CHAPTER IV

Result & Discussion

Discussion on the results was divided into three parts. The first part explained how the preliminary data were tested and used to modify the questionnaire for best reliability and validity. The second part was the result from main study, demonstrating the structural model analysis, starting from examining the measurement model to the final test of the best fitted structural equation model. The third part discussed the result. Our result showed that the significant variables for response towards drug store were Service, Product and Price. It was finally found that there was no difference between the illness purpose and health purpose groups, demonstrating no moderating effect from buying purpose.

4.1 Result from Pretest

Three pilot tests were performed before we finally came to the final questionnaire used in data collection. The first pilot test was tested on a group of health conscious people and drug store students attending a health seminar at the university. There were an overall of 79 samples, of which 31 were students. Result from the first pilot test gave an encouraging guideline on the reliability of the questionnaire, with exception for some attributes such as the quality and reasonable price aspect of the attributes. The other attributes like service, promotion and store atmosphere using the observed measurement as set from the conceptual definition were found to be in the acceptable range having alpha value more than 0.7. However, the result from factor analysis showed components with mixing observed variables with unclear characteristics, indicating unclear understanding of the

meaning by respondents. This phenomenon moved us to fine tune the copy used for each question, as well as the format it was used in the questionnaire. After the modification, we moved to the second test.

The second pilot test was performed with a mixed group of working people from a variety of industry and professions mixing with people waiting to fill prescription from a state hospital. Forty three samples were collected and analyzed. Reliability for each attribute had improved with the minimum alpha value of more than 0.7. However, the alpha value of the attitude and intention measurement was still relatively low, while the result from Exploratory Factor Analysis still showed scattered components grouping without much lining with the defined concept. We, then, made more improvement on some questions for better clarification in the way it delivered the desired message, and at the same time added in a few more clarification questions. For the third time, we moved another pilot test.

The third pilot test was conduct in a group of 38 working people from various industries, of which were different from the second group. Exploratory Factor Analysis demonstrated clear components of different attributes, logically explainable. Although a distinct characteristics of convenient function could be observed separately from the overal store facility component, we still sticked to the main concept of defining as one attribute, namely store facility. Data from the third pilot test helped to confirm the questions used in our questionnaire according to our conceptual model with seven attributes, naming Product assortment, Reasonable price, Effectiveness, Store facility, Service, Promotion, References. All attributes were tested for validity. The reliability test showed all satisfactory result, with alpha value ranging from 0.8396 to 0.9330. Questions used to test attitude and intention to

repatronage were also tested. All had shown good reliability, and the Exploratory Factor Analysis demostrated questions on Attitude and Intention as same component, reflecting our initial concept to define this construct together as response towards the use of drug store. We now concluded that the questionnaire was ready for main data collection.

Reliability Testing	
Attribute	Cronbach's alpha value
Product Assortment	0.8897
Value for money	0.8574
Quality	0.8523
Store atmosphere	0.9116
Convenience	0.8183
Service	0.9248
Promotion	0.9330
Reference group	0.8799
Attitude	0.8396
Intention to repatronage	0.9031

Table 2: Reliability testing of questionnaire (result from 3rd pilot test)

The component grouping from Exploratory Factor Analysis using data from the third pilot test was as shown in the figure 4-1. Although most of the observed variables as found in each component directly reflected our defined concept of each attributes, there were also some questions that could be viewed differently between attributes as they were very closely related. Anyway, we decided to follow this lead and move forward to main data collection, of which we would redo the Exploratory Factor Analysis once the data were completely collected for final confirmation.

Rotated Component Matrix
Data 3

	1 A&P	2 Store	3 Att	4 Service	5 Prod	6 Value	7 Prod	8 Ref	9 Conv
Frequent promotion	0.8909								
Enjoyable shopping here	0.8215								
Repetitive store name	0.8114								
Demo sample & Trial	0.7484								
Learn from advertising	0.7205								
Freq cust priviledge	0.6782								
Discount / bonus	0.5899				0.4146				
Fast check-out		0.8357							
Used to the layout		0.8011							
Parking convenience		0.7836							
Close by		0.6903							0.5086
Nice atmosphere		0.6261			0.4485				
Clean & organized		0.6251			0.4434				
Open everyday		0.5773							0.6104
Easy buying layout		0.5086			0.6130				
Credit card okay	0.7656	0.4115							
Will shop next time			0.9234						
Intent to use this store as regular store			0.8844						
Overall attitude			0.8656						
Next time I will buy drugs or supp here			0.8542						
Will rec. to others			0.7431						
Store satisfaction			0.6843						
Pharmacist on duty				0.7683					
Reliable staff	0.5413			0.7189					
Staff listening with empathy				0.6980					
Knowledgible staff	0.4056			0.6494					
Staff gives clear explanation				0.6283		0.4117			
Staff's service intention				0.5072			0.4550		
Brand variety					0.7788				
Availability					0.6949				
Full range					0.6381				
Store Brand reputation					0.4346				
Good quality				0.5869	0.4194				
Goods are returnable						0.7504			
Appropriate price						0.7334	0.4652		
Low price	0.4904					0.6858			
Inexpensive					0.6831	0.5148			
Effective products							0.9066		
Good,efficious drug							0.8510		
Family store								0.9071	
Rec. by friends	0.5332							0.6969	
Rec. by professionals	0.5226							0.5582	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 9 iterations

Table 3: Exploratory Factor Analysis - Result for 3rd pilot test

4.2 Result of the Main Study

Samples were collected from people patronizing health and beauty exhibition at the National Convention Center in Bangkok. A total of 777 samples were collected via one-to-one intercept asking the respondents to do self-administered quesitonnaire. The number of samples collected far exceeded targeted number due to to random interception of respondents without prior knowledge of their primary buying purpose at drug stores. Data collected were monitored in order to obtain the number above minimal optimum requirement for each group with approximately 10% allowance for incomplete data. We finally got the number of 777 samples with the number of health purpose respondents, which were the minor group of the two, exceeded 150. Of the 777 samples collected, 738 were usable (94.98%). Within the 738 data there were 574 samples having illness purpose as main purpose, and 164 samples having health purpose as main purpose of buying. The number of sample collected for each group exceeded the minimum targeted set for each group from the starting of the study, which was set at 150 samples per group.

Main buying purpose

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illness Purpose	574	77.8	77.8	77.8
	Health Purpose	164	22.2	22.2	100.0
	Total	738	100.0	100.0	

Table 4: Frequency table of Main buying purpose

Primary & Secondary Buying Purpose

			Purpose 2		Total
			Illness Purpose	Health Purpose	
Purpose 1	Illness Purpose	Count	232	288	520
		% within Purpose 1	44.6%	55.4%	100.0%
		% within Purpose 2	63.7%	92.0%	76.8%
	Health Purpose	Count	132	25	157
		% within Purpose 1	84.1%	15.9%	100.0%
		% within Purpose 2	36.3%	8.0%	23.2%
Total		Count	364	313	677
		% within Purpose 1	53.8%	46.2%	100.0%
		% within Purpose 2	100.0%	100.0%	100.0%

Table 5: Frequency table of Main and Secondary buying purposes

We observed the ratio of illness buying purpose and health buying purpose to be around 3.5 to 1, from the random sampling. When we took the secondary buying purpose into account we could found a mixed purpose to be the highest proportion, 56.91% reflecting the nature of consumer with majority having mixed purpose when going into a drug store. The pure illness purpose buyers contributed for 38.75%, while the pure health purpose buyers contributed for 4.33%.

4.2.1 Test of reliability and validity

Exploratory Factor Analysis and Reliability Testing

In the next step, data of the main study were analyzed by Exploratory Factor Analysis with varimax rotation to confirm the observed variables to be put in each component representing the defined attributes.

There were nine components which were defined as Product Assortment (Product), Reasonable Price (Price), Effectiveness (Effective), Store facility, Service,

Promotion, Reference and Response on the use of drug store. We also observed that additional observed variables moving from Promotion component to the Reference component, being "Learning from advertisement" and "Repetitive store name", while variable like Store reputation failed to reach the minimum value to be included in any component. Such changes in the observed variables were acceptable as the meaning of the variables were still logical and valid, possibly with more reliability as a result of bigger sample size.

Reliability test for each attribute showed relatively high reliability coefficient ranging from 0.8180 to 0.9213, all value were higher than the normal acceptable value of 0.7. Reliability coefficient for each component was shown in the table 4-8.

Reliability Coefficient	
Attributes	**Cronbach's Alpha**
Product Attribute	0.8954
Price Attribute	0.8180
Quality	0.9176
Store Convenient	0.8870
Service	0.9213
Promotion	0.8715
Reference	0.8248
Choice response	0.9211

Table 6: Reliability Test result of the main data (Cronhbach alpha)

After having done the Exploratory Factor Analysis, we move on to test the validity by doing the Confirmatory Factor Analysis.

Rotated Component Matrix	Component							
	Service	Store Conve	Att / Intent	Promote	Product	Reference	Price	Quatity
Knowledgible staff	0.8304							
Staff gives clear explanation	0.8172							
Reliable staff	0.7907							
Staff listening with empathy	0.7574							
Pharmacist on duty	0.6497							
Staff's service intention	0.5312							
Fast check-out		0.7565						
Open everyday		0.7130						
Parking convenience		0.6941						
Close by		0.6772						
Easy buying layout		0.6522						
Clean & organized		0.6483						
Used to the layout		0.6141						
Nice atmosphere		0.5852						
Intent to use this store as regular			0.8746					
Overall attitude			0.8477					
Will shop next time			0.8108					
Will rec. to others			0.7897					
Store satisfaction			0.7855					
Next time I will buy drugs or supp here			0.7779					
Frequent promotion				0.7569				
Demo sample & Trial				0.7072				
Freq cust priviledge				0.6976				
Enjoyable shopping here				0.6931				
Credit card okay				0.6100				
Goods are returnable				0.5159				
Full range					0.8287			
Brand variety					0.8157			
Availability					0.7658			
Good quality					0.6405			
Rec. by friends						0.7970		
Rec. by professionals						0.7804		
Repetitive store name						0.6903		
Learn from advertising						0.5993		
Family store						0.5544		
Low price							0.6815	
Inexpensive							0.6566	
Appropriate price							0.5735	
Discount / bonus				0.5260			0.5601	
Good,effcicous drug								0.8415
Effective products								0.8070

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Figure 8 : Exploratory Factor Analysis of the main data

Confirmatory Factor Analysis

At this step, we analyzed the data by using Confirmatory Factor Analysis using LISREL 8 software to test and confirm the convergent validity and discriminant validity of each variable. Although Exploratory Factor Analysis showed good reliability of each construct, the Confirmatory Factor Analysis ran another test with more precise measurement, showing variables that were suitable to be included in each component due to its validity. During the confirmatory factor analysis, observed variables or measurement variables with low standardized factor loadings of lower than 0.5 were deleted as they did not contribute adequate validity. Such deletion rendored the final result with acceptable convergent validity having the proportion of variance extracted more than 0.5 . Then the correlation matrix of the latent variables was checked to exclude any measurement variables having the square of correlation higher that the proportion of variance extracted for that variables. Thus we confirmed the discriminat validity of the measurement.

Measurement Model Result.

The measurement model specified how the latent variables or hypothetical constructs were measured in terms of the observed variables, and it described the measurement properties, especially the validities and reliabilities of the observed variables. A good measurement model should have high statistical significant indicator coefficients (λ^{x}_{ζ} and λ^{y}_{η}) high reliabilities (i.e., Cronbach's alphas) and high validities (i.e. proportion-of-variance-extracted indices)

The indicator coefficents (i.e., standardized factor loadings), reliabilities, and proportion-of-variance-extracted indices of the constructs in the measurement model were shown in table 7. The indicator coefficients of the constructs were generally

high and statistically significant ($p< 0.0005$ one tailed). Reliability levels for the constructs were also relatively high, ranging from 0.8180 to 0.9213. All of them exceeded the threshold of 0.7 recommended by Nunnally (Nunnally, 1978). The more conservative proportion-of-variance-extracted index, which indicates the amount of variance captured by a construct in relation to the amount of variance due to measurement error, demonstrated that all of the constructs had moderate to high validities (ranging from 0.5067-0.8100). All the constructs exceeded the minimal standard of 0.50. The result indicated that the variance captured by the constructs exceeded the variance due to measurement error.

In overall, it was found that the indicator coefficients (λ^{x}_{ζ} and λ^{y}_{η}) were high and statistically significant and the reliabilities and validities of all the constructs exceeded the minimal standards required, and we were able to conclude that the measurement model contained good convergent validity.

After we completed the test for convergent validity, we further checked correlation matrix of the latent variables to see if there were any noticably high correlation between variablies as well as the correlation with its square value of higher than the proportion of variance extracted for the variables. It was found that there was no pair of variables with their square of correlation higher than the proportion of variance extracted for those variables, as seen in table 8 and 9. The result enabled us to confirm the discriminant validity of the measurement model. It was reasonable to conclude that the the measurement model for the overall data containing sample of two different buying purpose had good validity and could be used for further structural model analysis.

A. Measurement Model Results			
Constructs and Indicators	Completely Standardized factor loadings	Reliability	Proportion of variance extracted
Product Assortment		**0.8807**	**0.6205**
Availability	0.82	0.67	
Full range	0.89	0.79	
Brand variety	0.63	0.40	
Effectiveness		**0.9176**	**0.8101**
Good, efficacious drug	0.80	0.64	
Effective products	0.99	0.98	
Price		**0.8180**	**0.5525**
Appropriate price	0.87	0.76	
Low price	0.59	0.35	
Store Facility		**0.8870**	**0.5092**
Used to the layout	0.70	0.49	
Clean & organized	0.70	0.49	
Easy buying layout	0.74	0.55	
Service		**0.9213**	**0.6298**
Staff service attention	0.69	0.48	
Staff listening with empathy	0.91	0.83	
Staff gives clear explanation	0.95	0.90	
Knowledgible staff	0.64	0.41	
Reliable staff	0.73	0.53	
Promotion		**0.8715**	**0.6205**
Demo sample & Trial	0.79	0.62	
Frequent Customer priviledge	0.81	0.66	
Enjoyable shopping here	0.79	0.62	
Frequent promotion	0.76	0.58	
Reference		**0.8248**	**0.5049**
Recommended by friends	0.69	0.48	
Recommended by doctors / pharmacists	0.75	0.56	
Repetitive store exposure	0.69	0.48	
Response		**0.9211**	**0.6696**
Store satisfaction	0.83	0.69	
Will recommend to others	0.69	0.48	
Overall Attitude	0.67	0.45	
Will shop next time	0.77	0.59	
Intent to use this store regular store	0.78	0.61	
Next time I will buy drugs at this store	0.73	0.53	

Table 7 : Measurement and Structural Model result

Standardized Solution: Correlation Matrix of Variables

	Product	Price	Effective	Store	Service	Promote	Refer	Response
Product	1.00							
Price	0.50	1.00						
Effective	0.37	0.58	1.00					
Store	0.61	0.53	0.60	1.00				
Service	0.49	0.63	0.46	0.60	1.00			
Promote	0.24	0.47	0.36	0.48	0.42	1.00		
Refer	0.11	0.32	0.27	0.31	0.28	0.67	1.00	
Response	0.33	0.36	0.27	0.27	0.38	0.23	0.14	1.00

Table 8: Correlation Matrix of Variables

A: Measurement Model Results

Variables	Proportion of variance extracted	Square of correlation							
		Product	Price	Effective	Store	Service	Promo	Ref	Resp
Product Assortment	0.6205								
Price	0.8101	0.2500							
Effective	0.5525	0.1369	0.3364						
Store Facility	0.5092	0.3721	0.2809	0.3600					
Service	0.6298	0.2401	0.3969	0.2116	0.3600				
Promotion	0.6205	0.0576	0.2209	0.1296	0.2304	0.1764			
Reference	0.5049	0.0121	0.1024	0.0729	0.0961	0.0784	0.4489		
Response	0.6696	0.1089	0.1296	0.0729	0.0729	0.1444	0.0529	0.0196	

Table 9: Square of Correlation Matrix vs Proportion of Variance Extracted (POVE)

Summary of the final observed variables being used in each component were shown in the table 10.

Construct	Measurement variables
Product Assortment	
	Availability
	Full range
	Brand variety
Effectiveness	
	Good, efficacious drug
	Effective products
Reasonable Price	
	Appropriate price
	Low price
Store Facility	
	Used to the layout
	Clean & organized
	Easy buying layout
Service	
	Staff service attention
	Staff listening with empathy
	Staff gives clear explanation
	Knowledgible staff
	Reliable staff
Promotion	
	Demo sample & Trial
	Frequent Customer priviledge
	Enjoyable shopping here
	Frequent promotion
Reference	
	Recommended by friends
	Recommended by doctors / pharmacists
	Repetitive store exposure
Response	
	Store satisfaction
	Will recommend to others
	Overall Attitude
	Will shop next time
	Intent to use this store regular store
	Next time I will buy drugs at this store

Table 10: Summary of constructs and measurement from CFA

4.2.2 Structural Equation Model Analysis – Two groups

Structural equation model was tested using the confirmed measurement variables obtained through Confirmatory Factor Analysis. A causal relationship equation according to the conceptual model could be structured as:

$$\text{Response} = \gamma_1\text{Product Assortment} + \gamma_2\text{Reasonable Price} + \gamma_3\text{Effectiveness} + \gamma_4\text{Store Facility} + \gamma_5\text{Service} + \gamma_6\text{Promotion} + \gamma_7\text{Reference}$$

Equation 1: Conceptual Structural Equation

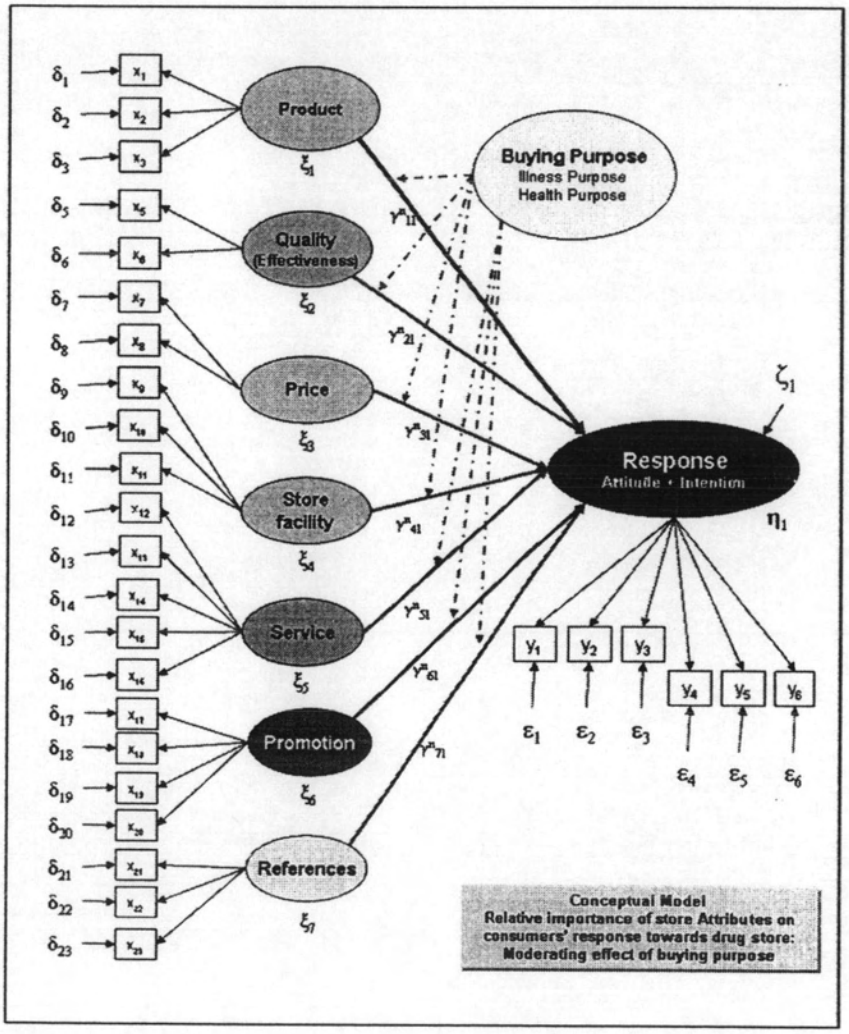

Figure 9: Conceptual Model of Response towards Drug Store

The structural model generated from LISREL program based on the measurement model specified explains causal relationship of the whole group of sample, being a mixture of two purposes of use. The structural model for overall data in full model was demonstrated below.

Structural Equation Model : Overall data, Full Model

```
Response = 0.18*Product + 0.10*Price + 0.058*Effectiv - 0.14*Store
           (0.056)        (0.067)      (0.041)          (0.086)
            3.25           1.55         1.40            -1.60

          +0.28*Service + 0.073*Promote - 0.020*Refer,
           (0.070)        (0.054)         (0.049)
            3.91           1.35           -0.40

                                  Errorvar.= 0.93   , R² = 0.20
                                        (0.072)
                                         13.02
```

Equation 2: Structural Equation - Overall data

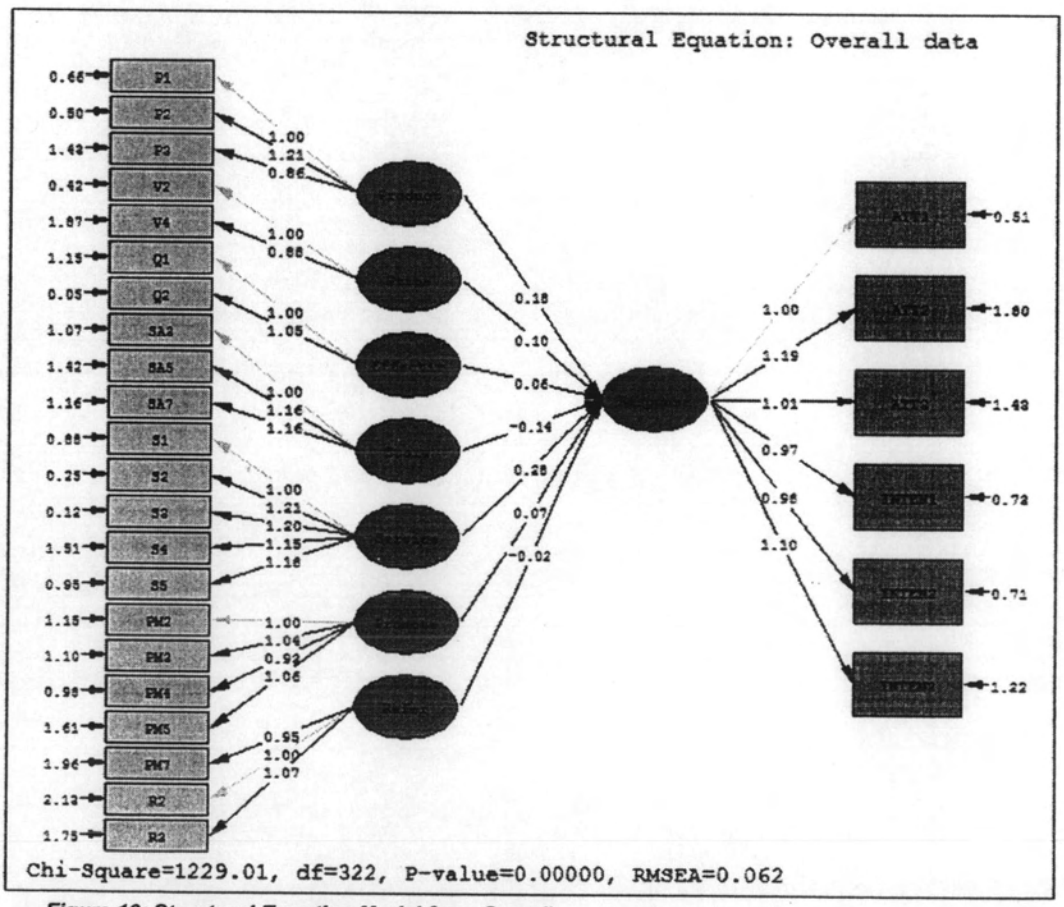

Figure 10: Structural Equation Model from Overall

However, it was important to check whether or not the maximum likelihood estimate for the structural equation model provides a satisfactory fit to the data. Because of the big sample size obtained, the chi-square value did not adequately demonstrate the relationship between the observed sample covariance and the hypothetical population covariance ($\chi^2_{349} = 1359.11, p = 0.0$).

B. Structural Model Results		
Independent Constructs	**Response on Store Choice**	***t score***
Product Attribute	0.210	*3.25*
Quality	0.060	*1.55*
Price Attribute	0.092	*1.40*
Store Convenient	-0.160	*-1.60*
Service	0.270	*3.91*
Promotion	0.077	*1.35*
Reference	-0.019	*-0.40*
Proportion of Variance Explained	0.20	
Fit Statistics:		
Chi-square	1359.11	
Degree of Freedom	349	
Probability	*p=0.0*	
GFI[c]	0.89	
NFI[d]	0.95	
CFI[e]	0.97	
IFI[f]	0.97	

c Joreskog and Sorbom's (1989) "goodness of fit index"
d Bentler and Nonett's(1980) "normed fit index"
e Bentlers (1990) "comparative fit index"
f Bollen's(1989) "incremental fit index"

Table 11: Structural Model result with fit test: overall data

Since it was generally agreed that chi-square should be used as a guide rather than an absolute index of fit, other diagnostics indicator were needed. Fit index to be used are Joreskog and Sorbom's goodness of fit index (GFI), incremental fit indices such as Bentler and Bonett's normed fit index (NFI), Bentler's comparative fit index (CFI), and Bollen's incremental fit index (IFI). These indices measured how good the model fits as compared to baseline model, which was particularly useful in determining the overal model fit. According to Joreskog and Sorbom's Bentler and Bonett's Bentler's and Bollen's heuristics, model fit of less than 90% are considered as inadequate.

Our model showed that the GFI, NFI, CFI, and IFI were 0.89, 0.95,0.96,0.96 respectively. The model was adequately fit based on NFI, CFI and IFI, while it was marginally fit based on GFI. By all consideration the model could be accepted as adequately fit.

Result obtained from the structural equation model supported our hypothesis that product assortment, Reasonable price and Service positively affected consumers' response towards the use of drug store. Hence the H1, H2, and H5 were accepted ($p<0.05$, *one tailed*). On the other hand quality, store facility, promotion and references did not have significant effect on consumers' response for store choice causing the H3, H4, H6 and H7 to be rejected ($p<0.05$, *one tailed*). However, the result was based on natural mix of two main different buying purposes.

A further analysis based on the notification that some variables were of no significant and might not help to explain the causal relationship, was conducted. We did this further by deleting the non-significant variables from the model to see how the final model would come out. The structural equation without insignificant

variable was called the Reduced Form Structural Equation or Reduced form. The reduced form of structural equation for overall data yielded three significant variables, namely Product, Price and Service. The equation was shown as follow:

Reduced Structural Equation Model: Overall Data

```
Response = 0.15*Product + 0.11*Price + 0.28*Service
           (0.045)        (0.050)       (0.064)
            3.27           2.24          4.34
                                  Errorvar.= 0.95  , R² =0.18
                                        (0.072)
                                         13.11

Chi-Square = 331.63 (P = 0.0)
Degrees of Freedom = 98

Goodness of Fit Index (GFI)       = 0.95
Normed Fit Index (NFI)            = 0.97
Comparative Fit Index (CFI)       = 0.98
Incremental Fit Index (IFI)       = 0.98
```

Equation 3: Reduced form Structural Equation - Overall data

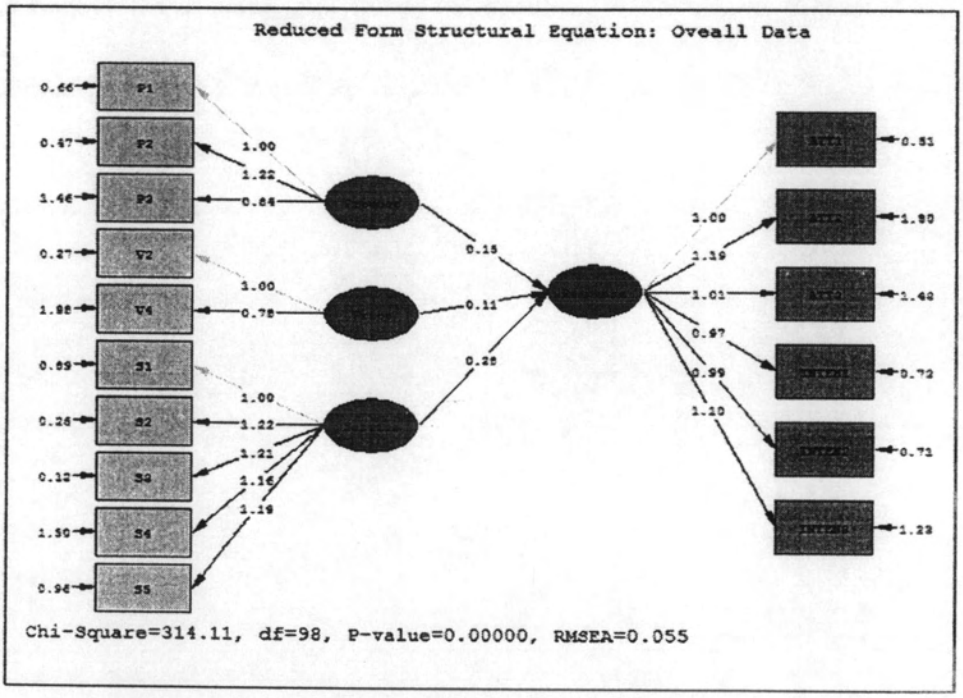

Figure 11: Structural Model of overall data - Reduced form

It was interesting to note that without the consideration of those insignificant variables, which were store facility, effectiveness, promotion and references, we could found that Price, or Reasonable price, became another significant variables in addition to Product and Service.

Multiple-groups Structural Model Analysis

In order to compare the structural model of the two buying purpose groups, multiple groups analysis was conducted. We performed the test by using the full structural equation model of overall data. First analysis was performed by allowing free estimation of both the measurement model coefficient and structural model coefficient. The structural equations obtained from such free estimation of measurement model coefficient and structural model coefficient reviewed two different structural equations of the two groups.

Multiple Groups Analysis of the overall data: full model with free estimation

Illness Purpose group

```
Response =  - 0.14*Store +0.18*Product +0.053*Price + 0.057*Quality
              (0.080)      (0.067)       (0.069)       (0.033)
               -1.71        2.67          0.76          1.70

            +0.31*Service + 0.047*Promote + 0.014*Refer,
              (0.078)       (0.060)         (0.055)
               4.01          0.78            0.25

                                        Errorvar.= 0.90   , R² = 0.18
                                              (0.071)
                                               12.79
```

Health Purpose Group

```
Response =  - 0.073*Store +0.31*Product +0.25*Price - 0.0057*Quality
              (0.16)       (0.13)        (0.13)       (0.064)
              -0.46         2.34          1.83        -0.088
            + 0.11*Service + 0.11*Promote - 0.064*Refer,
              (0.15)       (0.12)         (0.10)
               0.72         0.91          -0.62

                                        Errorvar.= 0.90   , R² = 0.29
                                              (0.071)
                                               12.79
```

Equation 4 : Structural Equation for each buying purpose from the Free Estimation Multiple group Analysis

The model obtained from this free estimation was used as reference model to be compared with next model to identify the model that demonstated best fit through chi-square different test.

We proceeded to the second model by controlling the measurement model coefficient to be equal between the two groups and leaving the structural model coefficient to be freely estimated. Chi-square test of independence was tested by testing the chi-square difference between this second model and the first model, which was used as reference model. Result from chi-square different test was found to be signifant ($\chi^2_{diff=20} = 220, p < 0.05$), meaning that the new model did not have better fit than the reference model.

A third model was then tested. Having found that restricting the measurement model coefficient did not produce better model fit, this time we put restriction on the structural model coefficient of the two groups, constraing them to be equal, while leaving the measurement model estimation free. Chi-square test of model independence was found to be not significant ($\chi^2_{diff=7} = 8, p > 0.05$) , which meant that model with similar controlled equal structural model and free measurement model had a better fit. This new model with best fit was found to be as shown below.

Structural Model from Multiple group Analysis

Resticted Structural model, Free Measurment model estimation

Best fit from the analysis

```
Response = 0.18*Product + 0.11*Price + 0.025*Effectiv - 0.12*Store
           (0.054)       (0.063)      (0.030)          (0.082)
            3.36          1.77         0.84            -1.47

           +0.28*Service + 0.062*Promote - 0.015*Refer,
                 (0.070)     (0.053)         (0.049)
                  4.00        1.16           -0.30

           Errorvar.= 0.92  , R² = 0.19
                    (0.071)
                     12.83
```

Equation 5 : Structural Equation - Best Fit from Multiple group Analysis

The result from this multiple group analysis already demostrated that the structural model of the two buying purpose groups were not significantly difference. From the structural analysis we could observed that the significant variables affect consumers' response on the use of drug store are Service, Product assortment and Reasonable Price, respectively. Hence the H1, H2 and H5 were accepted. It was also noticable that the result was in line with the preliminary analysis for overall data as a single group.

From the result, we concluded that *H8* and *H9*, were rejected ($p<0.05$, *one tailed*). Illness purpose did not cause quality, service and references to positively affects consumer response towards the use of drug store more than health purpose. And health purpose did not cause product assortment, reasonable price perception, store facility and promotion to affect consumer response towards the use of drug store more than illness purpose. It could be stated from our result that the two models, between illness purpose and health purpose, were not different. Moreover, the final model which was the equal structural model for the two buying purpose groups identified the significant variables affecting consumers' response for store choice to be only Service, Product assortment and Reasonable price.

4.2.3 Structural Model Analysis – Single group

Since it was found that there were no moderating effect from different buying purposes, defined as illness purpose and health purpose. We explored further into each single group to be able to better understand the individual context. In order to explore the structural model for each specific group, similar structural equation model analysis was repeated on the separated group of data with illness purpose only and health purpose only to see how the causal relationships in each group will be.

Result from the analysis demonstrated different structural equation from respondents of different purpose group.

Illness Purpose Group: *Structural Model – Full Model*

```
Response = 0.13*Product + 0.074*Price + 0.079*Effectiv - 0.13*Store
            (0.065)       (0.088)       (0.048)         (0.10)
             2.04          0.84          1.64           -1.30
           +0.31*Service +  0.038*Promote + 0.0021*Refer,
              (0.084)      (0.061)         (0.060)
               3.73         0.63            0.035

                                  Errorvar.= 1.05   , R² = 0.17
                                    (0.087)
                                     12.18
```

Equation 6 : Structural Equation - Illness Purpose Group

Reduced form of Structural Equation : Illness Purpose Group

```
Response = 0.11*Product + 0.072*Effectiv + 0.33*Service,
            (0.050)       (0.036)         (0.069)
            2.09          2.00            4.82

                                  Errorvar.= 1.07   , R² = 0.16
                                    (0.087)
                                     12.26
```

Equation 7 : Reduced from Structual Equation - Illness Purpose Group

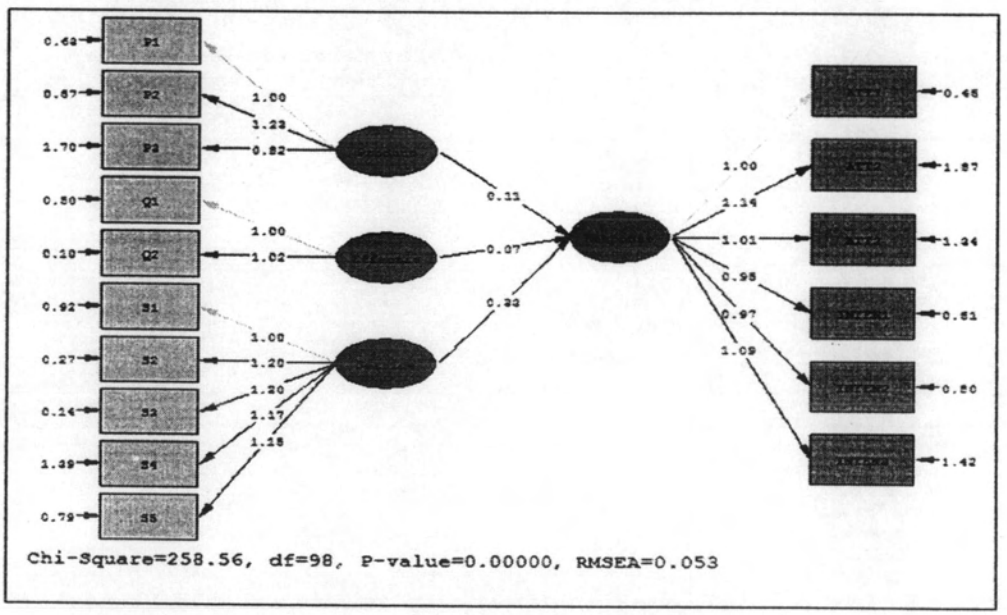

Figure 12 : Reduced form Structual Model - Illness Purpose

Result from the structural equation model of illness purpose group was relatively similar to the overall group with the exception that *H3*, Effectiveness, was accepted while *H2*, price, is rejected. Model for Illness group accepts *H1*, *H3* and *H5* (*p<0.05, one tailed*), showing that product attribute, quality and servic positively affected consumers' response towards the use of drug store. *H2, H4, H6* and *H7* were rejected (*p<0.05, one tailed*), meaning that price, store facility, promotion and reference did not positively affect response for store choice in the illness purpose group.

Similar analysis of the health purpose group showed slightly different model, switching between quality and price. In the health purpose group, *H1, H2* and *H5* were accepted (*p<0.05, one tailed*), meaning that product attribute, price and service positively affected response for store choice, while quality, store facility, promotion and reference did not have significant positive effect on response for store choice, rejecting *H3, H4, H6* and *H7* (*p<0.05, one tailed*). Although from the full model, it seemed that store facility and promotion were significant variables, such effect disappear once other non-significant variables were deleted, causing the final reduced model to contain the affecting variables as product attribute, price and service.

Health Purpose Group: *Structural Model – Full model*

```
Response = 0.33*Product + 0.13*Price - 0.0065*Effectiv - 0.10*Store
           (0.10)         (0.097)      (0.083)           (0.13)
            3.22           1.35        -0.078            -0.77

         + 0.19*Service + 0.10*Promote - 0.034*Refer,
                    (0.12)            (0.14)        (0.067)
                    1.55        0.75            -0.51

                                  Errorvar.= 0.59 , R² = 0.30
                                        (0.11)
                                         5.28
```

Equation 8 : Structural Equation - Health Purpose Group

Reduced model : Health purpose only

```
Response = 0.32*Product + 0.13*Price + 0.17*Service,
           (0.090)       (0.081)      (0.11)
            3.63          1.55         1.59

                                  Errorvar.= 0.59 , R² = 0.29
                                        (0.11)
                                         5.30
```

Equation 9 : Reduced form Structural Equation - Health Purpose Group

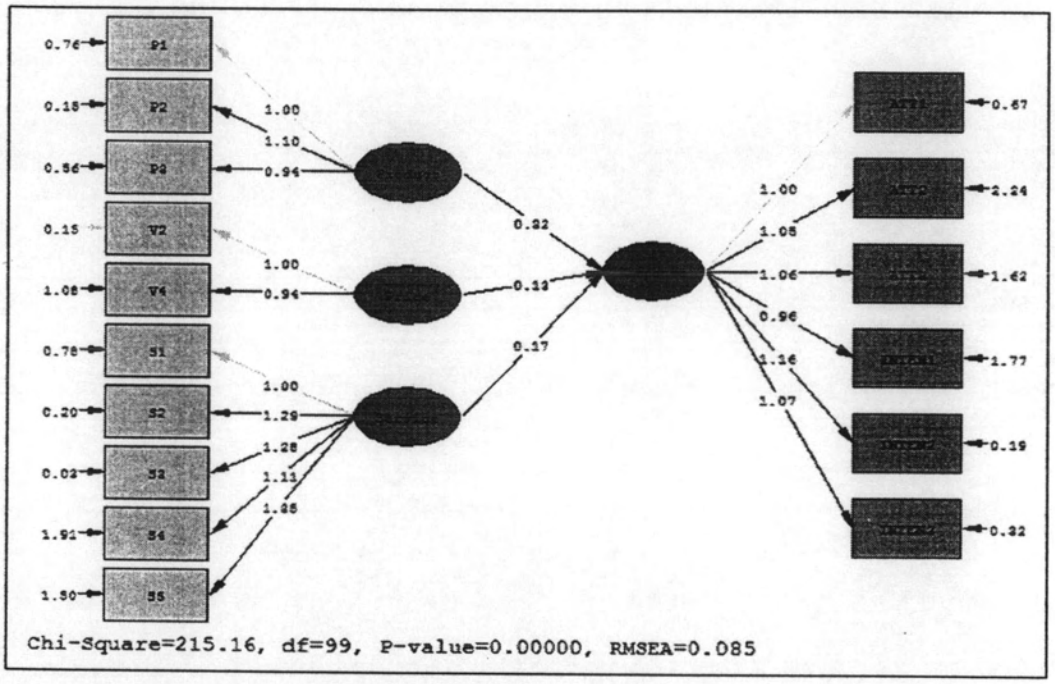

Figure 13: Reduced form Structural Model - Health Purpose

It was also found that the proportion of variance explained from the structural model of the health purpose group (0.29) was greater than the illness purpose group (0.17) and the overall group (0.20). We also noticed that although the significant level of the two variables, Service and Reasonable Price were not significant at the level of $p<0.05$, they were still within the range of $p=0.1$-0.05. Further reduction of the model, taking off one of the two variables yielded significant result for the rest of the variables. These two variables were taken into consideration as they had effect on the consumers'response towards drug store in the health purpose group.

Structural Model Results: Single buying purpose group				
	Response for store choice			
Independent Constructs	Illness purpose		Health Purpose	
		t-score		*t-score*
Product Attribute	0.1500	*2.04*	0.3300	*3.33*
Effectiveness	0.0790	*1.64*	-0.0065	*-0.078*
Price	0.0740	*0.84*	0.1300	*1.35*
Store Facility	-0.1300	*-1.30*	-0.1000	*-0.778*
Service	0.3100	*3.73*	0.1900	*1.55*
Promotion	0.0380	*0.63*	0.1000	*0.75*
Reference	0.0021	*0.035*	-0.0340	*-0.51*
Proportion of Variance Explained	0.17		0.29	
Fit Statistics:				
Chi-square	1163		629.29	
Degree of Freedom	322		323	
Probability	*p = 0.0*		*p = 0.0*	
GFI[c]	0.87		0.79	
NFI[d]	0.95		0.89	
CFI[e]	0.96		0.93	
IFI[f]	0.96		0.94	

c Joreskog and Sorbom's (1989) "goodness of fit index"
d Bentler and Nonett's(1980) "normed fit index"
e Bentlers (1990) "comparative fit index"
f Bollen's(1989) "incremental fit index"

Table 12 : Structural model coefficient and fit comparision between Illness purpose and health purpose

4.2.3 Summary of Structural Equations

A summary of the Structural equation defined from the study to explain the response in making choice of drug store can be viewed as shown below.

General model for mixed group of consumer with different buying purpose

Structural Equations: Full Model model for overall mixed groups

```
Response = 0.18*Product + 0.10*Price + 0.058*Effectiv - 0.14*Store
             (0.056)       (0.067)      (0.041)          (0.086)
              3.25          1.55         1.40            -1.60

           + 0.28*Service + 0.073*Promote - 0.020*Refer,
                (0.070)       (0.054)        (0.049)
                 3.91          1.35          -0.40
```

Errorvar.= 0.93 , R^2 = 0.20
(0.072)
13.02

Reduced model of overall data (mixed group) with only significant variables

Response = 0.15*Product + 0.11*Price + 0.28*Service,
(0.045) (0.050) (0.064)
3.27 2.24 4.34
Errorvar.= 0.95 , R^2 = 0.18
(0.072)
13.11

Model for Illness purpose (single group)

Structural Equations: Full Model

Response = 0.13*Product + 0.074*Price + 0.079*Effectiv - 0.13*Store
(0.065) (0.088) (0.048) (0.10)
2.04 0.84 1.64 -1.30

+ 0.31*Service + 0.038*Promote + 0.0021*Refer,
(0.084) (0.061) (0.060)
3.73 0.63 0.035
Errorvar.= 1.05 , R2 = 0.17
(0.087)
12.18

Reduced model for Illness Purpose group

Attitude = 0.12*Product + 0.069*Effectiv + 0.32*Service,
(0.032) (0.062) (0.077)
2.48 2.16 5.21

Errorvar.= 1.07 , R^2 = 0.16
(0.046)
13.90

Model for Health purpose (single group)

Structural Equations: Full Model

Response = 0.33*Product + 0.13*Price - 0.0065*Effectiv - 0.10*Store
(0.10) (0.097) (0.083) (0.13)
3.22 1.35 -0.078 -0.77

+ 0.19*Service + 0.10*Promote - 0.034*Refer,
(0.12) (0.14) (0.067)
1.55 0.75 -0.51
Errorvar.= 0.59 , R2 = 0.30
(0.11)
5.28

Reduced model for Health Purpose group

```
Response = 0.32*Product + 0.15*Price + 0.14*Service,
           (0.044)       (0.054)       (0.053)
            7.26          3.30          2.67

                                  Errorvar.= 0.60  , R² = 0.28
                                        (0.044)
                                         11.27
```

Structural Model from Multiple group analysis
Resticted Structural model, Free Measurment model estimation
Best fit from the analysis

```
Response = 0.18*Product + 0.11*Price + 0.025*Effectiv - 0.12*Store
           (0.054)       (0.063)      (0.030)          (0.082)
            3.36          1.77         0.84            -1.47

           +0.28*Service + 0.062*Promote - 0.015*Refer,
                 (0.070)     (0.053)         (0.049)
                  4.00        1.16           -0.30

                                  Errorvar.= 0.92  , R² = 0.19
                                        (0.071)
                                         12.83
```

Table 13 : Summary of tested Structural Equations

Result from multiple group analysis had shown that the model for illness purpose group and health purpose group were not different ($p<0.05$, *one tailed*). Although the result from single group analysis were found to be slightly different, with Effectiveness being a significant variable in the illness purpose group, the coefficient was relatively low and could be regarded as negligible.

Further test was also conducted by constraining the sample size of both groups to be equal at the size of 164 samples. This was done by retaining all the samples from health purpose group. The illness purpose group were systematically selected, average of one out of every 3 samples to obtain the final sample size of 164.

The overall analysis procecure were repeated, staring from overall estimation of the Structural equation, followed by multiple group analysis in order to indentify the best fitted model. The final result yield the same result as our initial findings

with the overall data, being that the buying purpose did not cause the structural equation model to be different.

Structural Equation Model - Equal Sample Size:

Free Measurement Model, Restricted Structural Equation – Best Fit

```
Response = 0.28*Product + 0.12*Price + 0.020*Effectiv - 0.17*Store
           (0.068)       (0.061)      (0.037)          (0.093)
            4.10          1.98         0.54            -1.83

         + 0.24*Service + 0.15*Promote - 0.053*Refer,
           (0.086)       (0.085)       (0.077)
            2.82          1.80         -0.68

                          Errorvar.= 0.60  , R² = 0.32
                                (0.084)
                                 7.20
```

Equation 10 : Structural Equation - Equal sample size

We also found that the Structural Equation from equal samples contained more significant variables than the result from overall data. This was due to the reason that the equal sample size allowed each buying purpose to demonstrate effect on variables without overruling each other.

4.3 Discussion of results

The data obtained were a natural mix of consumers with different buying purpose, indicating the majority of illness purpose over health purpose, which were acceptably logical. The necessary need for drugs was always the main reason for people to visit drug store. It was only recently, when the health promoting concept started to have influence and take role in changing people's lifestyle, with more and more popularity. From the data collected, illness purpose respondents were 77.8 percent of total sample, and health purpose accounted for the rest, around 3.5 to 1 ratio. In the 77.8 percent of samples with illness purpose as primary objective, 44.6% had illness as single purpose, meaning that the only purpose, primary and

secondary objective, to go to a drug store was to buy drug. On the other hand, the health purpose group contained only 15.9% purely for health purpose. The rest of the two groups, which were obviously the majority, had mixed objectives for drug store visit, both for illness and health purpose.

Demographic Characteristics

Demographic data of the two buying purpose groups were relatively similar. The average age and gender ratio of the two groups were not significantly different, indicating homogenous and comparable sample. Occupation and education were also of similar profile in the distribution of each education level, as evaluated by chi-square test. Income levels were in the same line for both groups, with the exception for income level of 60001 – 80000, which was found to be significantly higher percentage in the health purpose group. The difference in this specific level of income was of no surprice, but rather lined in with the findings that the amount of money spent per visit was also significantly higher in the health purpose group, which explained the character of the health purpose group having to pay for health products which were of relatively high value. However, the other income classes were similar between the two groups. We were able to conclude at this stage that buying purpose, illness purpose and health purpose are not related to the demographic characteristics of buyers.

Buying Pattern

Number of stores visited in 12 months period, ***frequency of visit*** to drug store per year and ***share of the regular store*** the person always visit, were similar between the illness purpose group and the health purpose group, indicating similar drug store usage behavior of the two groups. When considering the buying pattern, starting

from the ***time of visit***, the two groups were relatively similar in the behavior with the exeption of finding more percentage of the illness purpose group in the period of 17-20 hrs, which was after office hour. It was quite understandable to buy necessities, which, in this case, were drugs, right after office hour in an emergency and convenience manner, much more than health products which required more time for selection and shopping. The phenomenon of health purpose group being of higher proportion in the period of 23-2 hrs was not of much concern here, although it was significantly different, as there were very limited responders in that range, only 2 in the illness purpose group and 3 in the health purpose group. ***Type of stores***, usually visited by the two groups were significantly different. Illness purpose group showed higher propotion in the use of ***drug store near home*** which could be explained by the emergency nature of need as well as convenience, regarding drugs to be the same in every drug store. The health purpose group showed higher proportion of use in the ***drug store in shopping plaza***, which well explained the behavior of buying health products being less critical and more relaxed with more haedonic shopping nature. The use of the ***other type of drug store*** being higher in health purpose group could be the case that health purpose buyers seek for special products, which could not be commonly found in every drug store, from special store which was, then, categorized as the ***other type of drug store***. For the illness purpose group aiming to buy drugs, it was not so necessary to go to a special place since most common drugs were available in any drug stores without much difference in their variety. The similarity of the two groups on the buying from drug store near office and on the way represented the behavior of choosing convenience in buying. ***Time spent per visit*** was significantly higher in the health purpose group, which demonstrated the need to

choose or search for products in this category, causing the consumer to take more time than buying drug to remedy sickness. The ***amount of money spent per visit*** also reflected the same nature of buying purpose, being higher in the health purpose groups due to the higher price of health products when they were compared to generally used medicine. By observing these two behaviors, both groups demontrated their own nature, rather than being different by demographic charactertics. Categories of products that consumer bought from drug store, although they were different between the two buying purpose groups, were in line with the buying purpose. Illness purpose group demonstrated higher percentage of buying ***drug for chronic illness*** and ***drug for general illness***, while the health purpose groups showed higher percentage in the ***vitamins & supplements*** and ***skincare cosmetics*** category. Health equipment and other products are the categories that fall between illness purpose and health purpose which were found to be not significantly different between illness purpose group and health purpose group. We were in the position to conclude that the difference found in the behavioral pattern of illness purpose group and health purpose group reflected the nature of the group's purpose, or, in another word, the buying purpose were related to type of products being bought, type of stores by nature of its location, time to spend in the store and amount of money paid per visit.

Measurement Model

Although data were tested for its unidimensionality by Exploratory Factor Analysis and tested for reliability using Cronbach's alphas, Confirmatory Factor Analysis (CFA) helped to reconfirm whether those measurement models had adequate validity, convergent and discriminant validity. By such nature, some of the

observed variables found to be relevant from exploratory factor analysis, might not pass the confirmatory factor analysis due to its inadequate validity. We noted a few observed variables being deleted from the initial existence in Exploratory Factor Analysis. Final observed variables to be used were listed in table 4-8. It was noticable that the confirmatory factor analysis reported high correlation between attitude and intention, while the Exploratory Factor Analysis also showed these two constructs in the same component. This phenomenon suggested a better fit to combine both constructs into one to be called as Response, supporting our initial conceptual model which defined Response as one construct, containing the measurement for attitude and intention together. Such result could be explained by the fact that medicine was considered as one of the four necessities of life. People bought medicine, merely because they wanted to get cure from the illness. The decision on store choice was directly concerned with the attributes store offered and the process of forming attitude which lead to intention to choose, though existed, was so abruptly instant that the attitude forming and the decision to choose coincided in the same instance. On the store facility, it was found that observed variables concerning convenience in term of physical location did not get to pass the CFA. One explaination was that the although most people would prefer convenience in finding a place to buy goods, it was really the location that matters, (Mulhern, 1997) not only the convenience factor. Moreover, drug store were always available at every corner street, hence the value of convenience might by overlooked by the consumer and had less influence upon consumers's response to the drug store. Result from the measurement model testing that was shown in table 4-9 demonstrating observed variables that possessed adequate reliability and validity.

Structural Model

Since the model fit could be considered as marginally adequate, we proceeded to the structural parameter estimates. It was hypothesized that response towards drug store was positively affected by product attribute (*H1*), price (*H2*), quality (*H3*), store facility (*H4*), service (*H5*), promotion (*H6*) and reference (*H7*). Result as shown in table 4-10 demonstrated that service (γ_{51}=0.28, $p < 0.01$, one tailed), product attribute (γ_{11}=0.18, $p < 0.01$, one tailed) and price (γ_{21}=0.11, $p < 0.05$, one tailed), were significant factors that positively affected the response towards drug store. The proportion of variance explained, or R^2 of the equation is 0.20. On the other hand, Store facility (γ_{41}=-0.12, $p > 0.05$, one tailed) , Effectiveness (γ_{31}=0.025, $p > 0.05$, one tailed), Promotion (γ_{61}=0.062, $p > 0.05$, one tailed) , and Reference (γ_{71}=-0.015, $p > 0.05$, one tailed), did not have significant effect upon the response for store selection.

At this stage, further analysis was performed by selectively deleting non-significant variables from the model until we finally come up with only variables with significant effect. The reduced structural model showed three significant variables being Service (γ_{51}=0.28, $p < 0.01$, one tailed) , Product (γ_{11}=0.15, $p < 0.01$, one tailed) , Price (γ_{21}=0.11, $p < 0.05$, one tailed) positively affected response on drug store selection. There were no additional significant variables from the deletion of insignifant variables. The proportion of variance explained, or R^2 , of the equation was 0.18. The decrease in R^2 of the reduced model was due to the deletion of non-significant variables, which, although not of significant effect, still contributed to the proportion of variance explained.

In order to understand the structural equation model on each single buying purpose group, we repeated the procedure using data from illness purpose group and health purpose group separately. Result of the analysis as shown in table 4-11 indicated acceptable fit indices and demontrated comparative coefficient from the two groups.

For the illness purpose group, variables with significant positive effect on response for drug store selection are Service (γ_{51}=0.32, $p < 0.01$, one tailed) , Product (γ_{11}=0.12, $p < 0.01$, one tailed) , and Effectiveness (γ_{31}=0.069, $p < 0.05$, one tailed), all other variables were of no significant effect. The proportion of variance explained, or R^2 of the equation was 0.16. In the health purpose group, variables with significant positive effect on response for drug store selection were Product (γ_{11}=0.32, $p < 0.01$, one tailed), Price (γ_{21}=0.15, $p < 0.01$, one tailed), and Service (γ_{51}=0.14, $p < 0.01$, one tailed). The proportion of variance explained, or R^2 of the equation was 0.28.

Comparative model between buying purposes

Illness purpose		Health purpose	
Independent construct	γ	Independent construct	γ
Service	0.32	***Product***	0.34
Product	0.15	***Service***	0.18
Quality	0.08	***Price***	0.13
R^2	0.17		0.29

Table 14 : Comparative Structural Model coefficient between illness purpose and health purpose models

We could see that the order of importance of the constructs in each buying purpose group was not the same. This could be explained that for the illness purpose group seeking to buy drugs for general illness, product assortment was of less

importance than the service provided. People need attention and advice on the use of the drug, as first priority of importance. Product attribute came second with the expectation that the drug store should carry enough range and depth of medicines to fullfill the need for general illness, and also that they were of not much different between stores. And finally, quality in term of effectiveness played its role as a determinant for response towards drug store, but to a lesser value. This might be due to the belief of the consumer that most drug stores should carry similar brand, similar products that could cure the illness, although the preference towards effectiveness of use did play some role in the response towards the store.

For health purpose groups, the nature of health promoting and illness prevention led to the need to seek for innovative and variety of products to serve such need. Product assortment played the most important role right-away. Being product to be used for the body, causing effect to total well-being, there was still a need to get good advice from attentive and caring store sales representatives. This explains why service was second to product in term of importance. The last significant determinant on response for drug store selection in the health purpose group was price. As health products was not yet to the level of necessity, price impulse played its role in decision making, causing the price perception of the store to be the third determinant of response towards drug store.

Now we need to see whether our observation of the structural model from each buying purpose, which was found to be of slight different, was, indeed, significantly different form each other, confirming the moderating effect of buying purpose on the effect of attributes on store choice, or not. In doing so, we needed to perform multiple-group structural model analysis. The steps of multiple-group

analysis started from testing the model of two groups, illness purpose and health purpose together at the same time, with free estimation of both measurement model and structural model and used the model obtained as reference model. In this first model, all coefficients (λ , γ and β) of all groups were freely estimated. Then we tested the second model by constraining the measurement models (λ) to be equal across both groups. Chi-square different test was used to compare the second model with the reference model. If chi-square different test was significant it meant that constraining the measurement model to be equal made the model less fit. We found from our result that the chi-square different test was significant, meaning that the restricted measurement model was less fit. We, then, proceeded to the third model, contraining the structural model (γ) and leaving free estimation for the measurement model. This time chi-square different test was not significant, indicating the last model to be of better fit than reference model. Since the best fit model was the model with restricted equal structural model, we concluded that the two structural equations, one for illness purpose and one for health purpose are not significantly different.

Hence, buying purpose did not cause moderating effect on the effect of attributes upon response towards drug store. The hypothese *H8* and *H9* were rejected. The final model obtained from multiple-group analysis exhibited significant variables that positively affected response towards drug store to be ***Service*** (γ_{51}=0.28, $p < 0.01$, one tailed), and ***Product assortment*** (γ_{11}=0.15, $p < 0.01$, one tailed) and ***Reasonable Price*** (γ_{21}=0.11, $p < 0.05$, one tailed). The proportion of variance explained, or R^2 of the equation was 0.19. The low proportion of variance extracted could be explained as the reflection of drugs being the necessary product,

and the visit to a drug store being externally forced action rather than self-initiated action, causing the proportion of variance extracted to be relatively low. We could also elaborated the best fit model being although equal structural model but still with free estimation of measurement model that it was due to the different perception toward observed variables used in the study as a result of different purpose causing slightly different view on the same matter.