Chapter VI: Structural Equation Model Analysis for Study Area in Mandalay, Myanmar.

This chapter provides LISREL (linear structural relation) model that uses structural equations. The model composes of two parts, a measurement model and a structural equation model. The first one is how the latent variable or hypothetical constructs are measured by the observed variables. The latter one describes the causal relation among the latent variables. Unlike the conventional regression techniques, LISREL model will present the consumer satisfaction (latent variables) and other construct of interests such as demographics and expenditures on healthcare.

A questionnaire survey was employed to examine the effects of Demographics and Expenditure on traditional medicine and modern medicine. A convenient sampling approach is adopted to verify the hypotheses. A paper-and-pen questionnaire survey was conducted among respondents. Respondents were asked to complete the questionnaire by answering questions regarding the determination of healthcare demand. An investigation containing Likert-type scales was used in collecting data from Myanmar. The following, 5-point Likert scale:

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

The ratings assigned by survey respondents were also expressed within the context of the *diversity framework*, many factors that constitute what are generally regarded as the "best opinions" in diversity healthcare.. Miscellaneous comments were voluntarily offered by survey respondents on the subject of diversity healthcare.

6.1 Estimation Procedure for SEM

Path analysis is frequently applied to test causal models that specify causal relationships between particular variables. Structural equation models (SEM) are the most powerful instruments for path analysis in marketing and consumer research, and have been widely applied in activity and behavior research during recent decades. LISREL, a computer program, has become the most popular software for performing

structural equation modeling .LISREL enables the estimation of measuring error in multiple regression equations and allows all the relationships among residuals. Furthermore, LISREL allows the simultaneous estimation of all direct and indirect effects. The analysis employed confirmatory factor analysis to develop a measurement model that achieves an acceptable fit to the data and tests the theoretical model (or structural model) by path analysis to demonstrate a meaningful and statistically-acceptable structural model. In linear regression, the relations between two variables are approximated by their correlation and error terms. The LISREL method assumes that the correlation of a set of variables is independent of the error terms, and uses both correlations and error term covariances to test structural models. In doing so, it captures a truer representation of the variation of variables. Structural models consist of two levels. The first is the construct level. A construct is made of several indicators (i.e., observed variables) that form a higher - order variable, representing common latent properties of the indicators. The second level in structural models is the formation of causal relationships between constructs. The analysis of relations at construct level corresponds to an intermediate level between theory and empirical observations.

The research tool was a questionnaire. The statistics used for Health Consumption in Myanmar: A Study of Using Traditional and Modern Medicine of Families in Mandalay were mean, standard deviation, coefficient of variation, minimum score, maximum score, skewness, and kurtosis, for the casual relation were Pearson'correlation coefficient. Structural Equation Modeling (SEM) analyses with a logical sequence of five processes; model specification, model identification, model estimation, model testing, and model modification. The model estimation from LISREL was selected from 6 methods such as Instrumental variables (IV) ,Two-stage least squares (TS) ,Unweighted least squares (UL) , Generalized least squares (GL) ,Generally Weighted least squares (WL) and Maximum likelihood (ML) method (Joreskog & Sorbom, 2012).Variables selection from the questionnaires passing through several methods in LISREL and found the best fit model research results as follows :

Statistical Treatment of Data

Number of Input Variables	31
Number of Y - Variables	18
Number of X - Variables	13
Number of ETA - Variables	4
Number of KSI - Variables	3
Number of Observations	397

Demograph

X1 = age

X2 = gender

X3 = education

X4 = marital status

X5 = Household leader's education

X6 = number of years Household leader's work

Expendit

X7 = expenditure for assets (car,cycle) kyats/month

X8 = expenditure per day

X9 = expenditure for medicines (TM and MM) Kyats/month

X10 = Expenditure on Non-food items including clothing, phone , and shoes

Income

X11 = Total years of Education

X12 = Income of Leader per month

X13= Average income of family member

Usesage_MM

Y1 =Frequently use to buy MM

Y2 =Opinion about Cost of modern healthcare

Y3 = like using modern medicine (1=strong ly disagree, 2=disagree, 3=not sure,4=sure,5=strongly agree)

Usesage_TM

Y4 = Frequently use to buy TM

Y5 =Opinion about Cost of traditional medicine heath care (Not expensive, Somewhat expensive, Expensive, Very expensive , High very expensive)

Y6 = like using Traditional medicine (1=strongly disagree, 2=disagree, 3=not sure, 4=sure, 5=strongly agree)

Y7 =Where do you get TM? (Hospitals , Clinics, Drug stores, Neighbours, Others (own products))

Y8 =From whom have you acquired the knowledge for using TM ?(Relatives, Family , myself Environment (neighbours) , Religious books , TV commercial ,No opinion)

Y9 =TM can cure the serious case

TM & MM attributes

Y10 = government support to modern drug

Y11 = government support to traditional drug

Y12 = agree the integration of TM (Traditional medicine) and MM health (Modern medicine) care service system

Y13 = What are the main reasons for the acceptance of Traditional medicine by the community? (TM) (Effectives , Cheap , Easy to get in drug store ,Easy to cure the disease , All the things combined , No idea)

Y14 =What are the main reasons for the acceptance of modern medicine by the community? (MM) (Effectives , Cheap , Easy to get in drug store ,Easy to cure the disease , All the things combined , No idea)

Y15 = Modern Medicine can cure the serious case (1=strongly disagree, 2=disagree, 3=not sure,4=sure, 5=strongly agree)

KSH

Y16 = need government support to get drugs easily(1=strongly disagree, 2=disagree, 3=not sure,4=sure, 5=strongly agree)

Y17=What kinds of drugs do you use for your health currently ? (Modern medicine ,Traditional medicine, Both , Not using anything)

Y18 =Which institutions do you normally go to take for cure if you and your family have some diseases?

Latent Variables (ETA and KSI)

Demograph = Demographic Characters

Expendit = Expenditure Potential

Income = Income Potential

Usesage_MM = Access to Modern Medicine

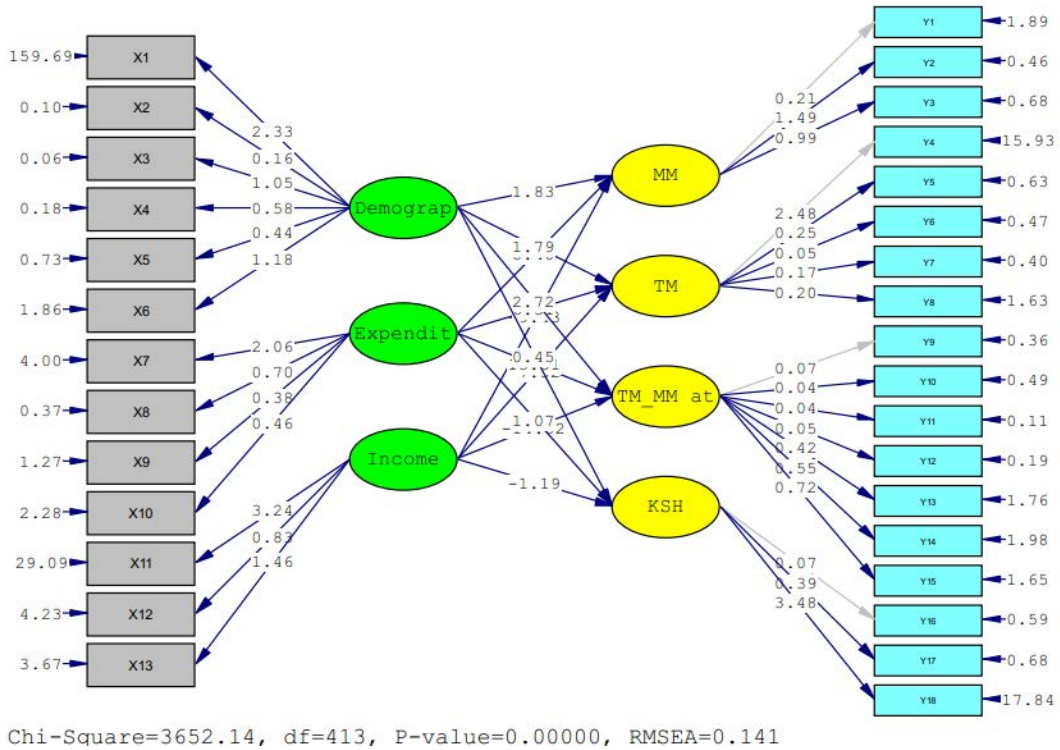
Usesage_TM = Access to Traditional Medicine

TM & MM attributes = Traditional and Modern Medicine attributed

KSH = knowledge satisfaction in healthcare

6.2 The results of SEM estimation for the whole area

Picture 6.1 Full area (urban area and rural area)



Source: The researchers estimation

Table 6.1 Parameter result from GAMMA

	Demograph	**Expendit**	**Income**
Usage_MM	1.83120694 (0.00941508)	8.40336727 (0.02733458)	-9.42824623 (0.02529044)
Usage_TM	1.78697517 (0.14651588)	6.51477524 (0.26785346)	-7.51620546 (0.32494037)
TM_MM at	2.72324936 (0.00476695)	13.31127977 (0.01627460)	********** (0.01419956)
KSH	0.44830759 (0.00122557)	1.07257723 (0.00691408)	-1.19045808 (0.00755000)

Source: The researchers' estimation

* ( ) P-Value

Root Mean Square Residual (RMR) = 0.39504212

Goodness of Fit Index (GFI) = 0.99504588

Adjusted Goodness of Fit Index (AGFI) =0.99405026

Parsimony Goodness of Fit Index (PGFI) = 0.82853618

For all areas that include data collecting from urban area and rural area in Mandalay, the best fit model found chi-square (3652.14) and P-Value equal (0.00) with Lower RMSEA and RME and GFI (Goodness of Fit Index)(0.99) and also AGFI (0.99),PGFI (0.83).

The hypotheses will be used to test in this research, also these hypotheses presented below :

Hypothesis 1 (H1): Demographics factor – rural positively and directly influences **TM** (Usage of TM, TM attributes and TM Knowledge on Healthcare& Traditional uses**).**

Hypothesis 2 (H2): Demographics factor– urban positively and directly influences **MM** (Usage of MM, MM attributes and MM Knowledge on Healthcare& Traditional uses**).**

Hypothesis 3 (H3): Income satisfaction positively and directly influences **MM** (Usage of MM, MM attributes and MM Knowledge on Healthcare& Traditional uses**).** (Richer rely on MM)

Hypothesis 4 (H4): Income satisfaction positively and directly influences **TM** (Usage of TM, TM attributes and TM Knowledge on Healthcare& Traditional uses**).**(Poor more rely on TM)

Based on the full model of SEM (*the data using from urban and rural area of Mandalay people in Structure Equation Model*) estimation was described that all of hypothesis testing variables were accepted in significant relation except Traditional and Modern Medicine attributes. However considering about income potential it was found out that access to traditional medicine (TM) , access to Modern medicine (MM)and also knowledge satisfaction in healthcare variables were directly influenced but with negative sign which means that the higher in their income, the less access to traditional medicine (TM) , the less access to Modern medicine (MM)and also the less knowledge satisfaction in healthcare. (see picture 6.1and Table 6. 1). It was also found out that the poor people in Mandalay may rely on both traditional medicine and Modern medicine and more knowledge satisfaction in healthcare . The result may reject that the rich people in Mandalay may rely on Modern medicine . All of hypothesizes were conducted for test by SEM estimation and were written as follow:-

On the Hypotheses 1 (H1)and (H2) testing : Demographic Character factors variable from urban and rural area of Mandalay people (*Demographic Character factors variable significant result effect from many variables* such as *age, gender, education , marital status ,Household leader education, number of years Household leader 's work*), were found out to positively and directly influences to access to Modern Medicine variable (*significant result effect from many variables* such as *Frequently use to buy MM, Opinion about Cost of modern healthcare, like using modern medicine)* and also positively and directly influences to access to traditional medicine variable (*significant result effect from Frequently use to buy TM, Opinion about Cost of traditional medicine heath care ,like using Traditional medicine , Where do you get TM, From whom have you acquired the knowledge for using TM*)

Demographic Character factors variable from urban and rural area of Mandalay people were also found out to positively and directly influence on Traditional and Modern Medicine attributed variable (*Modern Medicine attributed variable significant result effect from many variables* such as *TM can cure the serious case, government support to modern drug, government support to traditional drug, agree the integration of TM (Traditional medicine) and MM health (Modern medicine) care service system, What are the main reasons for the acceptance of Traditional medicine by the*

community? ,What are the main reasons for the acceptance of modern medicine by the community? ,Modern Medicine can cure the serious case)

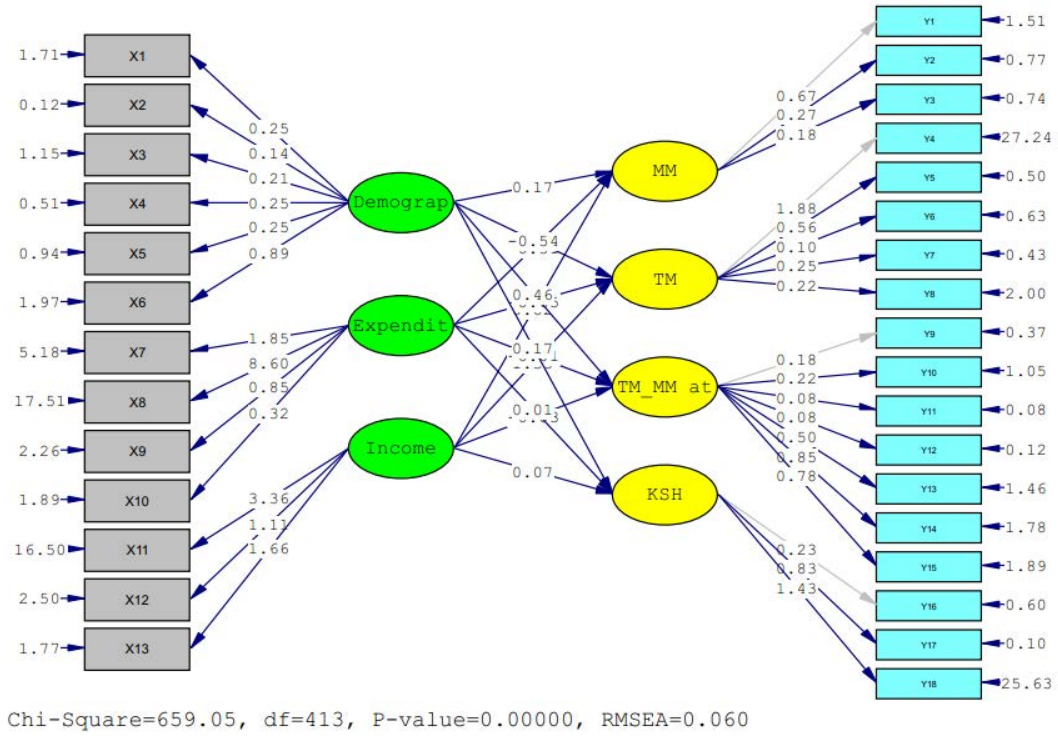
Demographic Character factors variable from urban and rural area of Mandalay people were positively and directly influenced to knowledge satisfaction in healthcare (*knowledge satisfaction in healthcare significant result effect from many variables* such as *need government support to get drugs easily, What kinds of drugs do you use for your health currently ? , Which institutions do you normally go to take for cure if you and your family have some diseases?*)

Testing on Expenditure Potential variable from urban and rural area of Mandalay people (*Expenditure Potential significant result effect from many variables* such as *expenditure for medicines (expenditure for assets (car,cycle) kyats/month, expenditure per day, Expenditure for medicines TM and MM) Kyats/month, Expenditure on Non-food items including clothing, phone , and shoes.)* was found out to positively and directly influences on access to traditional medicine and access to Modern Medicine, Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables.

Testing on the Hypotheses 3 and 4 (H3 and H4): Income Potential variable from urban and rural area of Mandalay people (*Income Potential significant result effect from many variables* such as *Total years of Education, Income of leader per month, Average income of family member /month*) was found out to directly influence access to traditional medicine and access to Modern Medicine and knowledge satisfaction in healthcare variables but in negative way. Based on the full model of SEM estimation, results seem to be found out that poor people in Mandalay may more rely on access to Traditional and Modern Medicine , and more knowledge satisfaction in healthcare. However, in Income Potential variable was not significantly positive directly influence to Traditional and Modern Medicine attributes .

6.3. The Results of SEM Estimation for Urban Area

Picture 6.2 Urban area



Source: Source: The researchers' estimation

Table 6.2 Parameter result from GAMMA in Urban area data

	Demograph	Expendit	Income
Usage_MM	0.16537084 (0.04133941)	-0.31006392 (0.06358183)	0.81813086 (0.05797334)
Usage_TM	-0.54070926 (0.06600107)	-0.65375328 (0.07723290)	1.34915986 (0.07056843)
TM_MM at	0.45998084 (0.01329740)	-0.00640190 (0.01464541)	-0.03238381 (0.01202784)
KSH	0.17189290 (0.01244492)	0.00835843 (0.01666336)	0.07197391 (0.01191786)

Source: The researchers' estimation
* ( ) P-Value

Root Mean Square Residual (RMR) = 0.28605586
Goodness of Fit Index (GFI) =0.99437719
Adjusted Goodness of Fit Index (AGFI) = 0.99324715
Parsimony Goodness of Fit Index (PGFI) = 0.82797939

Considering only the data collected from urban area in Mandalay, the best fit model indicated that chi-square (659.05) and P-Value equal (0.00) with Lower RMSEA and RME and GFI (Goodness of Fit Index)(0.99) and also AGFI (0.99),PGFI (0.83)

Based on the SEM (only Urban area was employed to estimate by Structure Equation Model).Based on the SEM estimation on urban area in Mandalay, it was found out that Demographic Character factors were significantly accepted in direct influences positively on most variables in hypotheses except access to traditional medicine (TM) variable which directly influenced negatively. While as access to traditional medicine, access to Modern medicine and Traditional medicine and Modern Medicine attributes variables were not directly influenced positively by Expenditure Potential. Testing on income potential variable, it was found out not to be directly influenced positively to Traditional medicine and Modern Medicine attributed. (see picture and table 6.2)

The hypotheses were conducted to test by SEM on the urban area data people in Mandalay , the estimation results were written as follow:-

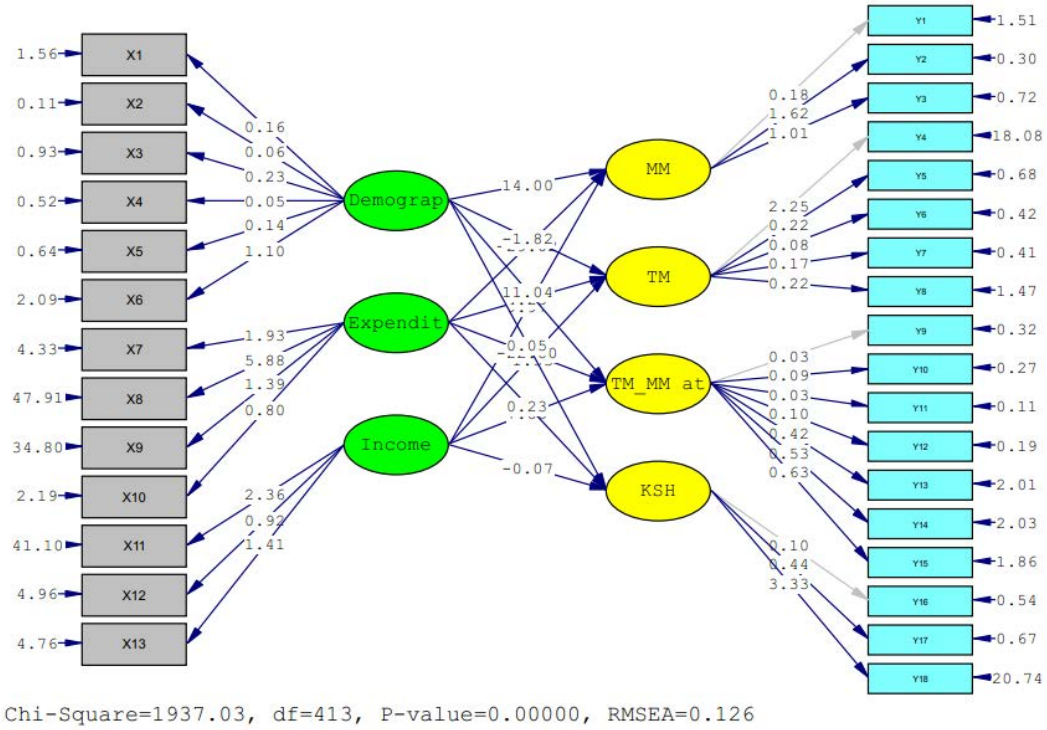
On Hypothesis 2 (H2) testing : Demographic Character factor on the urban area people in Mandalay significantly, positively and directly influences on access to modern medicine, Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables but negatively and directly influences access to traditional medicine variable.

Considering about the Expenditure Potential, it was found out only positively and directly influences to knowledge satisfaction in healthcare but negatively and directly influences to access to traditional medicine, access to modern medicine and Traditional and Modern Medicine attributes variables.

On the hypotheses 3 and 4 (H3and H4) testing: About Income Potential variable,it was found out significant positively and directly influences to access to traditional medicine , access to modern medicine and knowledge satisfaction in healthcare variables but was significantly negatively to Traditional and Modern Medicine attributed variable . The result of income potential seem to confirm the hypothesis that rich people in urban area in Mandalay may rely on Modern Medicine but also still be rely on Traditional Medicine as well. The result did not confirm that the poor people in urban area rely on traditional Medicine more than the rich people.

6.4 The Results of SEM Estimation for Rural Area

Picture 6.3 Rural Area



Source: The researchers' estimation

Table 6.3 Parameter Result from GAMMA in Rural Area Data

	Demograph	**Expendit**	**Income**
Usage_MM	13.9956068 (0.33747210)	********** (0.70189199)	9.97000807 (0.24035497)
Usage_TM	-1.81639672 (2.92659603)	4.25433919 (6.15756458)	-1.53184015 (2.12952599)
TM_MM at	11.03506509 (0.03780464)	********** ((0.07752895)	7.88105789- (0.02660378)
KSH	0.04513576 (0.07690583)	0.22918576 (0.16117500)	-0.06558929 (0.05590008)

Source: The researchers' estimation

* ( ) P-Value

Root Mean Square Residual (RMR) = 0.35318161

Goodness of Fit Index (GFI) =0.99144210

Adjusted Goodness of Fit Index (AGFI) = 0.98972225

Parsimony Goodness of Fit Index (PGFI) = 0.82553546

Considering only the data collected from rural area people in Mandalay, the best fit model indicated that chi-square (1937.03) and P-Value equal (0.00) with Lower RMSEA and GFI (Goodness of Fit Index)(0.99) and also AGFI (0.99),PGFI (0.83) .

Based on the SEM (only rural area was employed to estimate by Structure Equation Model), it can be described that almost of hypotheses were significant to be accepted in direct influences but have different signs. Based on the SEM estimation on rural area, it was found that most of variables in hypotheses were accepted in directly influences positively except access to traditional medicine (TM) variable which was directly influenced negatively by Demographic Character factors. Testing on the income potential variable was directly significant positively to access to Modern medicine variable and Traditional and Modern Medicine attributes variable but did not directly influence positively to access to traditional medicine , and also knowledge satisfaction in healthcare variables. (see picture 6.3and Table 6.3). It may be found out that the poor people in Mandalay may rely more on access to traditional medicine and more to

knowledge satisfaction in healthcare . The result may be accepted that the rich people in Mandalay may rely on access to Modern medicine. All of hypotheses were conducted to test by SEM estimation and were written as follow:-

On Hypothesis 1 (H1) testing: Demographic Character factors positively and directly influence to access to modern medicine, Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables but negatively and directly influences access to traditional medicine variable.

Testing on Expenditure Potential variable was not significant to access to modern medicine and Traditional and Modern Medicine attributes variable but significant only positively and directly influences to access to traditional medicine and knowledge satisfaction in healthcare variables.

On the Hypotheses 3 and 4 (H3and H4) testing : Income Potential variable was found to be significant negatively and directly influences to access traditional medicine and knowledge satisfaction in healthcare variables but was significant positively and directly influences to modern medicine and Traditional and Modern Medicine attributes variables .The results found out that poor people in rural area in Mandalay may rely more on access to Traditional medicine and more knowledge satisfaction in healthcare.

6.5 Conclusion

Based on the results of estimation by SEM model the study of Health Consumption in Myanmar: A Study of using traditional and modern medicine of families in Mandalay, it was found out that Demographic Character factors variable from urban and rural area of Mandalay people (*Demographic Character factors variable significant result effect from many variables* such as *age, gender, education , Household leader education, year number of Household leader 's work*) were significantly positive and directly influences access to Modern Medicine variable (*Modern Medicine variable significant result effect from many variables* such as *Frequently use to buy MM, Opinion about Cost of modern healthcare, like using modern medicine)* were significantly positive and directly influences to access to traditional medicine variable (*traditional medicine variable significant result effect from many variables* such as *Frequently use to buy TM, Opinion about Cost of traditional medicine heath care ,like using Traditional medicine , Where do you get TM,*

From whom have you acquired the knowledge for using TM) , were significantly positive and directly influences to Traditional and Modern Medicine attributes variable (*Traditional and Modern Medicine attributed variable significant result effect from many variables* such as *TM can cure the serious case, government support to modern drug, government support to traditional drug, agree the integration of TM (Traditional medicine) and MM health (Modern medicine) care service system, What are the main reasons for the acceptance of Traditional medicine by the community? ,What are the main reasons for the acceptance of modern medicine by the community, Modern Medicine can cure the serious case)*

Demographic Character factors variable from urban and rural area of Mandalay people also were significantly positive and directly influences to knowledge satisfaction in healthcare variable (*knowledge satisfaction in healthcare variable significant result effect from many variables* such as *need government support to get drugs easily, What kinds of drugs do you use for your health currently ?, Which institutions do you normally go to take for cure if you and your family have some diseases?*)

Based on the result of estimation by SEM model in latent variables of expenditure potential variable from urban and rural area of Mandalay people (*expenditure potential variable significant result effect from many variables* such as *expenditure for medicines (expenditure for assets (car,cycle) kyats/month, expenditure per day , Expenditure for medicines TM and MM) Kyats/month , Expenditure on Non-food items including clothing, phone , and shoes.*) was positively and directly influences access to traditional medicine and access to Modern Medicine , Traditional and Modern Medicine attributed and knowledge satisfaction in healthcare.

On the Hypotheses 3 and 4 (H3 and H4) testing : Income Potential variable from urban and rural area of Mandalay people (*Income Potential variable significant result effect from many variables* such as *Total years of Education, Income of leader per month, Average income of family member /month*) did not directly influence positively access to traditional medicine and access to Modern Medicine and knowledge satisfaction in healthcare variables . Based on the full model of SEM estimation, result seem to be found out that poor people in Mandalay may more rely on access to Traditional and Modern Medicine , and more knowledge satisfaction in

healthcare. However, Income Potential was not significantly positive directly influence to Traditional and Modern Medicine attributed .

Based on the results of estimation by SEM model on Mandalay people data in urban area, it was found out that to test on Hypothesis 2 (H2): Demographic Character factors on the urban area people in Mandalay were significant positively and directly influences access to modern medicine, Traditional and Modern Medicine attributed and knowledge satisfaction in healthcare variables but were negatively and directly influences to access to traditional medicine variable. While considering about the Expenditure Potential variable in urban area was found out only positively and directly influences to knowledge satisfaction in healthcare variable but was negatively and directly influences to access to traditional medicine ,access to modern medicine and Traditional and Modern Medicine attributes variables.

About the testing on hypotheses 3 and 4 (H3and H4): Income Potential variable on the urban area was found out to be significant positively and directly influences to access to traditional medicine , access to modern medicine and knowledge satisfaction in healthcare variables but was significantly negatively to Traditional and Modern Medicine attributed . The result of income potential seem to confirm the hypothesis that rich people in urban area in Mandalay may rely on Modern Medicine but also still rely on Traditional Medicine as well. The result did not confirm that the poor people in urban area rely on traditional Medicine more than the rich people.

On the Hypothesis 1 (H1) testing: Demographic Character factors in the rural area positively and directly influence to access to modern medicine ,Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare variables but negatively and directly influences to access to traditional medicine variable.

Testing on Expenditure Potential variable in the rural area was not significant to access to modern medicine and Traditional and Modern Medicine attributes variable but only was significant positively and directly influences to access to traditional medicine and knowledge satisfaction in healthcare variables.

On the Hypotheses 3 and 4 (H3)and(H4) testing : Income Potential variable in the rural area was found out to be significant negatively and directly influences to access traditional medicine and knowledge satisfaction in healthcare variables but was

significant positively and directly influences to modern medicine and Traditional and Modern Medicine attributes variables .The results was found out that poor people in rural area in Mandalay may more rely on access to Traditional medicine and more knowledge satisfaction in healthcare.

Chapter VII. Summary of Health Consumption in Myanmar: A study of Using Traditional and Modern Medicine of Families in Mandalay, Myanmar

7.1 Research Objectives and Finding on its Needs

1. To examine how difficult it is to get traditional and modern medicine

Majority of people in study area believe that both medicines (64% and 67% of respondents in TM and MM) can cure serious case and 69% and 77% of respondents in TM and MM said that TM and MM are accepted by the community . However, what they have problem is public hospitals are not enough for rural people (need to upgrade and extend). For those opinions 51% of respondents said to be strongly agree. 61% of respondents think that medicines are not enough for people (need to finance for poor) which is strongly agree option. 19% of respondents are "strongly agree" on satisfy with current health care system in Myanmar while 20% of respondents are showing strongly disagree option.

2. To explore whether or not current economic situation of the country and their income level affect to get traditional and modern healthcare for them.

According to poverty analysis (censored regression model), poverty severity does not have significant effect on using traditional and modern medicine. However age of the household leader has positive effect to use more healthcare expenditure.

Based on the result of estimation by SEM model in latent variables of expenditure potential variable from urban and rural area of Mandalay people (*expenditure potential variable significant result effect from many variables* such as *expenditure for medicines (expenditure for assets (car,cycle) kyats/month, expenditure per day , expenditure for medicines TM and MM) Kyats/month , expenditure on Non-food items including clothing, phone , and shoes.*), it positively and directly influences access to traditional medicine and access to Modern Medicine , Traditional and Modern Medicine attributes and knowledge satisfaction in healthcare.

While considering about the Expenditure Potential variable in urban area, it was found out only positively and directly influences to knowledge satisfaction in healthcare

variable but was negatively and directly influences to access to traditional medicine ,access to modern medicine and Traditional and Modern Medicine attributes variables. Income Potential variable on the urban area was found out to be significant positively and directly influences to access to traditional medicine, access to modern medicine and knowledge satisfaction in healthcare variables but was significantly negatively to Traditional and Modern Medicine attributes . The result of income potential seem to confirm the hypothesis that rich people in urban area in Mandalay may rely on Modern Medicine but also still rely on Traditional Medicine as well. The result did not confirm that the poor people in urban area rely on traditional Medicine more than the rich people.

Testing on Expenditure Potential variable in the rural area was not significant to access to modern medicine and Traditional and Modern Medicine attributes variable but only was significant positively and directly influences to access to traditional medicine and knowledge satisfaction in healthcare variables. Income Potential variable in the rural area was found out to be significant negatively and directly influences to access traditional medicine and knowledge satisfaction in healthcare variables but was significant positively and directly influences to modern medicine and Traditional and Modern Medicine attributed variables .The results showed that poor people in rural area in Mandalay may more rely on access to Traditional medicine and more knowledge satisfaction in healthcare.

3. To observe the way of accessing traditional medicine such as how they afford to get modern medicine, how far the clinic from their home, how to go there and how many times they go to the clinic.

Regarding with this objectives, it is observed from survey that 55% of respondents are using motorcycle which seems the transportation is not that difficult for them presently as key respondents interview answer support their household answers that rural people are easier to go somewhere as transportation sector –roads are renovated and sound . 77 % of respondents said health institutions that they normally go are not that far . Only 2% and 18% of respondents said that the institutions they normally go are very far and far from their home.

7.2 Other Findings

Poverty incidence in study area, Mandalay has been falling from 27% in 2010 to 21.6% in 2013 which is a fall of 20% during 3 years. Thus, the trends of poverty become lesser and lesser during 2005-2013 . Urban poverty in our study showed that 13.5 might be lower than that of headcount 14 in 2010 and rural poverty can also be seen as lower which is 25.5 in 2013 compared with 2010 poverty incidence "32" in Mandalay region. Thus, it is said to be success of MDGs poverty reduction in Mandalay region.

Similarly, our study found out the same trend in urban poverty gap in 2013 (0.028) which is lower than that of 2005 (0.045) but a bit higher than poverty gap in 2010 (0.021) .However rural poverty incidence turns out to be lower and lower although poverty gap in 2013 (0.07) is a little bit higher than 2010 figure (0.055) . Nevertheless, the break between rural and urban poverty indices are lesser during 2010 and 2013.

Our finding proved that lowest 20% of population is only sharing 9.3 % of total income and highest 20% of population occupies almost 38.77% of total income (= 100-61.23) in the study area. Income distribution in our study area is more favorable than that of some ASEAN countries.

The results of poverty headcount for rural sample with Traditional medicine box support to answer that households in those villages are not poorer than general although villages are hard to reach and no other health facilities. On the other hand, those villages have more poverty gap and more severity condition there.

As a result, we will have some conclusion on poverty severity and using traditional medicine as following –

(i) Households in Mandalay are using Traditional medicine not because they are poor, especially households in urban area but when considering for poor households in rural area, this seems to be true for more using Traditional medicine than the rich household .

(ii) In Chapter 3, the secondary data source presented that total female patients visiting to Traditional medicine clinic are more than total male

patients in Mandalay region although there had been found male patients over female patients in Pyigyitagon township. We expected to see that traditional medicine expenditure will have somehow positive relationship on total female family members in household. However, the result of censored regression proved that there will be tendency for reducing traditional medicine expenditure with one more female in total family members at 95% significant level.

(iii) Increasing share of healthcare (traditional and modern medicine) expenditure if households are coming from agriculture and livestock sectors.

(iv) Age of household leader is one more year older and older, then that household is more liable to both traditional and modern medicine consumption.

(v) We could not say the village which is hard to reach and no other health facility is poorer than general as their poverty headcount is lower than on average rural poverty incidence.

7.3 General recommendations and suggestions

(1) As people in study area prefer using made in Thailand modern medicine, this is signal from the market that can be penetrated systematically

(2) Creating earning employment opportunities for those poor under poverty incidence.

(3) Education is important to reduce the poverty headcount under 85% significant level .Thus ,not only formal education but also vocational education will give them skill and more money to earn since total female in family is, in fact, we cannot change to reduce total female in family. Even though education here is not significant at 90% level but significant at 85%, only thing that can push female's skill up is education for both formal (learning in school) and vocational. Vocational training is crucial to fulfill the worker skill up within short period.

(4) When we had a survey time, lots of respondents responded that they don't have any idea .That means can it be they don't like interviewing or they really do not have any idea based on their education level or they are afraid

of people (outsider) who they really don't know . As we have shown the relative importance of health in our theoretical background in Box(2.1) and Flowchart (2.1), people in Mandalay lack of knowledge and social communication skill for cooperation research . Without their cooperation and interest, scientific research and implementation of result will be very difficult. Of course, traditional medicine officers in every township are trying to have more cooperation with families. The easiest way to upgrade the skill will be requesting townships officers and ward / village administrative officials to have more concern relation in Public-Private (households) partnership for health knowledge distribution.

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Appendices

Meeting with UTM authority in April 25,2013

Some pictures from visiting outreached Traditional Medicine Healthcare

Field survey to Latthit Village which is one of sample villages

President of village administrative - Latthit Village and Traditional Medicine officer from other Township

Surveyed household at Latthit Village

Surveyed household at Latthit Village

Surveyed household at Latthit Village

On the way to find interviewers at Latthit Village

Visiting to Regional Traditional Medicine Office , Mandalay

Visit to Regional Traditional Medicine Office and meeting with Regional Traditional Medicine Officer in April 29,2013

Visit to Regional Traditional Medicine Office and meeting with Regional Traditional Medicine Officer in April 29,2013

The rental car was taking us to Government offices and study sites

Some Pictures During Survey at Urban and Rural

Hired car for convenience in survey (this care is not for going to government offices and another car is for going to see and attend the meeting for survey)

Discussion with Township authority before survey at Pyigyitagon Township

105- year- old Grandma in Zechogon Village (Still can walk , talk and eat by herself)

Maekingon Village

Maekingon Village

Meeting with Deputy Director General and Director of Department of Traditional Medicine, Nay Pyi Taw , Myanmar

A Small Ceremony which is funded by TRF (funds) for giving honorarium to Research Assistants and Students

Rector Dr. Than Maung delivered the speech for TRF's donation

On behalf of TRF , Dr. Kanchana's Special Thanks to UTM at ceremony

Traditional Medicine Box Selection criteria

Village : hard to reach village

: No health care facility

Volunteer : Age between 25-55 years

: Gender is not specific

: Resided in selected village

: Literate person

: Recommended by local authority

Training : Training for assigned villagers who took the responsibility for kits management are conducted by government traditional health staff of respective areas.

Replenishment : Reasonable cash is collected from the patients for replenishment of the drugs. But in some state, Area Commander paid estimated cost for drug replenishment year round. That is the evidence of household traditional medicine kits are well accepted by public as well as local authority.

Supervision : The continuous monitoring and supervision on benefits of medicine kits are conducted by responsible public practitioners from respective areas. According to the data and report from township level, provision of Traditional Medicine kits are definitely effective and beneficial to rural population.

This is the pure academic and collaborative research project between University of Traditional Medicine , Mandalay , Myanmar and Faculty of Economics , Chiang Mai University , Thailand . And nothing to do with any economic and political organizations .

Questionnaire for Healthcare Consumption

Part (1) : Demographic Data

1. Name of respondent :---------- (Agree to answer) ----------
   Name of House leader :----------
2. Age :---------- Years
3. Gender : -------- male --------- female
4. Marital Status : --------single ,----------married ,---------- divorce,---------- window
5. Household leader 's occupation :
6. ( ) Municipal area ( ) Non-municipal area ( ) Semi-urban area
   Religion Buddhism: , Christianity : , Muslim: ,Others (Specify)
7. Ethnics (Bamar , Shan , Kachin , Chinese , …) :
8. Highest Education of respondents ( ) and Highest education of house leader:----------

   none / elementary / junior high school / high school / Bachelor / higher than Bachelor

9. Total years of education of all members ((Input all the members including respondent)

Sr.	Members	Relationship to household leader (husband , wife , daughter , son and etc	Age	Education (none / elementary / junior high school / high school / Bachelor / higher than Bachelor)

10. Number of household members

Male(persons)	Female(persons)	Total (persons)

11. Major and secondary occupations (if husband and wife works , then fill another forms) House leader 's occupation

Agriculture	
Services	
Run a small shop	
Working at manufacturing	
Government employees	
Others (specify)	

Wife or major income earner occupation

Agriculture	
Services	
Run a small shop	
Working at manufacturing	
Government employees	
Others (specify)	

Part (2) . Income

12. What are the major sources of income ? Please rank from the most to the least. (e. g . 1 is the most to)

Agriculture	
Services	
Run a small shop	
Working at manufacturing	
Government employees	
Others (specify)	

13. Average income per month. ( ) Kyats/ month (average among leader + other working peoples)
    Income of leader :----------
    Income of other working peoples :----------
14. Do you have any saving ? :Yes/ No
15. If Yes , how much do u usually save per month?
    ( ) Kyats / month
16. Changes of income from last year
    ( ) % increase / decrease

    What is condition of this year compare with last year ?

Very good	good	Fair	bad	Downing

Part (3) Expenditure

17. Generally how much does it cost for household expenditures a day ? ( )Kyats/ day

Then we will compute the expenditure for a month .

Pls give us to take the a bit detailed on expenditure sections .

18. Consumption (**excluding health care expenditure**)

Consumption Expenditures	Expenses (kyats/day)	Remark
Food items including meat , tea , coffee , spices		
Non-food items including clothing, phone , and shoes ?		
Special government fees		

Others (children pocket money etc ……				
	car	cycle	bicycle	
Do you have any of these assets				
How much costs per month for those assets . Kyats (maintenance cost / fuels)				

19. Health care consumption part

May I ask whether the general cost of health care in Myanmar is expensive or not ?

	Not expensive	Somewhat expensive	Expensive	Very expensive	very highly expensive
Cost of health care in Myanmar					
Cost of modern healthcare					
Cost of traditional medicine heath care					

	Modern medicine	Traditional medicine	Both	Not using anything
What kinds of drugs do you use for your health currently ?				
How much ? (Kyats / week or Kyats/ Month)				
What kinds of drugs do you use previously?				

	Indigestion	Catching a cold	Headache	Hypertension	As Vitamin	To cure serious case Cancer , Malaria
Types of modern drugs that you use ? (or) What kind of modern do you usually use ?						
Types of TM drugs that you use ? (or) What kind of TM do you usually use ?						

Usage

	Yes Daily	Yes Weekly	Seldom	No	( ) times
Frequently used to buy MM ? And How many times a week ?					
Frequently used to buy T M ? And How many times a week ?					

Which institutions do you normally go to take for cure if you and your family have some diseases?	i. Public hospitals ii. Private hospital iii. Public clinic iv. Private clinic v. Traditional medicine clinic vi. Take the doctor to home vii. Take the practitioner to home viii. Others (specify) ix. Not doing anything
Let us know the reason(s) why you are going to that specific institutions .(may answer more than one)	i. treating system is more preferable ii. not much congestion there iii. not far from home iv. we traditionally go there v. we use that since ancestor

		Very far	Far	Not too far	Don't know	
How far from your place						
	By car	By bus	cycle	bicycle	On foot	Don't know
How do you get there						
How much does it cost to get there ? (give us the approximate costs) Kyats/ time						

	Myanmar	Thailand	China	India	Korea	Japan	USA	Europe	Others
You are using modern drugs from									
You are									

using traditional medicine from									
					Cheap	Quality	Easy to get	Traditionally (others encourage to use it)	Randomly
Why do you use that specific MM ?									
Why do you use that specific TM?									

Where

	Hospitals	Clinics	Drug stores	Neighbours	Others (own products)
Where do you get MM ?					
Where do you get TM?					

Knowledge

	Relatives	Family	myself	Environment (neighbours)	Religious books	TV commercial	No opinion
From whom have you acquired the knowledge for using MM?							
From whom have you acquired the knowledge for using TM ?							

Preference

Made in	Thailand	India	China	Myanmar	No Idea
Which product do you prefer for MM ? (answer more than one)					
Which product do you prefer for TM ? (answer more than one)					
		Traditional	Modern	Both	No preference
Which health care system do you prefer ?					

Opinion

	Yes	No	No Idea
Do you think MM can cure the serious case ?			
Do you think TM can cure the serious case ?			

Do you agree with government support to modern drugs ?			
Do you agree with government support to TM?			
Do you agree the integration of TM and MM health care service system?			
Do you believe that modern medicine is accepted by the community			
Do you believe that traditional medicine is accepted by the community If , yes then need to ask main reasons !!!!!!!!!!			

Sometimes , pls write down their opinion in notes:----------

Main reasons for acceptance of MM or TM

	Effectives	Cheap	Easy to get in drug store	Easy to cure the disease	All the things combined	No Idea
What are the main reasons for the acceptance of modern medicine by the community?						
What are the main reasons for the acceptance of Traditional medicine by the community?						

Sometimes , pls write down their opinion in notes:----------

In answering the questions that follow,
Select the number that most closely approximates your true feeling about each item, using the following scale:

1	2	3	4	5
Strongly Disagree	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**

.Let us know the your idea to improve the health care system in Myanmar?

	Choose one				
1. Do you satisfy with current health care system in Myanmar ?	1	2	3	4	5
2. Do you like using modern medicine ?					
3. Do you like using traditional medicine ?					
4. Need government support to get drugs easily					
5. Public hospitals are not enough for rural people (need to upgrade and extend)					
6. Medicines are not enough for people (need to finance for poors)					
7. Need to trained healthcare personnel					
8. Need training for public using the effective way of treating system					

Sometimes , pls write down their opinion in notes:----------

Things I answer above are correct and true . (---signature) ----------