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## **Analysis of Design Character and Typology of Sarawak Traditional Malay House**

**Adibah Yusuf, Khairul Aidil Azlin Abd Rahman, Adam Andani  
Mohammed**

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### **Abstract**

This study was conducted to identify the design of Melayu Sarawak traditional houses and the focus of the study will present a typology of design of the roof, windows, walls and stairs. The scope of the study carried out within the area of Melayu Sarawak village of 60 houses and the traditional Melayu Sarawak were selected as the study sample. The findings are then documented in the form of drawings and sketches. Qualitative methods through observation and interviews were conducted with a cross case analysis. The software "SPSS Text Analytics for Surveys " were also used in producing model findings.

**Keywords:** Architecture, Designs, Melayu Sarawak, Traditional Houses, Typology

### **Introduction**

Malay traditional houses were formerly synonymous with wooden houses. This is because the average home in the Malay villages were all made with timber walls. But youngsters nowadays does not know to identify the Malay identity neither the actual design of traditional wooden houses, and how it is developed . In Sarawak, most Malay traditional houses has been given a new look and a few houses left that still remains in its original form with its traditional identity, especially in the physical aspect . Wherever it is , in almost all Melayu Sarawak villages, its structural and non-structural components of traditional Malay houses have been exaggerated and made modifications without retaining the main characteristics of the house.

### **Background, Research Location and Aims of the Study**

This study was conducted to identify the design of Melayu Sarawak traditional houses and the focus of the study will adduce a typology of design of the roof, window, walls and stairs. Analysis will also be done on the typology of the design of the roof, window, walls and stairs also found of 60 houses that have been identified from the samples. Results of the study will produce a dominant design from the analysis that has been done.

Sarawak is a state that is not only comprehensive, but also unique because of its diversity of ethnics. Malay ethnic have the most crowd in Sarawak after Iban. Sarawak is divided into 31 administrative districts. Table 1 below shows the number of Malay ethnic according to its administrative district in Sarawak.

**Table 1 . Total of Malay Ethnic in Sarawak by District Administration**  
(Source: Department of Statistics Malaysia 2017)

No.	Administrative Districts Within Sarawak	Total of Malay Ethnic in the Year 2017	<p>Guidance :</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">***</div> <p>10 Administrative Districts with the Highest Malay Ethnic in Year 2017</p>
1.	***Kuching	220,333	
2.	***Miri	54,688	
3.	***Samarahan	42,123	
4.	***Betong	36,756	
5.	***Asajaya	26,632	
6.	***Sibu	24,937	
7.	***Simunjan	20,967	
8.	***Bintulu	20,380	
9.	***Saratok	18,373	
10.	***Sri Aman	16,989	
11.	Limbang	13,225	
12.	Lawas	13,090	
13.	Lundu	11,467	
14.	Serian	11,157	
15.	Sarikei	9,501	
16.	Bau	4,187	
17.	Marudi	4,732	
18.	Maradong	4,551	
19.	Mukah	2,929	
20.	Daro	2,360	
21.	Kapit	2,093	
22.	Kanowit	1,147	
23.	Tatau	983	
24.	Belaga	912	
25.	Lubok Antu	824	
26.	Song	735	
27.	Matu	639	
28.	Selangau	556	
29.	Dalat	470	
30.	Julau	250	
31.	Pakan	127	

From the table, it can be concluded that the total population is Malay with different numbers by each administrative district. As a result of the State 's land area is too wide , the researchers decided to

make a field study within the area of 10 settlements or areas that have the highest number of Malays population. These area are the areas that records the number of Kuching 's most Malay population ( 220,333 people ) , Samarahan, Simunjan, Kuching, Sri Aman , Betong , Saratok , Sibü , Bintulu , Miri and Asajaya . Hence, the scope of this research area for the collection of data is just within the stated 10 areas.

### Methodology and Research Samples

Qualitative methods were performed using methods that included observations and interviews with photography and video recordings during field work done . Some of the findings during field work was compiled, and analyzed along with secondary sources. The findings will also be analyzed using the software “SPSS Text Analytics for Surveys”.

To select an appropriate sample for this study, researchers puts the justification on the following criteria ( Table 2 ) in order to facilitate the selection and to ensure that the selected sample really suits the research that is conducted.

**Table 2. Sample Selection of Criteria Review**

No.	Characteristics	Study Sample
1.	Year Built	The house must be built around 1950's or earlier ( aged by at least 60 years and above)
2.	Traditional Elements	The house must have the retaining traditional characteristics or elements such as the roof, windows, stairs , walls , sculptures , and so on.
3.	Material	Houses are still timber walled, particularly the front / main home
4.	Ownership	Homeowners must be a Malay.

All samples are indicated by their region or village areas to facilitate the analysis carried out (refer Table 3). Kuching areas are indicated by using the code samples A1 to M1 (52 units of house as samples). Sibü areas are then indicated with the sample code N1 - N3 (3 houses as samples), Betong using P1 code samples ( 1 sample ), while Saratok uses the sample code Q1 - Q4 (4 houses as samples).

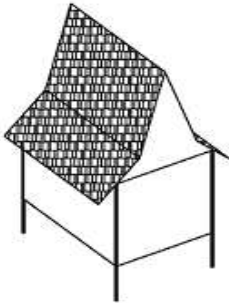
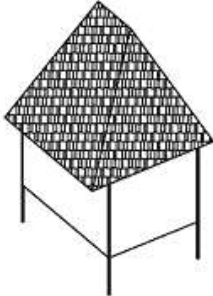
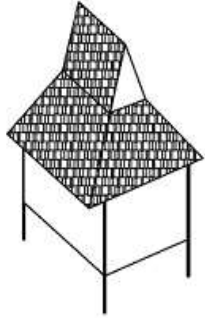
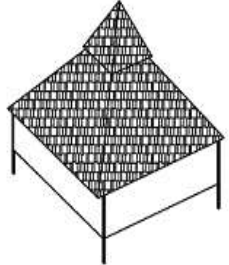
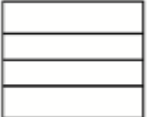

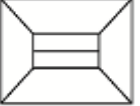
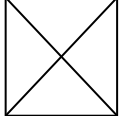
**Table 3. Summary of Sample Locations**

Administrative Districts	Area	Sample Code	Amount	
Kuching	Kampung Jalan Datuk Ajibah Abol, Kuching	A1-A17	17	52
	Kampung Muhibbah, Kuching	B1-B8	8	
	Kampung Jalan Patingan, Kuching	C1-C3	3	
	Kampung Tupong Ulu dan Tupong Batu, Kuching	D1-D5	5	
	Kampung Tanjung, Kuching	E1	1	
	Kampung Sinjan, Kuching	F1-F2	2	
	Kampung Sungei Bedil Besar, Kuching	G1-G2	2	
	Kampung Lintang, Kuching	H1-H6	6	
	Kampung Panglima Seman Hulu, Kuching	J1	1	
	Kampung Surabaya Hilir, Kuching	K1-K2	2	
	Kampung Pulo Hulu dan Pulo Hilir, Kuching	L1-L4	4	
	Kampung Santubong, Kuching	M1	1	
Sibu	Kampung Datu, Sibu	N1-N3	3	3
Betong	Kampung Masjid, Spaoh	P1	1	1
Saratok	Kampung Melango & Jalan Abg Hj. Puteh Elias Saratok	Q1-Q4	4	4
Total			60 units	

### **Observation Analysis and Results of the Non-Structural Aspects: Elements of Roof, Window, Wall and Stairs Designs**

For the architectural elements of the roof, window, wall and stairs, observations results on the typology of those four architectures have been prepared and examined by each sample as shown in the analysis that follows.

**Observation Analysis and Results of the Non-Structural Aspects : Elements of Roof Designs**








Type of Roof	Long Roof	"Perabung Lima" Roof	Silver Roof	"Limas" Roof
Code	A	B	C	D
Diagram				
				

**Figure 1. Classifications of Roofs**

In analyzing the observations of the first non-structural aspects of the roof element, researchers first sort the codes accordingly to the types of roof as can be seen from the figure above ( figure 1 ).

From the figure 2, it summarizes the roof typology of Melayu Sarawak traditional houses with the "perabung lima" roof in combination of silver roof shows a lag of 24 samples. This roof type is indicated by using the sample code RF2.

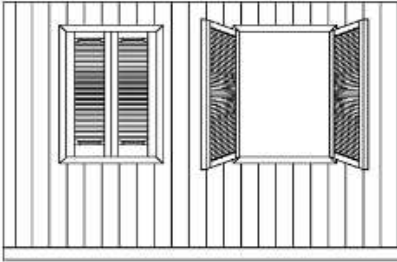
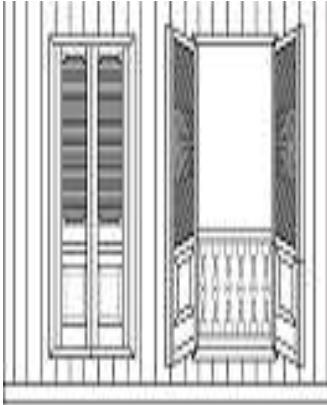
Then followed by "perabung lima" roof itself with 22 samples, which are indicated by using the sample code RF1. The other types of roof records below the number of 10 samples, which proves that the combination "perabung lima" and silver roofs and "perabung lima" roof is the dominant typology of roofs in Melayu Sarawak traditional houses.

Roof Form (RF)	Typology	Analysis Results Based On Samples	Amount
RF1 (B)	 “Perabung Lima” Roof	A1,A2, A4, A7, A8, A9, A11, A12, B3, B4, D2, D3, D5, G2, H1, H5, M1, N3, P1, Q1, Q3, Q4	22
RF2 (B+C)	 “Perabung Lima” Roof + Silver Roof	A3, A10, A13, A14, A15, B6, B8, C2, C3, D1, F1, F2, G1, H2, H3, H4, H6, K2, L1, L2, L3, L4, N2, Q2	24
RF3 (B+A)	 “Perabung Lima” Roof + Long Roof	A5	1
RF4 (A+C)	 Long Roof + Silver Roof	A6, B7, J1, K1	4
RF5 (A)	 Long Roof	A16, A17, B5, C1, E1	5
RF6 (B+D)	 “Perabung Lima” Roof + “Limas” Roof	B1, D4, N1	3
RF7 (A+D)	 Long Roof + “Limas” Roof	B2	1
Total			60 units

**Figure 2. Results of the Roof Typology of Melayu Sarawak Traditional Houses**  
**Observation Analysis and Results of the Non-Structural Aspects : Elements of Window Designs**



Similar to the analysis of observations on non-structural aspects of the roof before element, researchers then classifies the type of casements according to its type codes, as can be seen from the figure 3.

Type of Casement	Short Window	Tall window
Code	WN1	WN2
Diagram		

**Figure 3. Classification of Window**

Below ( figure 4 ) are the results obtained from the analysis of the window typology of Sarawak Malay traditional house.

Analysis of results shows that the tall window typology records a total of 35 samples compared to a short window with only 25 samples. This indicates that the tall window is the design that is more prevalent in traditional Malay house compared to a short window.



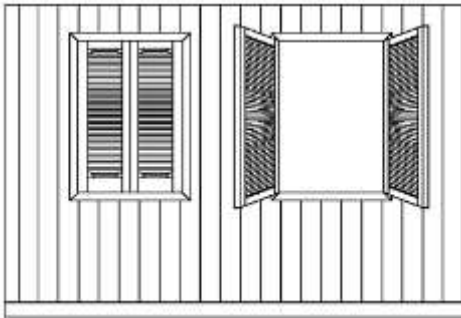
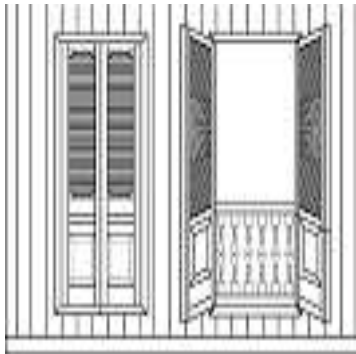
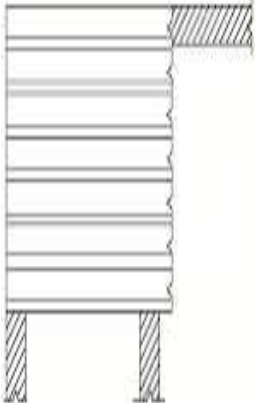
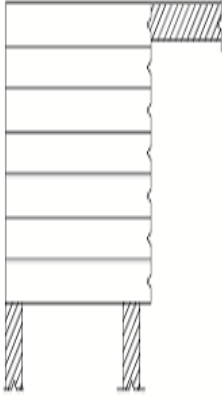

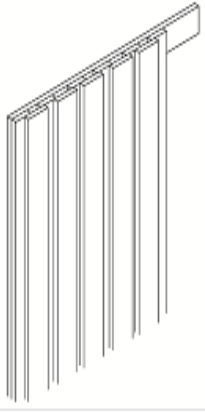
Type	Typology	Analysis Results Based On Samples	Amount
WN1	 <p>Short Window</p>	A1, A4, A5, A6, A7, A9, A12, A14, A15, B2, B3, B5, B8, C2, C3, D1, D2, D3, H2, H3, H6, K2, N1, N2, Q4	25
WN2	 <p>Tall window</p>	A2, A3, A8, A10, A11, A13, A16, A17, B1, B4, B6, B7, C1, D4, D5, E1, F1, F2, G1, G2, H1, H4, H5, J1, K1, L1, L2, L3, L4, M1, N3, P1, Q1, Q2, Q3	35
		Total	60

Figure 4. Results of Findings for Window Typology Research

**Observation Analysis and Results of the Non-Structural Aspects : Elements of Wall Designs**

Based on the analysis of the observation of non-structural aspects of wall elements, researchers then sorts the wall typologies according to its codes as can be seen from the figure below ( figure 5 ).

Type of Wall	“Papan Lidah Berasok” Wall	Papan Sisik Kasih” Wall	“Papan Berdiri” Wall	“Papan Tindih Kasih” Wall
Code	DG1	DG2	DG3	DG4
Diagram				

**Figure 5. Classification of Walls**

Figure 6 below is the results obtained from the typology analysis on Melayu Sarawak traditional houses walls.

Results of analysis on traditional house typology wall samples showed that the “papan berdiri” wall recorded the highest number of samples with 42 samples , followed by the “papan lidah berasok” wall with 14 samples . While the “papan sisik kasih” wall and “papan tindih kasih” wall each recorded sample marginally by three samples of “papan sisik kasih” wall and one for “papan tindih kasih” wall.

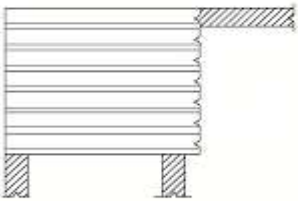
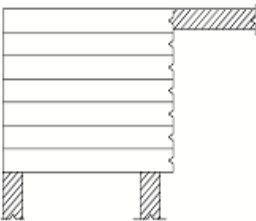
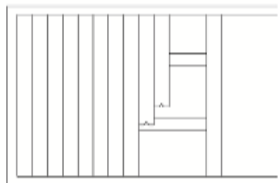
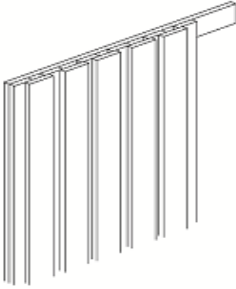

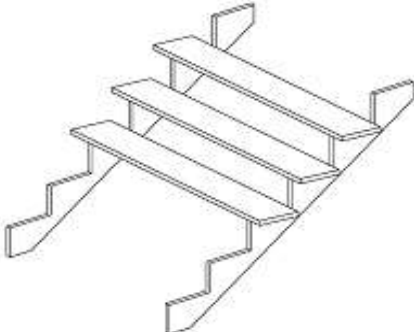
Types	Typology	Analysis Results Based On Samples	Amount
DG1	 <p>"Papan Lidah Berasok" Wall</p>	A6, A9, A10, A11, A13, A15, B2, B6, B7, H2, H6, J1, L1, L2,	14
DG2	 <p>"Papan Sisik Kasih" Wall</p>	L4, Q1, Q2	3
DG3	 <p>"Papan Berdiri" Wall</p>	A1, A2, A3, A4, A5, A7, A8, A12, A14, A16, B1, B3, B4, B5, B8, C1, C2, C3, D1, D2, D3, D4, D5, E1, F1, F2, G1, G2, H1, H3, H4, H5, K1, K2, L3, M1, N1, N2, N3, P1, Q3, Q4	42
DG4	 <p>"Papan Tindih Kasih" Wall</p>	A17	1
Total			60

Figure 6. Results of the Wall Typology of Melayu Sarawak Traditional Houses

**Observation Analysis and Results of the Non-Structural Aspects : Elements of Stairs Designs**

The next observation analysis towards the non-structural aspects which is the stairs, researchers sorts the elements into two categories of stairs typology namely perforated/ “bertebuk” stairs and “bertakak” stairs.

Types of Stairs	Perforated/ “Bertebuk” Stairs	“Bertakak” Stairs
Code	T1	T2
Diagram	 A 3D line drawing of a staircase with perforated treads. The treads are rectangular plates with a central rectangular hole. The risers are solid vertical plates. The stairs are shown from an isometric perspective, ascending to the right.	 A 3D line drawing of a staircase with 'bertakak' (notched) treads. The treads are rectangular plates with a rectangular notch cut out from the front edge. The risers are solid vertical plates. The stairs are shown from an isometric perspective, ascending to the right.

**Figure 7. Classification of Stairs**

Figure 8 represents the results obtained on the analysis of the stairs of a traditional Melayu Sarawak houses typology


Sample Code	Types of Stairs			
	Perforated/ "Bertebuk" (T1) =35		"Bertakak" ( T2 )=25	
				
A1			√	
A2	√			
A3			√	
A4			√	
A5			√	
A6	√			
A7			√	
A8	√			
A9	√			
A10	√			
A11			√	
A12	√			
A13	√			
A14	√			
A15	√			
A16			√	
A17	√			
B1			√	
B2			√	
B3			√	
B4			√	
B5	√			
B6	√			
B7	√			
B8			√	
C1	√			
C2	√			
C3	√			

Figure 8 (i). Results of Findings for Stairs Typology Research




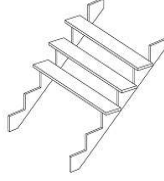






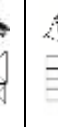





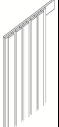


Sample Code	Types of Stairs			
	Perforated/ "Bertebuk" (T1)		"Bertakak" ( T2 )	
				
D1	✓			
D2	✓			
D3	✓			
D4	✓			
D5			✓	
E1			✓	
F1	✓			
F2	✓			
G1	✓			
G2			✓	
H1			✓	
H2			✓	
H3	✓			
H4	✓			
H5	✓			
H6	✓			
J1			✓	
K1			✓	
K2			✓	
L1	✓			
L2	✓			
L3			✓	
L4	✓			
M1			✓	
N1	✓			
N2	✓			
N3	✓			
P1			✓	
Q1	✓			
Q2	✓			
Q3	✓			
Q4			✓	

Figure 8 (ii). Results of Findings for Stairs Typology Research



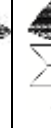

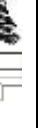





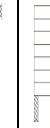




### Overall Results : Cross Case Analysis Regarding the Design of Roof, Window, Wall and Stairs Typology

After the results of each typology have been acquired, researchers then concluded the results for the four non-structural (architectural elements) typologies into figure 9 as follows.







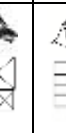

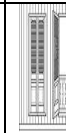



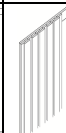
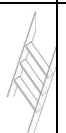
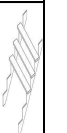
No.	Roof							Window		Wall				Stairs	
	RF1	RF2	RF3	RF4	RF5	RF6	RF7	WN1	WN2	DG1	DG2	DG3	DG4	T1	T2
															
A1	RF1							WN1		DG3				T2	
A2	RF1							WN2		DG3				T1	
A3	RF2							WN2		DG3				T2	
A4	RF1							WN1		DG3				T2	
A5	RF3							WN1		DG3				T2	
A6	RF4							WN1		DG1				T1	
A7	RF1							WN1		DG3				T2	
A8	RF1							WN2		DG3				T1	
A9	RF1							WN1		DG1				T1	
A10	RF2							WN2		DG1				T1	
A11	RF1							WN2		DG1				T2	
A12	RF1							WN1		DG3				T1	
A13	RF2							WN2		DG1				T1	
A14	RF2							WN1		DG3				T1	
A15	RF2							WN1		DG1				T1	
A16	RF5							WN2		DG3				T2	
A17	RF5							WN2		DG4				T1	
B1	RF6							WN2		DG3				T2	
B2	RF7							WN1		DG1				T2	
B3	RF1							WN1		DG3				T2	
B4	RF1							WN2		DG3				T2	
B5	RF5							WN1		DG3				T1	

**Figure 9 (i). Overall Results of the Cross Case Analysis of the Roof, Window, Wall and Stairs Typology**



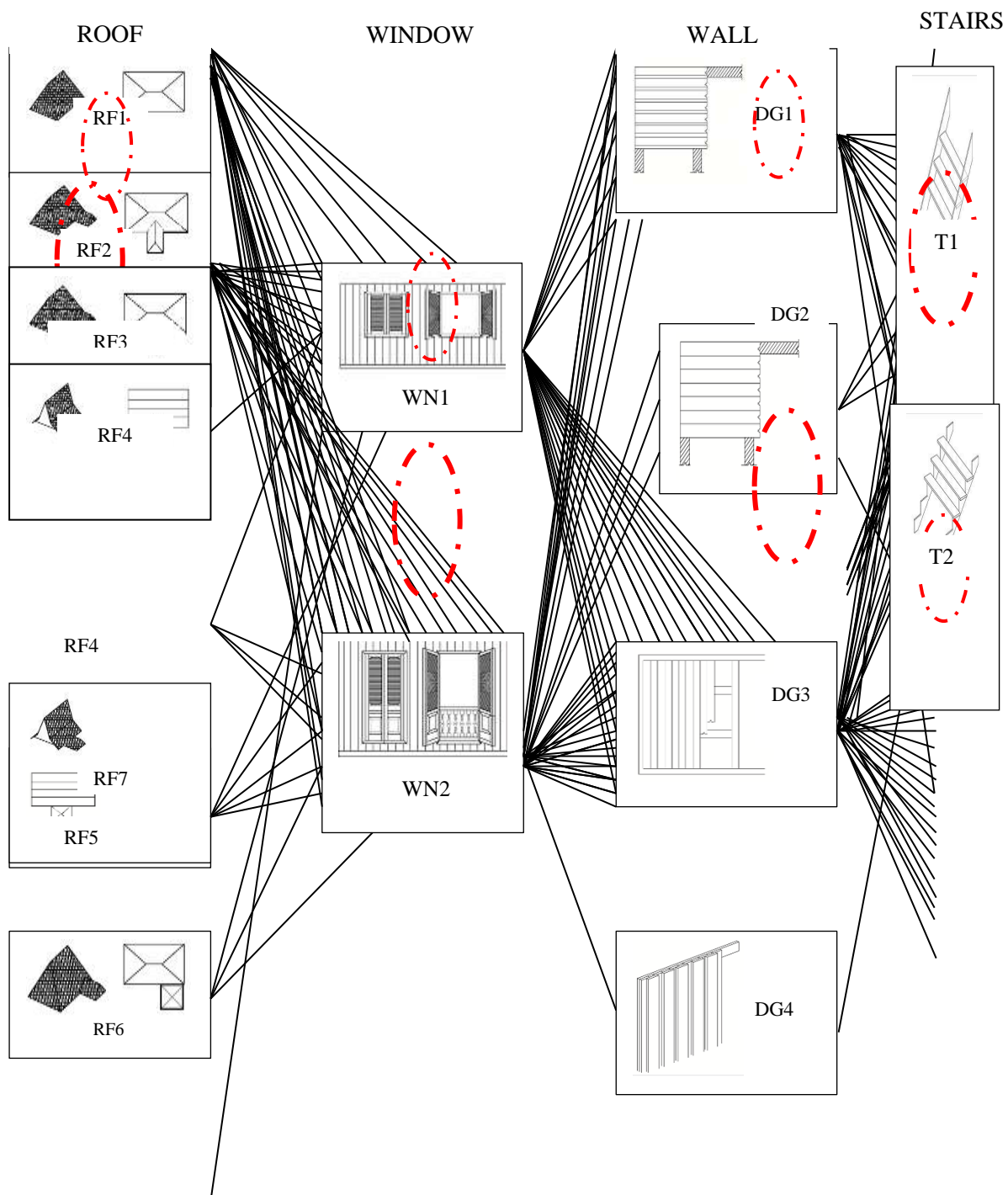
No.	Roof							Window		Wall				Stairs	
	RF 1	RF2	RF 3	RF4	RF5	RF6	RF7	WN 1	WN 2	DG1	DG2	DG 3	DG 4	T1	T2
															
B6	RF2							WN2		DG1				T1	
B7	RF4							WN2		DG1				T1	
B8	RF2							WN1		DG3				T2	
C1	RF5							WN2		DG3				T1	
C2	RF2							WN1		DG3				T1	
C3	RF2							WN1		DG3				T1	
D1	RF2							WN1		DG3				T1	
D2	RF1							WN1		DG3				T1	
D3	RF1							WN1		DG3				T1	
D4	RF6							WN2		DG3				T1	
D5	RF1							WN2		DG3				T2	
E1	RF5							WN2		DG3				T2	
F1	RF2							WN2		DG3				T1	
F2	RF2							WN2		DG3				T1	
G1	RF2							WN2		DG3				T1	
G2	RF1							WN2		DG3				T2	
H1	RF1							WN2		DG3				T2	
H2	RF2							WN1		DG1				T2	
H3	RF2							WN1		DG3				T1	
H4	RF2							WN2		DG3				T1	
H5	RF1							WN2		DG3				T1	
H6	RF2							WN1		DG1				T1	
J1	RF4							WN2		DG1				T2	
K1	RF4							WN2		DG3				T2	
K2	RF2							WN1		DG3				T2	
L1	RF2							WN2		DG1				T1	
L2	RF2							WN2		DG1				T1	
L3	RF2							WN2		DG3				T2	
L4	RF2							WN2		DG2				T1	

**Figure 9 (ii). Overall Results of the Cross Case Analysis of the Roof, Window, Wall and Stairs Typology**

No	Roof							Window		Wall				Stairs	
	RF 1	RF2	RF 3	RF4	RF5	RF6	RF7	WN 1	WN 2	DG 1	DG 2	DG 3	DG 4	T1	T 2
															
M1	RF1							WN2		DG3				T2	
N1	RF6							WN1		DG3				T1	
N2	RF2							WN1		DG3				T1	
N3	RF1							WN2		DG3				T1	
P1	RF1							WN2		DG3				T2	
Q1	RF1							WN2		DG2				T1	
Q2	RF2							WN2		DG2				T1	
Q3	RF1							WN2		DG3				T1	
Q4	RF1							WN1		DG3				T2	

**Figure 9 (iii). Overall Results of the Cross Case Analysis  
of the Roof, Window, Wall and Stairs Typology**

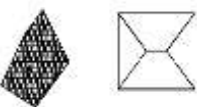
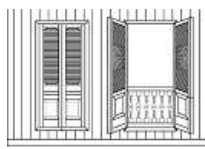
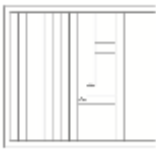


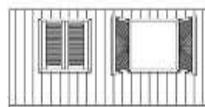
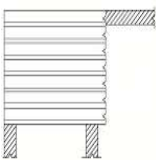

Researchers then build the model to show the relations between those typologies by the overall results of the cross case analysis obtained. The resulting model is shown in the figure 10 below.



**Figure 10 . Validation and Correlation Analysis Based on Observation and Interviews of Roofs, Windows, Walls and Stairs Typology ( Software: SPSS Text Analytics for Surveys )**

### Model Specification Relationship

Figure 11 below is a model derived from the analysis of the relationship between architectural elements of the roof, window, walls and stairs. The conclusion is then tabulated from the physical designs taken from the 60 samples of traditional Malay houses.

Design	Physical Designs ( Architectural Elements )			
	Roof	Window	Wall	Stairs
First Dominant Design	 “Perabung Lima” Roof	 Tall Window	 “Papan Berdiri” Wall	 Perforated/”Bertebuk” Stairs
Second Dominant Design	 “Perabung Lima” Roof + Silver Roof	 Short Window	 “Papan Lidah Berasok” Wall	 “Bertakak” Stairs

**Figure 11. First and Second Dominant Designs**

### Conclusion

Based on the analysis and the model resulting from this study, it can be seen that there are two dominant designs obtained. The first dominant design is the “perabung lima” roof , and its window design is a tall window with combination of the design of “papan berdiri” wall and perforated/ “bertebuk” stairs. While the second dominant design has an integration of “perabung lima” roof and silver roof. While the window design is a short window and its wall’s design are “papan lidah berasok” with a design of “bertakak” stairs.

### References

- Edric, O. L. B. (1983). Malay houses of Kuching, Sarawak. *The Sarawak Museum Journal*, 122 4 (120), 33-50.
- Hanafi, Z. (1996). *Pembinaan bangunan tradisional Melayu*. Kedah : Amber Solara Publication.
- Rasdi, M. M. T. (1996). *The architectural heritage of the Malay World : The traditional houses*. Universiti Teknologi Malaysia.
- Nasir, A. H. (1982). *Struktur bangunan rumah Melayu*. Kuala Lumpur: Utusan Melayu Bhd.

- Nasir A. H. (1985). *Pengenalan rumah tradisional Melayu Semenanjung Malaysia*. Kuala Lumpur: Loyal Press.
- Nasir A. H., & Teh, W. H. (1997). *Warisan seni bina Melayu*. Bangi: Universiti Kebangsaan Malaysia Press.
- Rashid, M. S. (2013). *Analysis of the aesthetical elements of the traditional Malay architecture of Malaysia*. Perak: UITM Press.
- Sheppard, M. (1969). Traditional Malay house in Terengganu and Kelantan. *Journal of the Malaysian Branch of the Royal Asiatic Society*, 42( 2), 39-70.
- Yahya, M. A. (1995). *Simbolisme dalam seni bina rumah Melayu Kelantan*. Selangor: Dewan Bahasa dan Pustaka.

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