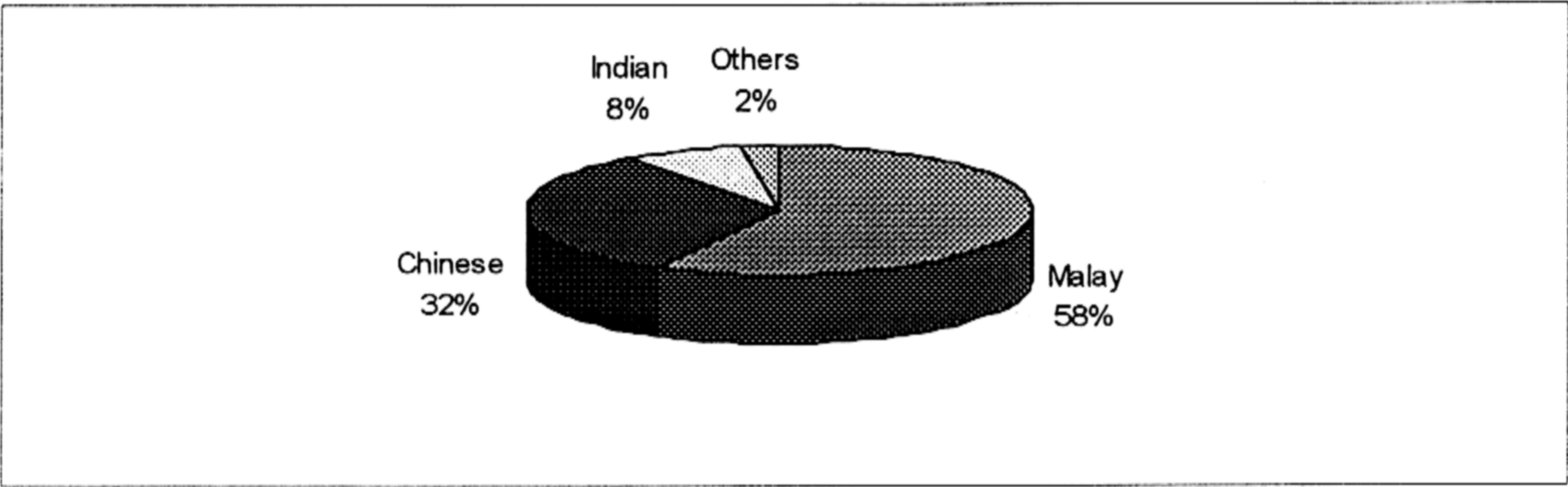
THEORY OF THE EARTH			
THEORY OF THE EARTH			
1	2	3	4
1	2	3	4



The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the causes of the various geological phenomena which we observe in nature. The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the causes of the various geological phenomena which we observe in nature.

Table 4.2: Race group distribution of respondents

RACE	At TNB		At POS Malaysia		OVER ALL TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Malay	50	60.2	46	56.1	96	58.2
Chinese	21	25.3	31	37.8	52	31.5
Indian	9	10.8	4	4.9	13	7.9
Others	3	3.6	1	1.2	4	2.4



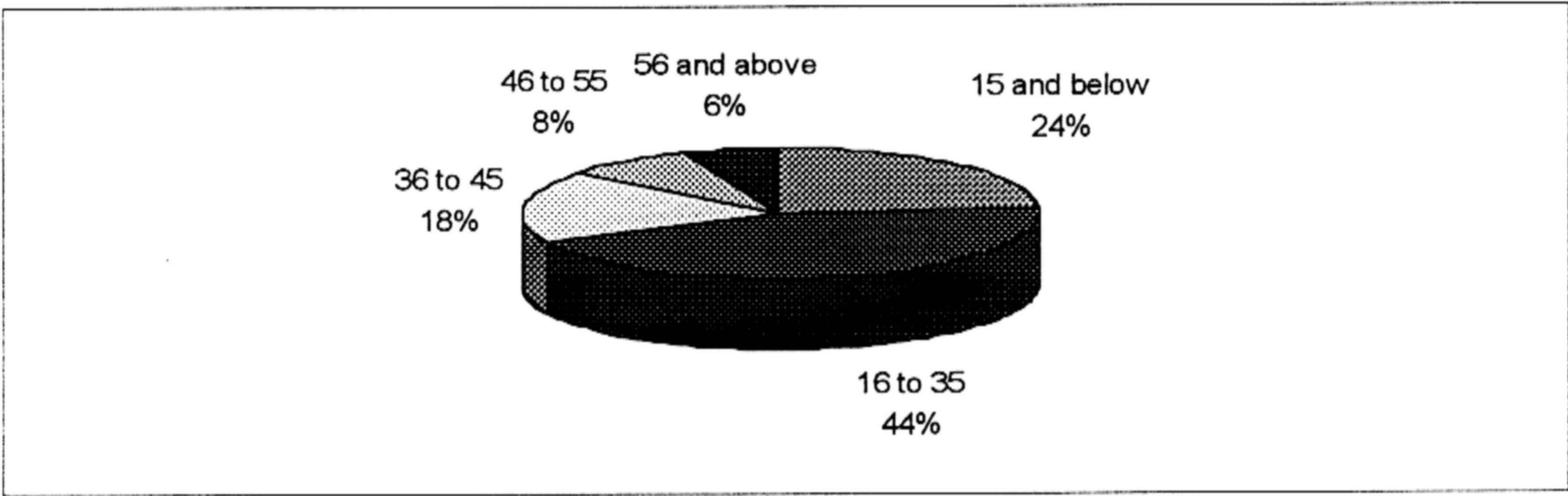
The table above shows the race distribution of the respondents. The biggest group is consistent for both TNB and POS, which is of Malay race. This consistency is also applicable to the rest of the races. The second largest group is the Chinese followed by Indian and Other races. The percentages of the respondents by race are: Malay 58.2%, Chinese 31.5%, Indian 7.9% and Other races as 2.4%. The population that is applicable for TNB Kuala Lumpur also reflects the general representation of Malaysia percentage racial breakdown.



The diagram illustrates the structural layout of the building, showing a central vertical shaft and four horizontal floors. The shaft is labeled "Central Shaft" and the floors are labeled "Floor 1", "Floor 2", "Floor 3", and "Floor 4". The diagram is enclosed in a rectangular frame.

Table 4.3: Age group distribution of respondents

AGE GROUP	At TNB		At POS Malaysia		OVER ALL TOTAL	
	Frequency	%	Frequency	%	Frequency	%
15 and below	15	18.1	25	30.5	40	24.2
16 to 35	40	48.2	32	39.0	72	43.6
36 to 45	15	18.1	14	17.1	29	17.6
46 to 55	7	8.4	7	8.5	14	8.5
56 and above	6	7.2	4	4.9	10	6.1



From the table above, for TNB, most of the respondents are in the 16 to 35 years of age, which comprises 48.2% of total TNB respondents. The same age group for POS is also the largest group with 39.0%. This can be attributed to the fact that the chore of paying utilities' bills is often done by people of this age group. The inference from here is that generally people between the age 16 and 45 pay utilities' bills. Only a very small percentage of older people above the age of 56 years old perform the duty of paying utilities' bills.

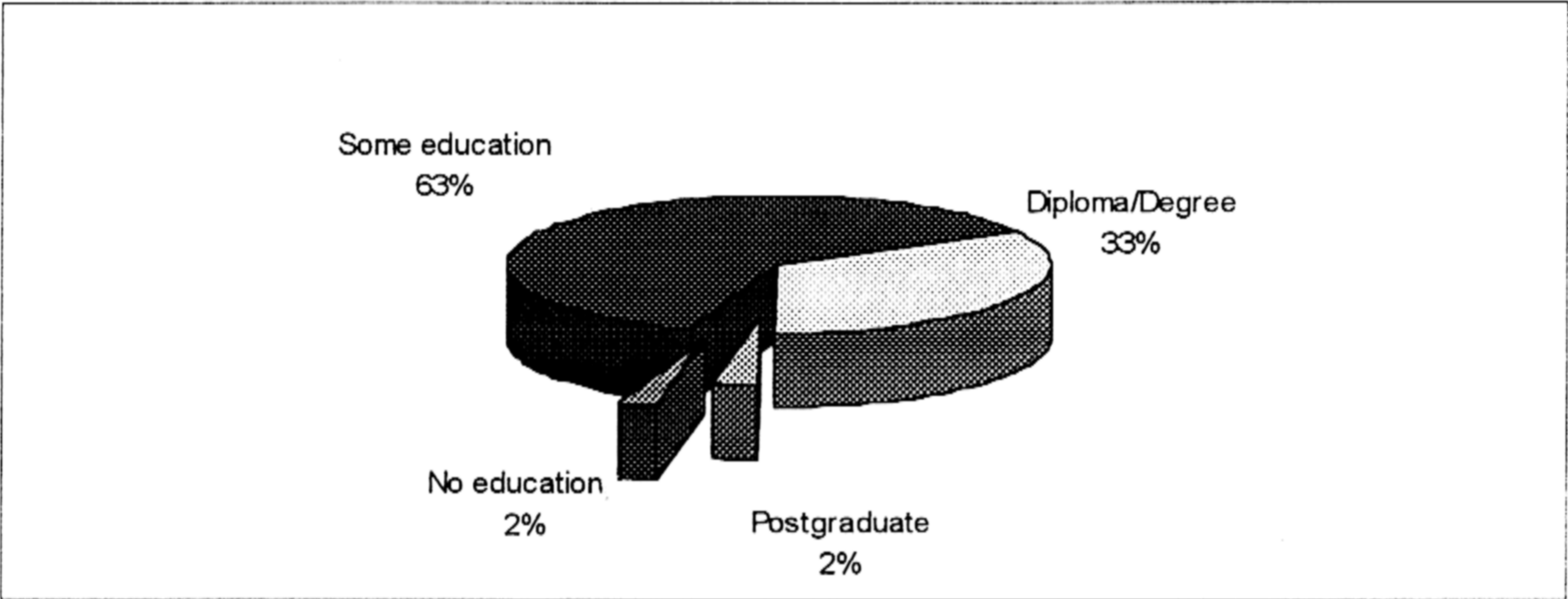
Date	1941				1942				1943			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												



The specimen is a small, dark, irregularly shaped object, possibly a fossil or mineral specimen, mounted on a light-colored card with a decorative border. The object is dark in color, possibly black or dark brown, and has a rough, irregular surface. It is mounted on a light-colored card, possibly white or cream, which has a decorative border. The card is placed on a dark surface, possibly a table or desk. The overall appearance is that of a scientific specimen or a collectible item.

Table 4.4: Education level group distribution of respondents

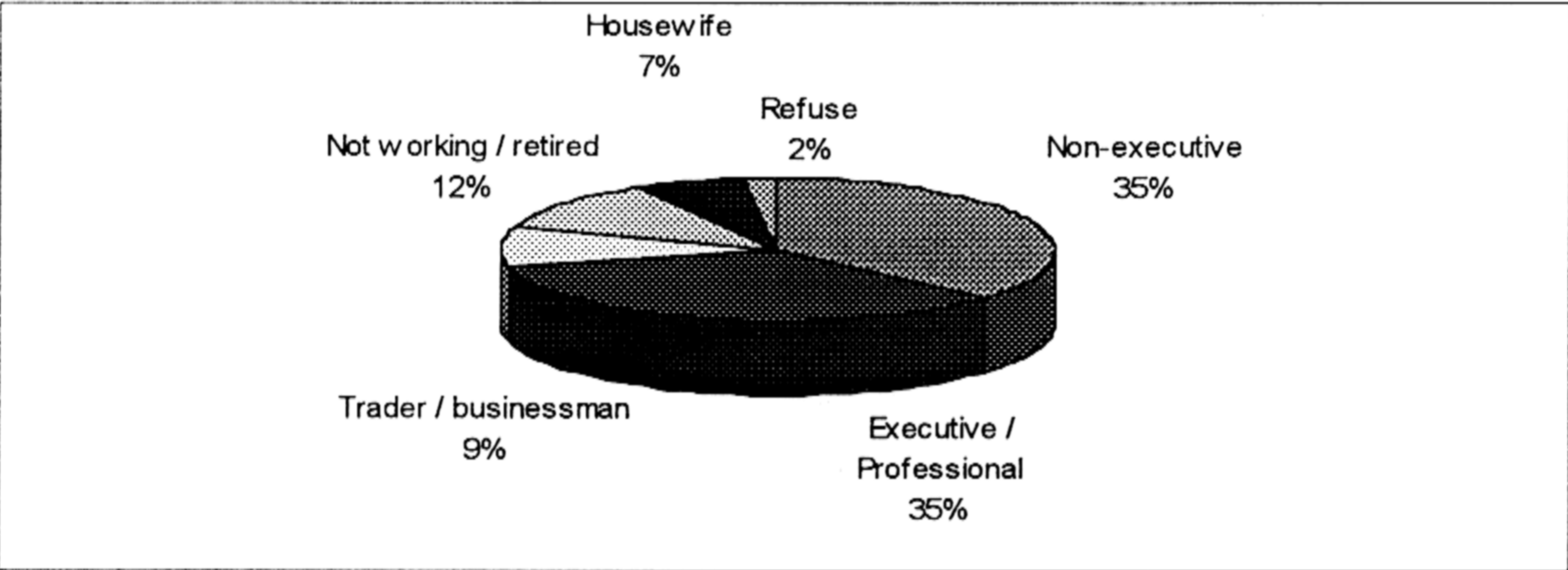
EDUCATION LEVEL	At TNB		At POS Malaysia		OVER ALL TOTAL	
	Frequency	%	Frequency	%	Frequency	%
No formal education	1	1.2	3	3.7	4	2.4
Some primary or secondary	56	67.5	46	56.1	102	61.8
Diploma/Degree/Professional	25	30.1	30	36.6	55	33.8
Postgraduate	1	1.2	3	3.7	4	2.4



Majority of the respondents who paid utilities' bills have either some primary or secondary education. From the total sample population of 165, 61.8% (102) of them are with primary or secondary education. The second largest group of the population have college diplomas or are professionals. They comprise about half of the TNB respondents and slightly less than half for POS. Only very small group of the population is with advance education. This shows that most people who visit TNB or POS service centres to pay utilities' bills have education from primary school to college or university.

Table 4.5: Occupation group distribution of respondents

OCCUPATION	At TNB		At POS Malaysia		OVER ALL TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Non-executive	38	45.8	22	26.8	60	36.4
Executive/Professional	20	24.1	37	45.1	57	34.5
Trader/businessman	9	10.8	6	7.3	15	9.1
Not working/retired	7	8.4	12	14.6	19	11.5
Housewife	7	8.4	4	4.9	11	6.7
Refuse	2	2.4	1	1.2	3	1.8



The table above shows close correlation between occupation and education level background, of the previous table, to paying utilities' bills. As an overall: the non-executive and executive or professional group comprises of 60 people (36.4%) and 57 people (34.5%) from the total respondents. The ratio of respondents being non-executive and executive is about one to one. It is interesting to find out that about 11.5% of the respondents do not work or are retired. This could be due to respondent error as some

The 1000 Most Common Words in English

Rank	Word	Frequency	Rank	Word	Frequency
1	the	1000	501	and	100
2	of	900	502	but	90
3	to	800	503	or	80
4	a	700	504	in	70
5	an	600	505	on	60
6	is	500	506	at	50
7	was	400	507	from	40
8	he	300	508	with	30
9	she	200	509	by	20
10	it	100	510	as	10

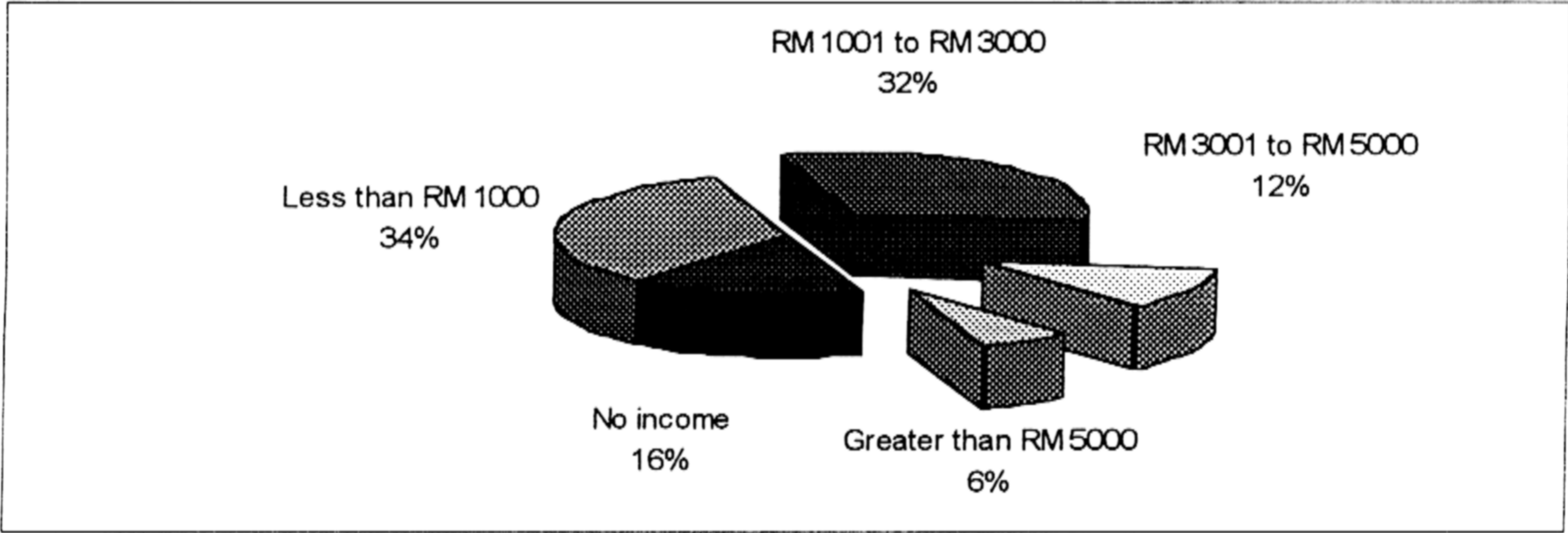


The 1000 most common words in English are listed in the table above. The words are ranked by frequency, with 'the' being the most common word and 'it' being the 1000th most common word. The words are listed in alphabetical order within each rank. The words are listed in the table above.

respondents when being asked about his/her occupation some may be shy away or reluctant to tell the actual nature of their occupation group. The are 11 respondents (6.7%) who are housewife, may be housewife pays utilities' bills only occasionally.

Table 4.6: Income group distribution of respondents

INCOME per MONTH	At TNB		At POS Malaysia		OVER ALL TOTAL	
	Frequency	%	Frequency	%	Frequency	%
Less than RM 1000	30	36.1	26	31.7	56	33.9
RM 1001 to RM 3000	27	32.5	26	31.7	53	32.1
RM 3001 to RM 5000	8	9.6	11	13.4	19	11.5
Greater than RM 5000	6	7.2	4	4.9	10	6.1
No income	12	14.5	15	18.3	27	16.4



The table 4.6 above shows the income distribution of the respondents. From this table, it can be seen that most of the respondents are in the income bracket of between RM 1001 to RM 3000 per month. The overall distribution showed that they summed up

This document, which contains information that is not to be released to the public, is being furnished to you for your information only. It is not to be distributed outside your organization. This document is being furnished to you for your information only. It is not to be distributed outside your organization.

CONFIDENTIAL

Item	Quantity	Unit	Value	Total
1. 1000	1000	1000	1000	1000
2. 1000	1000	1000	1000	1000
3. 1000	1000	1000	1000	1000
4. 1000	1000	1000	1000	1000
5. 1000	1000	1000	1000	1000
6. 1000	1000	1000	1000	1000
7. 1000	1000	1000	1000	1000
8. 1000	1000	1000	1000	1000
9. 1000	1000	1000	1000	1000
10. 1000	1000	1000	1000	1000
11. 1000	1000	1000	1000	1000
12. 1000	1000	1000	1000	1000
13. 1000	1000	1000	1000	1000
14. 1000	1000	1000	1000	1000
15. 1000	1000	1000	1000	1000
16. 1000	1000	1000	1000	1000
17. 1000	1000	1000	1000	1000
18. 1000	1000	1000	1000	1000
19. 1000	1000	1000	1000	1000
20. 1000	1000	1000	1000	1000
21. 1000	1000	1000	1000	1000
22. 1000	1000	1000	1000	1000
23. 1000	1000	1000	1000	1000
24. 1000	1000	1000	1000	1000
25. 1000	1000	1000	1000	1000
26. 1000	1000	1000	1000	1000
27. 1000	1000	1000	1000	1000
28. 1000	1000	1000	1000	1000
29. 1000	1000	1000	1000	1000
30. 1000	1000	1000	1000	1000
31. 1000	1000	1000	1000	1000
32. 1000	1000	1000	1000	1000
33. 1000	1000	1000	1000	1000
34. 1000	1000	1000	1000	1000
35. 1000	1000	1000	1000	1000
36. 1000	1000	1000	1000	1000
37. 1000	1000	1000	1000	1000
38. 1000	1000	1000	1000	1000
39. 1000	1000	1000	1000	1000
40. 1000	1000	1000	1000	1000
41. 1000	1000	1000	1000	1000
42. 1000	1000	1000	1000	1000
43. 1000	1000	1000	1000	1000
44. 1000	1000	1000	1000	1000
45. 1000	1000	1000	1000	1000
46. 1000	1000	1000	1000	1000
47. 1000	1000	1000	1000	1000
48. 1000	1000	1000	1000	1000
49. 1000	1000	1000	1000	1000
50. 1000	1000	1000	1000	1000
51. 1000	1000	1000	1000	1000
52. 1000	1000	1000	1000	1000
53. 1000	1000	1000	1000	1000
54. 1000	1000	1000	1000	1000
55. 1000	1000	1000	1000	1000
56. 1000	1000	1000	1000	1000
57. 1000	1000	1000	1000	1000
58. 1000	1000	1000	1000	1000
59. 1000	1000	1000	1000	1000
60. 1000	1000	1000	1000	1000
61. 1000	1000	1000	1000	1000
62. 1000	1000	1000	1000	1000
63. 1000	1000	1000	1000	1000
64. 1000	1000	1000	1000	1000
65. 1000	1000	1000	1000	1000
66. 1000	1000	1000	1000	1000
67. 1000	1000	1000	1000	1000
68. 1000	1000	1000	1000	1000
69. 1000	1000	1000	1000	1000
70. 1000	1000	1000	1000	1000
71. 1000	1000	1000	1000	1000
72. 1000	1000	1000	1000	1000
73. 1000	1000	1000	1000	1000
74. 1000	1000	1000	1000	1000
75. 1000	1000	1000	1000	1000
76. 1000	1000	1000	1000	1000
77. 1000	1000	1000	1000	1000
78. 1000	1000	1000	1000	1000
79. 1000	1000	1000	1000	1000
80. 1000	1000	1000	1000	1000
81. 1000	1000	1000	1000	1000
82. 1000	1000	1000	1000	1000
83. 1000	1000	1000	1000	1000
84. 1000	1000	1000	1000	1000
85. 1000	1000	1000	1000	1000
86. 1000	1000	1000	1000	1000
87. 1000	1000	1000	1000	1000
88. 1000	1000	1000	1000	1000
89. 1000	1000	1000	1000	1000
90. 1000	1000	1000	1000	1000
91. 1000	1000	1000	1000	1000
92. 1000	1000	1000	1000	1000
93. 1000	1000	1000	1000	1000
94. 1000	1000	1000	1000	1000
95. 1000	1000	1000	1000	1000
96. 1000	1000	1000	1000	1000
97. 1000	1000	1000	1000	1000
98. 1000	1000	1000	1000	1000
99. 1000	1000	1000	1000	1000
100. 1000	1000	1000	1000	1000



This document, which contains information that is not to be released to the public, is being furnished to you for your information only. It is not to be distributed outside your organization. This document is being furnished to you for your information only. It is not to be distributed outside your organization.

to 66%. The next income bracket is the RM 3001 to RM 5000 per month. This group of people constitutes to 11.5% of the total population. A very small group actually earns above RM 5000 per month (6.1%). The group that claimed to be without income is slightly larger than RM 3001 to RM 5000 bracket is 16.4%.

RELIABILITY OF MEASUREMENT SCALES

The variables for expected services (A01 to A17) and perceived services (C01 to C17), of the questionnaires were first computed by ~~minusing~~ each corresponding item in Section A from Section C using the equation:

$$\text{Service Quality (SQ)} = \text{Perceived (P)} - \text{Expected (E)}$$

The instrument, modified SERVQUAL questionnaires which are the difference of, C01 to C17, minus A01 to A17, were tagged as Q01 to Q17. Items or variables, Q01 to Q17 were all tested for internal consistency of the construct indicators both for TNB and POS Malaysia pooled together using internal consistency method. The test for reliability using the Cronbach coefficient of Alpha was chosen because it computes the mean reliability coefficient estimate for all possible ways of splitting a set of item. A commonly threshold value for acceptable reliability is Cronbach's $\alpha = 0.70$ is used (Hair et. al, page 449, 1992). This standard is not an absolute. Cronbach Alpha values of below 0.70 can be acceptable for exploratory research.

Table 4.7 - Cronbach Alpha of Scale

ITEMS	Cronbach Alpha	Items deleted
Q01 to Q17	0.8452	-
Q02 to Q17	0.8473	Q01
Q02, Q04 to Q17	0.8488	Q03
Q04 to Q17	0.8500	Q02

From the table above, the Cronbach Alpha is already 0.8452 (which is higher than 0.70) without even deleting any item. Table 4.7 shows three stages of deletion improved the coefficient of Alpha value to 0.85. Thus, it is confirmed that the SERVQUAL scale is a reliable measurement scale.

Figure 1. Schematic diagram of the experimental setup.



Figure 1. Schematic diagram of the experimental setup. (a) Laser source, (b) beam splitter, (c) lens, (d) mirror, (e) detector, (f) data acquisition system.

The laser source (a) emits a beam that is split by the beam splitter (b) into two paths. The upper path passes through a lens (c) and a mirror (d) before reaching the detector (e). The lower path passes through a lens (c) and a mirror (d) before reaching the detector (e). The data acquisition system (f) records the signals from the detectors.

The experimental setup is designed to study the interaction between the two paths and the effect of the beam splitter and mirrors on the resulting signal.

The results of the experiment are shown in Figure 2.

Table 4.8 - CORRELATION TABLE: Q01 TO Q17 AND GRADE

CORRE.	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	GRADE
Q01	1.0000 (165) P=.				.													
Q02	0.2039 (165) P=0.009 P=.	1.0000 (165) P=.																
Q03	0.2319 (165) P=0.003	0.3230 (165) P=0.000	1.0000 (165) P=.															
Q04	-0.2308 (165) P=0.003	0.1568 (165) P=0.044	0.1959 (165) P=0.012	1.0000 (165) P=.														
Q05	-0.1253 (165) P=0.109	0.2196 (165) P=0.005	0.3594 (165) P=0.000	0.2826 (165) P=0.000	1.0000 (165) P=.													
Q06	0.1415 (165) P=0.070	0.1427 (165) P=0.067	0.1598 (165) P=0.040	0.3524 (165) P=0.000	0.3971 (165) P=0.000	1.0000 (165) P=.												
Q07	0.1993 (165) P=0.010	0.1201 (165) P=0.125	0.1430 (165) P=0.072	0.2851 (165) P=0.000	0.2595 (165) P=0.001	0.2250 (165) P=0.004	1.0000 (165) P=.											
Q08	-0.2060 (165) P=0.008	0.1989 (165) P=0.010	0.1772 (165) P=0.023	0.3732 (165) P=0.000	0.1718 (165) P=0.027	0.2972 (165) P=0.000	0.6210 (165) P=0.000	1.0000 (165) P=.										
Q09	0.1705 (165) P=0.029	0.2125 (165) P=0.006	0.2756 (165) P=0.000	0.2556 (165) P=0.001	0.3707 (165) P=0.000	0.2565 (165) P=0.001	0.4822 (165) P=0.000	0.4824 (165) P=0.000	1.0000 (165) P=.									
Q10	0.1648 (165) P=0.034	0.1086 (165) P=0.165	0.1088 (165) P=0.164	0.2143 (165) P=0.006	0.2248 (165) P=0.004	0.1738 (165) P=0.026	0.3916 (165) P=0.000	0.3954 (165) P=0.000	0.4122 (165) P=0.000	1.0000 (165) P=.								
Q11	0.0665 (165) P=0.396	0.1949 (165) P=0.012	0.2112 (165) P=0.006	0.0703 (165) P=0.370	0.2957 (165) P=0.000	0.3425 (165) P=0.000	0.2529 (165) P=0.001	0.3228 (165) P=0.000	0.3508 (165) P=0.000	0.5113 (165) P=0.000	1.0000 (165) P=.							
Q12	0.1098 (165) P=0.161	0.1763 (165) P=0.024	0.2067 (165) P=0.008	0.0711 (165) P=0.515	0.1710 (165) P=0.028	0.3128 (165) P=0.000	0.2098 (165) P=0.007	0.2849 (165) P=0.000	0.3212 (165) P=0.000	0.3824 (165) P=0.000	0.5766 (165) P=0.000	1.0000 (165) P=.						
Q13	0.1312 (165) P=0.093	0.2227 (165) P=0.004	0.1508 (165) P=0.053	0.2371 (165) P=0.002	0.2403 (165) P=0.002	0.3303 (165) P=0.000	0.2978 (165) P=0.000	0.2327 (165) P=0.003	0.4183 (165) P=0.000	0.3234 (165) P=0.000	0.4244 (165) P=0.000	0.3276 (165) P=0.000	1.0000 (165) P=.					
Q14	0.0228 (165) P=0.771	0.1679 (165) P=0.031	0.1276 (165) P=0.102	0.1550 (165) P=0.047	0.1643 (165) P=0.035	0.2394 (165) P=0.002	0.2964 (165) P=0.000	0.3063 (165) P=0.000	0.3111 (165) P=0.000	0.3372 (165) P=0.000	0.2767 (165) P=0.000	0.3598 (165) P=0.000	0.3809 (165) P=0.000	1.0000 (165) P=.				
Q15	0.0999 (165) P=0.202	0.1237 (165) P=0.113	0.1483 (165) P=0.057	0.1521 (165) P=0.069	0.1444 (165) P=0.064	0.2684 (165) P=0.000	0.3296 (165) P=0.000	0.3356 (165) P=0.000	0.3557 (165) P=0.000	0.2386 (165) P=0.002	0.3298 (165) P=0.000	0.2473 (165) P=0.001	0.3464 (165) P=0.000	0.4091 (165) P=0.000	1.0000 (165) P=.			
Q16	-0.0016 (165) P=0.984	0.0853 (165) P=0.276	0.0848 (165) P=0.279	0.1241 (165) P=0.112	0.1674 (165) P=0.032	0.1389 (165) P=0.075	0.3120 (165) P=0.000	0.3356 (165) P=0.000	0.2545 (165) P=0.001	0.2170 (165) P=0.005	0.2697 (165) P=0.000	0.1623 (165) P=0.037	0.1636 (165) P=0.036	0.3359 (165) P=0.0000	0.3448 (165) P=0.000	1.0000 (165) P=.		
Q17	0.0857 (165) P=0.274	0.1974 (165) P=0.011	0.1469 (165) P=0.060	0.1440 (165) P=0.065	0.2425 (165) P=0.002	0.2894 (165) P=0.000	0.2133 (165) P=0.006	0.1975 (165) P=0.011	0.2994 (165) P=0.000	0.2309 (165) P=0.003	0.3268 (165) P=0.000	0.3033 (165) P=0.000	0.4033 (165) P=0.000	0.2796 (165) P=0.000	0.3956 (165) P=0.000	0.2302 (165) P=0.003	1.0000 (165) P=.	
GRADE	-0.2039 (165) P=0.009	-0.1903 (165) P=0.014	-0.3162 (165) P=0.000	-0.3171 (165) P=0.000	-0.1977 (165) P=0.011	-0.1411 (165) P=0.071	-0.3853 (165) P=0.000	-0.4816 (165) P=0.000	-0.3109 (165) P=0.000	-0.2326 (165) P=0.003	-0.3336 (165) P=0.000	-0.2110 (165) P=0.007	-0.1679 (165) P=0.031	-0.2458 (165) P=0.001	-0.3220 (165) P=0.000	-0.2655 (165) P=0.001	-0.2791 (165) P=0.000	1.0000 (165) P=.

(Coefficient / 2-tailed significant)
(" ." is printed if a coefficient cannot be computed)

The correlation for variables Q01 to Q17 and Grade were computed for all the 165 cases. For variables Q01 to Q17 and Grade, some statistically significant are present even though there is no obvious relationships between the variables in this population. This may be attribute to this analysis involved the computing of all possible correlation coefficients among many variables. The unshaded regions have significant levels less than 0.05 (p values less than 0.05). Null hypothesis can be accepted. This shows that there are some statistical relationships among the variables and some chances for them to be correlated. The shaded regions show no significantly correlation among the variables and their p values are more than 0.05 and null hypothesis can be rejected. They show that there more than 95% probability for the variables not to be correlated. They are as follows, Q01 is not correlated to Q05, Q06 and Q11 to Q17; Q02 is not correlated to Q06, Q07, Q10, Q15 and Q16; Q03 not correlated to Q07, Q10, Q13 to Q17; Q04 not correlated to Q11, Q12, and Q15 to Q17; Q05 not correlated to Q16; and finally, Q06 not correlated to Q16 and Grade.

PAIRED T-TEST

This study involves pairs of observations for expected quality and perceived quality for all the variables from A01 to A17, and from C01 to C17. The same variable is observed under two different conditions. Therefore, they are called paired-sample or correlated sample designs. Each variable in the expected group has a corresponding variable in the perceived group.

For the paired t-test, the null hypothesis that was tested is the expected service quality having the same value as the perceived service quality. The hypothesis of interest or rather the alternative hypothesis, is that expected service quality have different value as the perceived service quality. This inferred that there is a gap of service quality. The t-distribution is very much like the normal distribution when the sample size is large.

The paired t tests were done for TNB and POS data separately to measure if there is significant gap between the perceived service and expected services from each variable. The results are tabulated in table 4.9.

From the paired t-test analysis performed on TNB data. It is found that only one variable (variable No. 17) has a t-value of 0.90. It is not significant (with 36.8% chance of occurring). That means TNB one-stop payment centres could “satisfy the customers’ needs” (variable No. 17). All other variables’ t-values are with significant level below 0.05. Thus, TNB one-stop payment centres are not performing up to the customers’

Definition

Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **tautologisch**, falls $\mathcal{A} \models \varphi$ fr alle $\varphi \in \mathcal{A}$.
Ansonsten heit \mathcal{A} **falsch**.
Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **erzwingend**, falls
es ein $\varphi \in \mathcal{A}$ gibt, so da $\mathcal{A} \models \varphi$.

Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **erzwingend**, falls es ein $\varphi \in \mathcal{A}$ gibt, so da $\mathcal{A} \models \varphi$.
Ansonsten heit \mathcal{A} **falsch**.
Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **tautologisch**, falls $\mathcal{A} \models \varphi$ fr alle $\varphi \in \mathcal{A}$.

Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **erzwingend**, falls es ein $\varphi \in \mathcal{A}$ gibt, so da $\mathcal{A} \models \varphi$.
Ansonsten heit \mathcal{A} **falsch**.
Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **tautologisch**, falls $\mathcal{A} \models \varphi$ fr alle $\varphi \in \mathcal{A}$.

Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **erzwingend**, falls es ein $\varphi \in \mathcal{A}$ gibt, so da $\mathcal{A} \models \varphi$.
Ansonsten heit \mathcal{A} **falsch**.
Sei \mathcal{A} eine Menge von Aussagen. Dann heit \mathcal{A} **tautologisch**, falls $\mathcal{A} \models \varphi$ fr alle $\varphi \in \mathcal{A}$.

expectations. An alternative explanation for it is, the customers' have high expectations to be met at TNB one-stop payment centres.

As for POS Malaysia, the t-value are much higher ranging from 3.51 to 10.06. This implied that the service quality gaps are very big for all the variables (Q01 to Q17). The significant of the t-value are all below 0.05. This shows that POS Malaysia is also not performing the services up to the expectation of the customers or the customers at POS Malaysia have higher expectations.

Comparing TNB and POS, variable to variable, most of the time the t-value are higher for POS Malaysia. This shows that POS Malaysia is performing less better as a service provider to meet the expectation of the customers that pay utilities bills than TNB. As for TNB the customers perceived the service quality is higher than at POS Malaysia.

Table 4.9 - Paired T-TEST

DIMENSION	LABEL	KEY WORDS	At TNB				At POS MALAYSIA			
			EXPECTED MEAN (A)	PERCEIVED MEAN (C)	t- VALUE	SINGNIF- ICANT VALUE	EXPECTE D MEAN	PERCEIVE D MEAN	t- VALUE	SINGNIF- ICANT VALUE
TANGIBLES	01	Modern layout	4.4217	3.9036	4.59	0.000	4.2561	3.7561	3.51	0.001
	02	Staff neatness	4.5060	4.2530	2.20	0.030	4.3293	3.7683	4.87	0.000
	03	Display pamphlet & brochures	4.2651	3.5783	4.40	0.000	4.4024	3.2561	7.38	0.000
RELIABLE	04	Machine don't breakdown	4.7590	4.3735	3.29	0.001	4.7683	4.1098	5.58	0.000
	05	Staff keep promises	4.5060	4.0843	3.66	0.000	4.6463	3.7683	7.59	0.000
	06	Perform right at first time	4.5904	4.2771	2.56	0.012	4.5732	4.0366	3.80	0.000
RESPONSIVE -NESS	07	No need to wait long	4.7229	4.3735	3.25	0.002	4.5488	3.5244	5.85	0.000
	08	Quick to process	4.8554	4.5301	3.79	0.000	4.6341	3.7195	6.25	0.000
	09	Staff are responsible	4.6145	4.3012	2.86	0.005	4.5732	3.6341	7.70	0.000
	10	Staff are helpful	4.8434	4.3012	4.92	0.000	4.7805	3.7683	9.40	0.000
ASSURANCE	11	Staff are knowledgeable	4.7108	4.2530	4.63	0.000	4.6829	3.8537	7.77	0.000
	12	Staff are polite and smily	4.7590	4.1566	5.56	0.000	4.6829	4.0122	5.63	0.000
	13	Error free transactions	4.5422	4.1205	3.88	0.000	4.5854	3.9024	5.46	0.000
EMPATHY	14	Give personal attention	4.1084	3.5663	4.07	0.000	4.0244	3.3049	5.85	0.000
	15	Staff are approachable	4.6627	4.0482	5.48	0.000	4.4634	3.4878	8.12	0.000
	16	Branch initiative effort	4.6024	3.5422	7.77	0.000	4.5122	3.0610	10.06	0.000
	17	Branch satisfy needs	4.5663	4.4699	0.90	0.368	4.5854	3.8537	5.58	0.000

Project Management

1. Project Management

2. Project Management

3. Project Management

4. Project Management

5. Project Management

6. Project Management

7. Project Management

8. Project Management

9. Project Management

10. Project Management

11. Project Management

12. Project Management

FACTOR ANALYSIS OF SERVQUAL

The main purpose of factor analysis is to find a way of condensing (summarising). The information originally contained in a number of variables is condensed into a smaller set of new composite dimensions (factors) with a minimum loss of information. It defines the fundamental constructs or dimensions summed that underlie the original variables. To improve the interpretation, the rotation of factors was done orthogonally. In SPSS/PC, the rotation technique used was OBLIMIN. To be considered significant, the factors were extracted based on their eigenvalues exceeding 1.0. This is based on the recommendation by Kaiser (Guertin and Bailey 1966) that, the total variance of each test variable to be included in the correlation is unity. Any eigenvalue smaller than 1.0 accounted for no more than the variance of a single variable. Hair (1992), suggested that, variables with factor loading of 0.5 or more should be considered for interpretation and naming of the extracted factors.

The first round of oblimin rotated factor matrix generated five (5) factors but because there are three factors (factor 3, 4 and 5) with only singular variable each. These factors were dropped for the second round of factor analysis. The factors with singular variable that were dropped are variables: "machines don't breakdown" (Q04), "staff keeping promises" (Q05) and "staff are helpful" (Q10).

Mathematical Induction

Mathematical induction is a method used to prove statements about natural numbers. It consists of two main steps: the base case and the inductive step.

The base case is the first step, where we prove the statement for the smallest natural number, usually 1. For example, if we want to prove that the sum of the first n natural numbers is $\frac{n(n+1)}{2}$, we first prove it for $n=1$.

The inductive step is the second step, where we assume the statement is true for some natural number k (the inductive hypothesis) and then prove it for $k+1$. This step shows that if the statement is true for one number, it is also true for the next number.

Once both the base case and the inductive step are proven, we can conclude that the statement is true for all natural numbers n .

Mathematical induction is a powerful tool for proving statements about natural numbers. It is often used in number theory, algebra, and calculus. The key to using induction is to clearly state the statement you want to prove and to carefully follow the two steps of the method.

Table 4.10 - Factor Analysis

Variable	Communality	Factor	Eigenvalue	% of Variable	Cumulative %
Q01	0.50551	1	4.45490	31.8	31.8
Q02	0.44607	2	1.33311	9.5	41.3
Q03	0.49367	3	1.26135	9.0	50.4
Q06	0.32949				
Q07	0.70834				
Q08	0.68900				
Q09	0.52852				
Q11	0.56251				
Q12	0.52101				
Q13	0.48767				
Q14	0.44379				
Q15	0.46162				
Q16	0.44318				
Q17	0.42896				

Table 4.11 - Oblimin Rotated Factor Matrix for the form the initial Five Factors

VARIABLE	FACTOR LOADING		
	FACTOR 1	FACTOR 2	FACTOR 3
Q01	-0.15286	0.68548 *	0.21101
Q02	0.24179	0.59404 *	-0.05443
Q03	0.17413	0.65163 *	-0.00241
Q06	0.52376 *	0.11976	0.03756
Q07	-0.08908	0.11673	0.85626 *
Q08	-0.02693	0.17894	0.80312 *
Q09	0.23245	0.22321	0.52682 *
Q11	0.74975 *	0.03454	-0.01567
Q12	0.73731 *	0.08327	-0.09269
Q13	0.66474 *	0.06148	0.04483
Q14	0.49598 *	-0.17687	0.26251
Q15	0.42924	-0.13523	0.38735
Q16	0.15340	-0.26372	0.56832 *
Q17	0.66082 *	-0.02714	-0.00404

(* indicate that the variables that have factor loading greater than +0.50. For sample size more than 50, the factor loading greater than +0.50 is considered very significant)





















1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

1000

The second round factor analysis uses only the first two factors of the first round factor analysis. They comprises of 69.5% of the total variance. The final factors obtained from the second round factor analysis is tabulated in table 4.10 and 4.11. It is found that only three factors or dimensions are significant. The interesting thing to find out is that for Factor 1, it comprises of Parasuraman’s et. al., two distinct dimensions. They are Assurance and Empathy. One variable, “perform right at the first time” (Q06) of Reliability dimension also appear in Factor 1. Factor 2 has a very distinct dimension of Tangible. Factor 3 with a distinct dimension of Responsiveness plus a variable, “branch initiative effort” (Q16) from the Empathy dimension. All three factors (Factor 1 to Factor 3) shown positive inter-correlation (Table 4.12).

Table 4.12 - Factor correlation matrix

	FACTOR 1	FACTOR 2	FACTOR 3
FACTOR 1	1.00000		
FACTOR 2	0.17374	1.00000	
FACTOR 3	0.42280	0.10861	1.00000

The factor analysis above did not result in five distinction of the five distinct quality dimensions, namely, tangible, reliability, responsiveness, assurance and empathy; nevertheless, the three factors do throw some insight to this study.

Table 4.13 - FACTOR 1: COMMUNICATION

Variables		Loading
Q06	Perform right at first time	0.52376 *
Q11	Staff are knowledgeable	0.74975 *
Q12	Staff are polite and smily	0.73731 *
Q13	Error free transactions	0.66474 *
Q14	Give personal attention	0.49598 *
Q17	Branch satisfy needs	0.66082 *

(* factor loading greater than +0.50 is considered very significant)

This factor comprises of 6 unique variables that account for a total of 31.8% of the total percentage of variance out of only 69.5% (first round two factors) of the total variance were extracted. The significant of this factor is the nature of the one-stop payment counters. For one-stop payment centres, performing right at the first time is very important. A knowledgeable staff of the service counter is important to communicate information to the customers. The staff whom customer approaches, especially at the payment counters must present themselves as cheerful and smily so that customers will be happy to come forward to pay utilities' bills. Another important variable is the "error free transaction". This is what most customers assumed and believed that the one-stop payment centres must possess. The staff at the one-stop payment centres may not be able to know all the customers well. However, if the staff could give personal attention during the process of transaction, the perceived quality by the customer can be high. All one-stop payment counters that satisfy the needs of the customers, primarily meeting the need of paying utilities bills and related problems. The dimension of this factor can be called Communication.



Figure 1 shows the evolution of the number of active nodes over time. The top timeline is labeled "with feedback" and the bottom timeline is labeled "without feedback". Both timelines show a series of nodes (circles) connected by lines, representing the evolution of the number of active nodes over time. The "with feedback" timeline shows a higher number of active nodes compared to the "without feedback" timeline. The nodes are represented by circles, and the lines connect them in a sequence. Some nodes have arrows pointing to them, indicating active nodes. The "with feedback" timeline shows a higher number of active nodes compared to the "without feedback" timeline.

Table 4.14 - FACTOR 2: TANGIBLE

Variables		Loading
Q01	Modern layout	0.68548 *
Q02	Staff neatness	0.59404 *
Q03	Display pamphlet & brochures	0.65163 *

The second factor involves the tangible dimension of SERVQUAL. This factor accounts for 9.5% of the total percentage of variance. It is vital for one-stop payment service centres to have high efficiency and accuracy in their transaction with the assistance of modern office equipment, such as computers. The modern layout gives the advance technology feel to the customers. Counter staffs who dress neatly or wear uniform can make the customers feel confidence. Finally, the display of pamphlet and brochures is to increase the efficiency of the communication. These messages are from the management of the one-stop payment centres to their customers.

Table 4.15 - FACTOR 3: RESPONSIVENESS

Variables		Loading
Q07	No need to wait long	0.85626 *
Q08	Quick to process	0.80312 *
Q09	Staff are responsive	0.52682 *
Q16	Branch initiative effort	0.56832 *

This factor accounts for 9.0% of the total percentage of variance. By being efficient, the customers do not have to wait long to pay utilities bills. The service centre must also make special effort to reduce waiting time especially during the lunch breaks. This will have the effect on customer's perception that, he does not have to wait long to

be served at that particular one-stop payment service centre. Both the counter staffs and the payment machine must perform all transactions quickly. It is also vital for the staff in the one-stop payment service centres to be “not too busy” so that he can response to customer request.

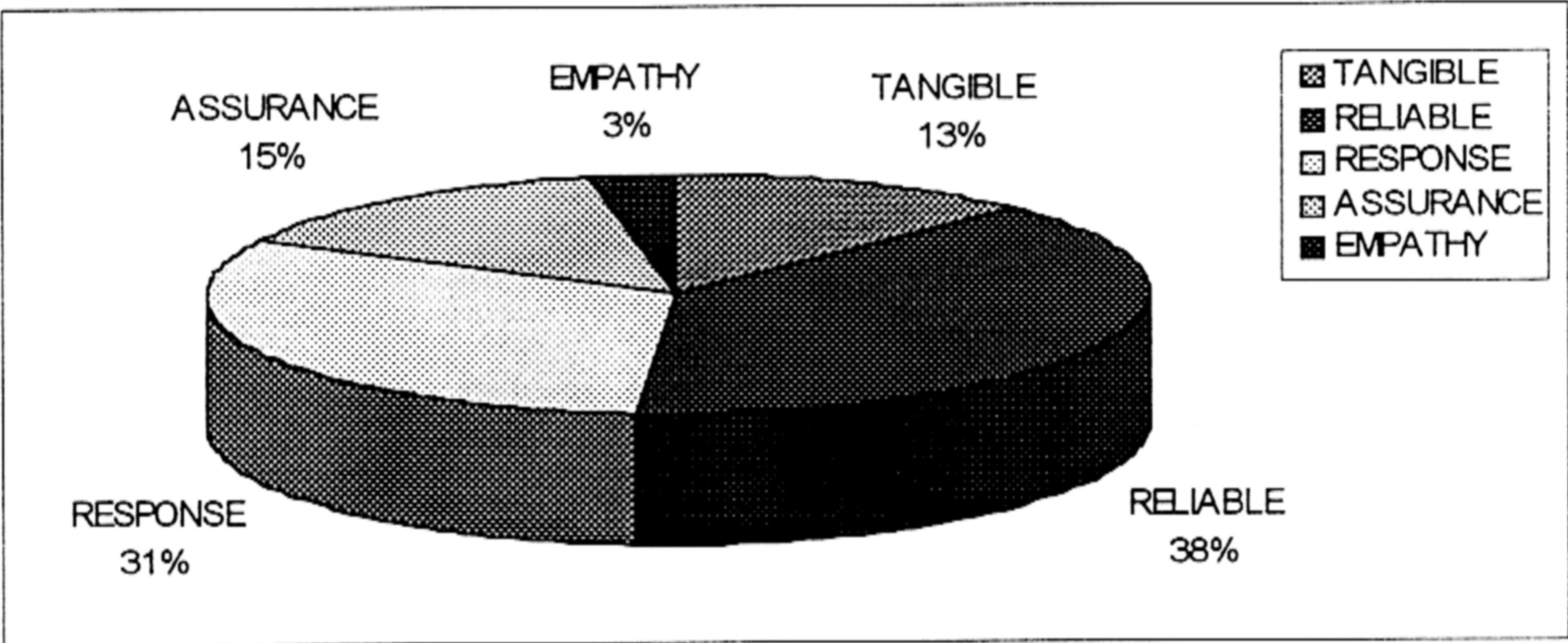
... ..
... ..
... ..
... ..
... ..

RANKING OF DIMENSIONS:

Table 4.16 - RANKING OF DIMENSIONS

DIMENSION	MOST IMPORTANT			LEAST IMPORTANT		
	FREQUENCY	%	RANK	FREQUENCY	%	RANK
TANGIBLE	21	12.7	4	57	34.5	2
RELIABLE	64	38.8	1	7	4.2	4
RESPONSE	51	30.9	2	5	3.0	5
ASSURANCE	24	14.5	3	18	10.9	3
EMPATHY	5	3.0	5	78	47.3	1
TOTAL:	165	100.0		165	100.0	

Figure 4.1 - Relative Importance of SERVQUAL Dimensions



The ranking of the dimension expected by the respondents is done in Section B of the questionnaires. It is found that, for the overall ranking of “most important dimension” the sequence is as follows: Reliability (38.8%), Responsiveness (30.9%), Assurance (14.5%), Tangible (12.7), and Empathy (3.0%). The “least important dimension” sequence is as follows: Empathy, Tangible, Assurance, Reliability, and Responsiveness. Thus, the dimension Reliability, which is the first Most Important dimension, is in the fourth position of “least important dimension” sequence. Responsiveness became the fifth “least important dimension”.

THEORY OF THE EARTH

THEORY OF THE EARTH



THEORY OF THE EARTH



THEORY OF THE EARTH

THEORY OF THE EARTH

However, it is more meaningful to note that the two Most Important dimensions are Reliability and Responsiveness; and Empathy is not considered to be least significant for one-stop payment centres.

CROSSTABULATION ANALYSIS

Table 4.17 - Crosstabulation between “location of survey done” and “grading of the level of service”.

LOCATION OF SURVEY	GRADING OF SEVICE LEVEL					Pearson Significance
	EXCELLENT	GOOD	SATIS-FACTORY	FAIR	POOR	
TNB	14.5%	55.4%	25.3%	4.8%	0%	0.0248
POS	8.5%	36.6%	40.2%	13.4%	1.2%	

From the crosstabulation it is found that there is a significant difference between customers who paid utilities bills at TNB and POS Malaysia. The differences are the grading of level of services they perceived. This implies that there more satisfied customers at TNB than at POS Malaysia. 55.4% of the respondents gave a “good” grading to the service level at TNB one-stop payment centres.

As for TNB service centres, there are 25.3% of customers gave a satisfactory grade, 55.4% gave a good grade an 14.5% gave an excellent grading. These total to 94.2% satisfied customers. As for POS Malaysia, the service centres received the “satisfactory” grading from majority of their customers. 1.2% of the customers graded the services at POS Malaysia service as poor.

Table 4.18 - Crosstabulation between “location of survey done” and “respondent recommendation”.

LOCATION OF SURVEY	RECOMMENDATION TO FRIENDS ?		Pearson Significance
	YES	NO	
TNB	91.6%	8.4%	0.00061
POS	70.7%	29.3%	

From the cross tabulation of the location of survey done and whether the respondents would recommend his friends to go to that branch because of the services received, TNB came out with an excellent result. 91.6% of the respondents at TNB would recommend his friends to pay their utilities bills at TNB one-stop payment centres in the future. Only a small 8.4% would not recommend his friends to do so. At POS Malaysia, 70.7% of the respondents would recommend their friends to pay bills at POS Malaysia in the future. An alarming 29.3% of them would not recommend their friends to do so due to the services experience that they received at POS Malaysia.



The system is a multi-stage signal processing system. The input signal $x[n]$ is processed by a series of blocks. The first block is $x[n]$, followed by $x[n] * h_1[n]$, $x[n] * h_2[n]$, $x[n] * h_3[n]$, and $x[n] * h_4[n]$. The output of the chain is then fed into a block labeled $x[n] * h_5[n]$. The final output is $x[n] * h_6[n]$. The diagram also shows a feedback path from the output $x[n] * h_6[n]$ back to the input $x[n]$ through a block labeled $x[n] * h_7[n]$. There are also intermediate feedback paths from the outputs of the first four blocks back to the input $x[n]$ through blocks labeled $x[n] * h_8[n]$, $x[n] * h_9[n]$, $x[n] * h_{10}[n]$, and $x[n] * h_{11}[n]$ respectively.

ANALYSIS OF VARIANCE

Table 4.19 - One-Way ANOVA for “GRADE ”BY “OCCUPATION”

Analysis of Variance					
Source	Degree of Freedom	Sum of Squares	Mean Squares	F Ratio	F Probability
Between Groups	5	8.5759	1.7159	3.9779	0.0143
Within Groups	17	7.3333	0.4314		
Total	22	15.9130			

(*) Denotes pairs of groups significantly different at 0.50 level

Mean	OCCUPATION	(4)	(5)	(6)	(3)	(1)	(2)
2.0000	(4) Not working/Retired						
2.0000	(5) Housewife						
2.0000	(6) Refuse						
2.5000	(3) Trader/Businessman						
2.8333	(1)Clerk/Acc./Admin						
3.5000	(2)Professional/Executives	*					

Those whose occupations are professionals or executives (mean score = 3.50) gave poorer grading than those who are not working or retired (mean score = 2.00). This is because the professionals have significantly higher expectations than those not working or retired.

1. Introduction

The purpose of this report is to provide a detailed analysis of the data collected during the experiment.

Time (s)	Distance (m)	Velocity (m/s)		Acceleration (m/s ²)	
		Initial	Final	Initial	Final
0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.5	1.0	1.0	2.0	2.0
1.0	1.0	2.0	2.0	4.0	4.0
1.5	1.5	3.0	3.0	6.0	6.0
2.0	2.0	4.0	4.0	8.0	8.0
2.5	2.5	5.0	5.0	10.0	10.0
3.0	3.0	6.0	6.0	12.0	12.0
3.5	3.5	7.0	7.0	14.0	14.0
4.0	4.0	8.0	8.0	16.0	16.0
4.5	4.5	9.0	9.0	18.0	18.0
5.0	5.0	10.0	10.0	20.0	20.0

The data shows a clear linear relationship between time and distance, indicating constant acceleration. The velocity increases linearly with time, and the acceleration remains constant throughout the experiment.

Table 4.20 - One-Way ANOVA for “GRADE ”BY “INCOME”

Analysis of Variance					
Source	Degree of Freedom	Sum of Squares	Mean Squares	F Ratio	F Probability
Between Groups	4	7.2464	1.8116	3.7625	0.0215
Within Groups	18	8.6667	0.4815		
Total	22	15.9130			

(*) Denotes pairs of groups significantly different at 0.50 level

Mean	INCOME	(5)	(3)	(1)	(2)	(4)
2.0000	(5) No income					
2.6667	(3) RM 3001 to RM 5000					
3.0000	(1) Less than RM 1000					
3.0000	(2) RM 1001 to RM 3000					
4.0000	(4) Greater than RM 5000	*				

Those with monthly income greater than RM 5000 (mean score = 4.00) gave poorer grading than those who are without income (mean score = 2.00). This is because those earn higher income more than RM 5000 per month have significantly higher expectations than those who are without income.

Table 1: Summary of the 1000 Genomes Project

Project		Phase		Sample Size		Genome Size		Variants		Reference	
Project	Phase	Sample Size	Genome Size	Variants	Reference	Project	Phase	Sample Size	Genome Size	Variants	Reference
1000 Genomes Project	Phase 1	1,092	~3.1 Gb	~100,000	[1]	1000 Genomes Project	Phase 2	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 3	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 4	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 5	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 6	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 7	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 8	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 9	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 10	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 11	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 12	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 13	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 14	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 15	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 16	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 17	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 18	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 19	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 20	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 21	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 22	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 23	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 24	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 25	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 26	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 27	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 28	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 29	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 30	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 31	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 32	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 33	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 34	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 35	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 36	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 37	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 38	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 39	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 40	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 41	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 42	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 43	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 44	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 45	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 46	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 47	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 48	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 49	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 50	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 51	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 52	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 53	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 54	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 55	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 56	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 57	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 58	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 59	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 60	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 61	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 62	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 63	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 64	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 65	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 66	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 67	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 68	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 69	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 70	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 71	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 72	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 73	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 74	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 75	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 76	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 77	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 78	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 79	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 80	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 81	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 82	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 83	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 84	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 85	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 86	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 87	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 88	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 89	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 90	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 91	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 92	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 93	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 94	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 95	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 96	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 97	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 98	2,504	~3.1 Gb	~1,000,000	[2]
1000 Genomes Project	Phase 99	2,504	~3.1 Gb	~1,000,000	[2]	1000 Genomes Project	Phase 100	2,504	~3.1 Gb	~1,000,000	[2]

The 1000 Genomes Project is a large-scale genomics project that aims to create a comprehensive reference genome for the human population. The project involves sequencing the genomes of a large number of individuals from diverse populations around the world. The data generated from this project is used to identify genetic variations and their associated health conditions. The project is a collaborative effort between researchers from various institutions and is funded by the National Institutes of Health (NIH) and the Wellcome Trust. The project has a long history and has been a major contributor to the field of genomics. The project is ongoing and is expected to continue for several more years. The project is a major milestone in the history of genomics and is expected to have a significant impact on the field of genetics and medicine.

PERFORMANCE ANALYSIS

Table 4.21 - Service Quality at TNB and POS Malaysia One Stop Payment Centres

VARIABLES			At TNB		At POS MALAYSIA	
DIMENSION	LABEL	KEY WORDS	MEAN	STAND- ARD DEVIA- TION	MEAN	STAN D-ARD DEVIA -TION
TANGIBLES	C01	Modern layout	3.904	0.850	3.756	0.963
	C02	Staff neatness	4.253	0.778	3.768	0.821
	C03	Display pamphlet & brochures	3.578	1.072	3.256	1.120
RELIABLE	C04	Machine don't breakdown	4.373	0.907	4.110	0.969
	C05	Staff keep promises	4.084	0.965	3.768	0.920
	C06	Perform right at first time	4.277	0.967	4.037	0.962
RESPONSIVE -NESS	C07	No need to wait long	4.373	0.822	3.524	1.157
	C08	Quick to process	4.530	0.770	3.720	1.114
	C09	Staff are responsible	4.301	0.880	3.634	1.012
	C10	Staff are helpful	4.301	0.947	3.768	0.985
ASSURANCE	C11	Staff are knowledgeable	4.253	0.867	3.854	0.983
	C12	Staff are polite and smily	4.157	0.956	4.012	0.923
	C13	Error free transactions	4.120	0.802	3.902	0.883
EMPATHY	C14	Give personal attention	3.566	1.117	3.305	1.119
	C15	Staff are approachable	4.048	0.896	3.488	1.057
	C16	Branch initiative effort	3.542	1.097	3.061	1.126
	C17	Branch satisfy needs	4.470	0.754	3.854	1.056

From table 4.21 above, all of the variables' means for TNB is higher than the corresponding variables' means for POS Malaysia. It shows that, TNB's performance is better than POS Malaysia. The customers' perceptions are based on the above variables. Most of the standard deviations for each corresponding variable, are also lower than for POS Malaysia. This analysis which is performance based or SERVPERF, confirm and the results of previous paired t-test for modified SERVQUAL.

