KOLOKIUM STATISTIK 2015

Jabatan Perangkaan
M A L A Y S I A

IMPACT OF THE GEOGRAPHICAL COVERAGE ON HOUSEHOLD INCOME SURVEY INDICATORS IN SABAH

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I. INTRODUCTION

Sabah MSAR Frame 2014: 1619 Ebs

EB's Strata:
-Urban 1-2 (56%)
-Rural 3-9: (44%); out of this 12.5% are strata 7 to 0

I. INTRODUCTION

The nature of strata 7-0 are as follows:

Strata 7: Spent less than 2 hours from the city centre
Strata 8: Between 2 to 4 hours from the city centre
Strata 9: More than 4 hours up to one day
Strata 0: Only can be accessed by helicopter, boat etc
            and spent up to 1 day

Current practice of sampling design for Sabah cover all entire of strata 1-9.

Considering the cost and time for data collection will it really benefit to include the EBs in strata 7 to 9 during the Sampling design?

Hypotheses

Overall strata: At least one of the strata group mean monthly income differ from the others
(Whether strata 1-9; 1-7 and 1-6 influence the mean indicator for household income)

Rural Strata: least one of the strata group mean monthly income differ from the others
(Whether strata 3-9; 3-7; 3-6 and 8-9 influence the mean indicator for household income)

3. OBJECTIVE

The objective of the study is to have an appropriate EB's for HH survey in Sabah in order to balance the cost and time of data collection.

i. Study the impact on coverage for Strata 7 and above to mean household income

ii. Study the effectiveness of coverage for Strata 7 and above.

4. METHODOLOGY

HIES2014/15 ; Var Income: lnincome

We employed ANOVA, Post Hoc Multiple Comparisons test var lnincome

a) Comparing mean HH Income between the whole strata (1-9) with the testing strata.

   We establish another two groups of Strata.

   i. Strata 1-7 is the first set of sampling design which exclude strata 8 and 9
   ii. Strata 1-6 the second set of sampling design which exclude strata 7, 8 and 9

4. METHODOLOGY

b) Comparing mean HH Income between the rural strata (3-9) with the testing strata.

We establish another two groups of Strata.

i. Strata 3-7 is the first set of sampling design which exclude strata 8 and 9

ii. Strata 3-6 the second set of sampling design which exclude strata 7, 8 and 9

iii. Strata 8-9

5. ANALYSIS

Ha: At least one of the strata mean Income differs from one of the others.

Descriptives Inginc

Group Strata	N	Mean	Std. Deviation
Str1-9	8738	8.2248417	0.7117
str1-7	8430	8.241085	0.7051
Str1-6	7880	8.2608876	0.7039
Total	25048	8.2416484	0.7072

Test of Homogeneity of Variances Inginc

Levene Statistic	df1	df2	Sig.
0.478679169	2	25045	0.6196

ANOVA

Inginc	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.3876028	2	2.693801401	5.3885245	0.0046
Within Groups	12520.358	25045	0.499914476		
Total	12525.7456	25047			

Multiple Comparisons: Dependent Variable: Inginc

	(I) grpstrata	(J) grpstrata	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Str1-9	str1-7	-0.0162	0.0108	0.2886
		Str1-6	-0.0360	0.0110	0.0030
	str1-7	Str1-9	0.0162	0.0108	0.2886
		Str1-6	-0.0198	0.0111	0.1738
	Str1-6	Str1-9	0.0360	0.0110	0.0030
		str1-7	0.0198	0.0111	0.1738

Turkey HSD analysis results indicate that significant differences occurred between the groups strata 1-9 and strata 1-6 .

This shows that there is no difference the mean monthly income between the group strata 1-9 and strata 1-7

Graphic Statistically Not Significant difference

Str1-6	Str1-7	Str1-9

5. ANALYSIS

Ha: At least one of the strata mean Income differs from one of the others.

Descriptives Lnginc

Group Strata	N	Mean	Std. Deviation
Str3_9	3678	7.9822	0.6901
Str3-7	3370	8.0006	0.6815
Str3-6	2820	8.0091	0.6855
Str8-9	308	7.7803	0.7503
Total	10176	7.9896	0.6889

ANOVA Lnginc

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.17973	3	5.05990878	10.6935	5.15E-07
Within Groups	4813.146	10172	0.473175938		
Total	4828.325	10175			

Post Hoc Tests
Multiple Comparisons: Dependent Variable: Lnginc

	(I) grpstr	(J) grpstr	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Str3_9	Str3-7	-0.018454415	0.016403	0.67403
		Str3-6	-0.02689311	0.017218	0.400596
		Str8-9	0.201920062	0.040804	4.53E-06
	Str3-7	Str3_9	0.018454415	0.016403	0.67403
		Str3-6	-0.008438694	0.017556	0.963388
		Str8-9	0.220374478	0.040947	4.51E-07
	Str3-6	Str3_9	0.02689311	0.017218	0.400596
		Str3-7	0.008438694	0.017556	0.963388
		Str8-9	0.228813172	0.04128	1.83E-07
	Str8-9	Str3_9	-0.201920062	0.040804	4.53E-06
		Str3-7	-0.220374478	0.040947	4.51E-07
		Str3-6	-0.228813172	0.04128	1.83E-07

Turkey HSD analysis results indicate that significant differences occurred between the groups strata 8-9 with others strata

This shows that there is no difference the mean monthly income between the group strata 3-6 ; strata 3-7 and strata 3-9

Graphic Statistically Not Significant Diferrence

Str3-6	Str3_7	Str3_9	Str8-9
■	■		
■	■	■	
	■	■	

6. FINDINGS

There is a significant difference of mean monthly HH Income between the whole strata with strata 1-6.

There is no significant difference of mean HH Income between the whole strata with strata 1-7.

There is a significant difference of mean monthly HH Income between 1-7 strata with strata 1-6.

These imply that Strata 1-7 is sufficient to represent the Mean Monthly HH for Sabah

6. FINDINGS

I. There is no significant difference of mean HH Income between the strata 3-9 with strata 3-7.

II. There is no significant difference of mean HH Income between the strata 3-9 with strata 3-6.

III. There is no significant difference of mean HH Income between the strata 3-7 with strata 3-6.

IV. There is significant difference of mean HH Income between the strata 3-7 with strata 8-9.

V. There is significant difference of mean HH Income between the strata 3-6 with strata 8-9.

VI. There is significant difference of mean HH Income between the strata 3-9 with strata 8-9.

These imply that Strata 3-7 is sufficient to represent the Rural Mean Monthly HH for Sabah

7. SUGGESTION

Should exclude the 8 and 9 Strata for HH Survey Sampling Design

'YOU CAN HAVE DATA WITHOUT INFORMATION, BUT YOU CANNOT HAVE INFORMATION WITHOUT DATA'

THANK YOU