

Assessment on Knowledge Level of Personnel Involved in Stamp Duty Valuation using Analytical Hierarchy Process

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ABSTRACT

Today, knowledge has become crucial which is able to form the basis of power and prosperity as well as skills. Meanwhile, experience has become an important asset and a prime matter to an organization. Based on this fact, the success of an organization is the beginning of knowledge held by personnel of the organization, and has become the backbone of the explosion of knowledge and experience that can benefit and maximize the impact in the organization. Generally, there are different kinds of knowledge that exist in stamp duty valuation which is sometimes taken for granted by some of the personnel involved. Meanwhile, the knowledge contains useful information for the future. There are also people who do not know that they are their experts on particular types of knowledge. Through sustainable training programmes; knowledge, skills, attitudes and personal values of a personnel can be improved in line with the demands and changes that occur within the scope of their careers. Performance improvement of knowledge and skills is a challenge for the organization in the effort to maintain competition in the global market. Therefore, training is regarded as essential in ensuring enhanced quality and increase the level of knowledge in improving the performance levels of personnels in the JPPH. Analytical Hierarchy Process (AHP) which has been used in this study, is to assess the level of knowledge of the personnel in Valuation and Property Services Department and also acts as the instrument that can be applied as a guide in the effort to improve the performance to fulfill the expectation and requirement of the personnel during the valuation process of the stamp duty.

Keywords: Knowledge, Stamp Duty Valuation, Analytical Hierarchy Process (AHP).

I INTRODUCTION

Nowadays, the stamp duty is one of the main sources of government revenue. The rate used is dependent on the market value of a property during when the transfer is completed. As provided under the First Schedule to the Stamp Act 1949 (Act 378),

this duty is based on a consideration of monetary value or the market value of the property, whichever is higher. The Valuation and Property Services Department (JPPH) has been appointed to conduct valuation for the purposes of stamp duty. Almost in every state in Peninsular Malaysia, the valuation for the purposes of stamp duty is carried out by the Valuation and Property Services Department (JPPH). Measurement of property that has been reported is for the purpose of stamp duty to be performed by Valuation Officers in Valuation and Property Services Department (JPPH).

It is beyond doubt that knowledge is crucial in carrying out valuation of stamp duty, starting from inspection activities of the property, analysing comparisons, making opinion of value, and eventually producing a detailed report on the value of the property that involved stamp duty. Each officer involved in conducting valuation of stamp duty has different level of knowledge about stamp duty, despite the fact that it is known that knowledge is something very complex and controversial and can be interpreted in various ways (Funk et al., 2004). The role of Valuation and Property Services Department (JPPH) in providing quality service to customers is dependent on the performance level of personnels consisting of Valuation Officers and Assistant Valuation Officers in performing a given task effectively and upholding good level of quality.

This paper will highlight the assessment on knowledge level of personnel involved in stamp duty valuation using AHP types of knowledge in stamp duty valuation, in which there are different types of knowledge in the handling process of the stamp duty for which it is not noticed by the valuation personnel.

This paper, however, will discuss regarding the three (3) objectives have been structured as follows; i) to identify the content of training programmes attended by personnel associated with the types of knowledge in stamp duty valuation, ii) determine the relative importance of the level of knowledge of the personnel involved in stamp duty valuation, and; iii) to measure the types of knowledge that has been acquired by the personnel in training programmes related to stamp duty valuation. This is intended to see to what extent the level of knowledge possessed

by the personnel assessment based on the types of knowledge involved in stamp duty valuation in accordance with three (3) stages during their inspection, comparable analysis and opinion of value. This paper also will explore on the assessment of knowledge level of personnel involved in stamp duty valuation using analytical hierarchy process (AHP).

II CONTENT ANALYSIS TO IDENTIFY THE TYPES OF KNOWLEDGE IN THE STAMP DUTY VALUATION

According to Krippendorff (2013), content analysis is a method that is widely used in research covering various fields and its application is so widely used (D'Agostino, 2011) and was also applied in the field of environmental research (Altaweel, 2012).

The content analysis has been used based on previous journals, articles and books related to the issue of this study. This is identified intellectually through assessment of previous research; the types of knowledge that form the assessment. The researcher for this study has listed the many types of knowledge that have been found as a result of the content analysis of previous literature for the purpose of the study. After the researcher has listed several types of knowledge which are likely to be involved in stamp duty valuation, so the researcher will use these data for the purpose of examining the validity.

This data is collected through interview with respondents that comprised of District Valuer, Valuation Officers and Assistant Valuation Officers who are experienced in stamp duty valuation in particular for types of knowledge necessary for the task. Results from the interview held in meeting were recorded and the data found will be interpreted in text forms for the purpose of qualitative content analysis of the data types that will be used systematically.

In this paper, the researcher has divided the types of knowledge involved in stamp duty valuation into three (3) main stages of the valuation process namely inspection, comparable analysis and opinion of value. For each stage of the evaluation process, the researcher has established seven (7) types of knowledge involved. The results of the content

analysis of the previous literature review and interviews were conducted in order to achieve the first objective. The researcher has found the findings are shown in Figure 1.

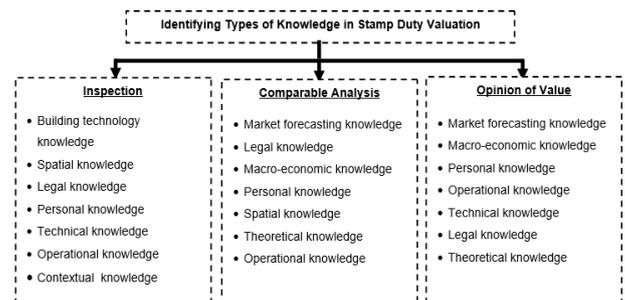


Figure 1. Types of Knowledge Involved in Stamp Duty Valuation

Each type of information that has been identified is the types of information needed by the personnel of the Department of Valuation and Property Services Department (JPPH) while they conduct the work of valuation.

III CONTENT ANALYSIS TO IDENTIFY THE TRAINING PROGRAMMES ATTENDED BY PERSONNEL ASSOCIATED WITH THE TYPES OF KNOWLEDGE IN STAMP DUTY VALUATION

This paper has identified the contents of the training programme which has been attended by personnel. It is associated with the types of knowledge in stamp duty valuation. In this study, researcher have used the method of content analysis using an inductive approach that involves coding (Burnard 1991, 1996; Hsieh & Shannon 2005) to analyse the content of each training programme which was attended by personnel of Valuation and Property Services Department (JPPH). The researcher used the book documents of the training programme published by the National Institute of Valuation (INSPEN) as an instrument for content identification of training programme attended by personnel associated with the types of knowledge in stamp duty valuation.

Training programme books published from 2011-2013 year will be used as reference material for the purpose of inductive content analysis in which researchers will use the coding of words or sentences that give meaning associated with the types of knowledge that has been gained from the First Objective.

The researcher has compiled a list of all types of training programmes conducted by the National Institute of Valuation (INSPEN) from 2011 until 2013 which was attended by respondents involved in this research, namely by the Valuation Officer and Assistant Valuation Officer involved in the work of valuation of stamp duty. Figure 2 has shown a summary of the analysis conducted by year

and type of categories involved as well as the overall respondents.

It can be observed that “personal knowledge” recorded the highest frequency for all levels of stamp duty valuation process. This shows that “personal knowledge” is the type of knowledge that is commonly applied to all types of training programmes conducted by the National Institute of Valuation (INSPEN). The importance of “personal knowledge” in improving an organization’s performance in carrying out valuation work is crucial for stamp duty exercise. This statement was supported by Lyons (2007) in which he stated that the quality of human resource performance often depends on the implementation of the competence skills and knowledge of an individual or personnel. This suggests that the ability of personnel performance depends on the skills and knowledge they have in order to achieve the main goal of the organisation they represent.

According to Bates (2001), training programme act as a tool for performance improvement in organisations with low skills and knowledge. This shows that there is interest in training to improve the skills and knowledge that is required on every member of personnel to ensure organisational excellence. Therefore, every individual believes that by adopting the skills and knowledge learned during the training exercise will improve their performance (Bates, 2001). In the findings of this study, it is evident “personal knowledge” is the most dominant and achieve the highest frequency in which each training programme organised by the National Institute of Valuation (INSPEN) implement a “personal knowledge” which is especially important in improving performance work and knowledge to ensure that the work undertaken can be executed with excellence. Figure 2 also shows that the “operational knowledge” and “technical knowledge” has a relatively high frequency value compared with other types of knowledge to another.

Good knowledge of skills for work refers to the knowledge of an personnel to perform work effectively and to achieve effectiveness and best workmanship (Yahaya et. al, 2011). With this, it can be reinforced that “personal knowledge” is a medium to enhance other types of knowledge involved in the valuation of stamp duty. The results of these research findings have been able to achieve the second objective of this study for which the data were obtained prove to be useful information for researcher to continue obtains the results for the next objective.

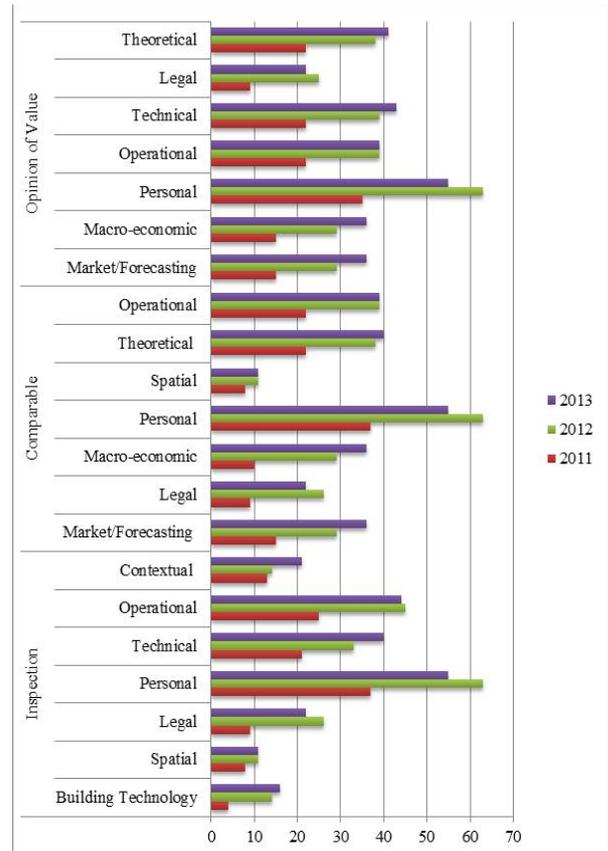


Figure 2. Total Frequencies of Contents of Training Programmes Attended by Personnel Related to Types of Knowledge in the Stamp Duty Valuation by Categories of Respondents

IV METHODOLOGY

This section will discuss the research methodology that has been applied to recover information that is needed to complete this research as depicted in Figure 3. In identifying the types of knowledge in stamp duty valuation, the researcher uses literature review of previous methods to identify the types of knowledge related to the valuation of stamp duty. To ensure the accuracy of information on the types of knowledge that have been classified as closely related to the valuation, an interview with the Valuation Officer has been carried out. This is to confirm the identification of the types of knowledge is valid and precise to be studied in-depth.

For the third objective, the method of AHP is used for the purpose of measuring the level of knowledge of the personnel involved in stamp duty valuation. Questionnaires were used as the main medium in obtaining the required information effectively for the purpose of obtaining a measure of the level of knowledge of each personnel member involved as respondents.

A. Research Scope

The focus of this study is on the personnel of the Valuation and Property Services Department (JPPH) involved in the work of stamp duty valuation

comprising the District Valuer, Valuation Officer and Assistant Valuation Officer as respondents.

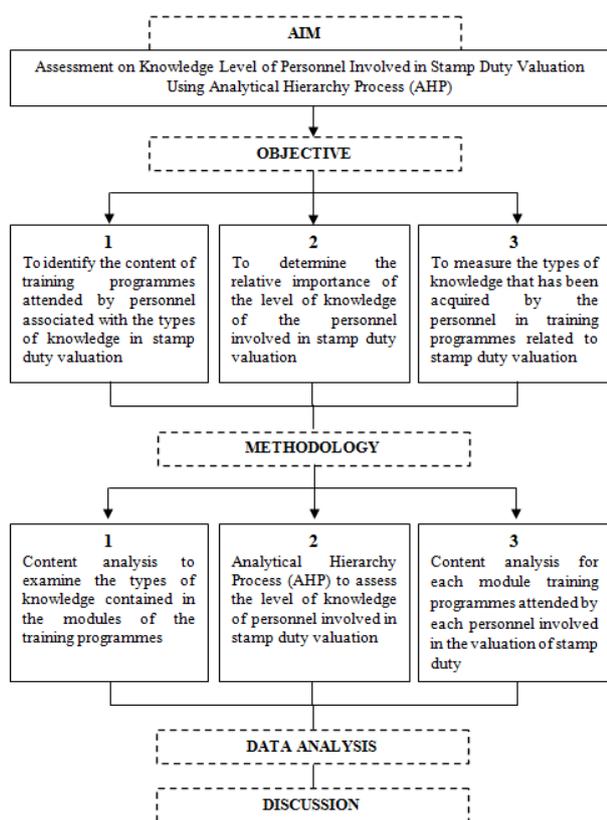


Figure 3. Research Methodology Process

B. Research Sampling

This study involves six (6) offices of the Valuation and Property Services Department (JPPH) based in Klang Valley.

C. Approaches or Models of Knowledge Level Measurement

In this study, some knowledge of measurement methods or models have been identified to ensure that the third objective of this study can be conducted with the research results obtained. The purpose of the literature review has been conducted prior to the context of measuring the level of knowledge, aimed at identifying the best method and suitable for use in generating accurate results and a solid substance in which it can contribute something positive as impact on researchers of the future. Among the measurement methods or models that have been studied by previous researchers are as in Table 1.

D. Analytical Hierarchy Process (AHP)

Analytical Hierarchy Process (AHP) is used as a method for measuring the level of knowledge of personnel in stamp duty valuation. The stages of the evaluation process include inspection, comparable analysis and opinion of value; used as the main

criteria and the types of knowledge involved in the process of stamp duty valuation. This serves as an important sub-criteria knowledge of building technology, spatial knowledge, legal knowledge, personal knowledge, technical knowledge, operational knowledge, contextual knowledge, market-forecasting knowledge, macro-economic knowledge and theoretical knowledge for the purpose of further evaluation using Analytical Hierarchy Process (AHP).

Table 1. Methods of Measurement Model or Prior Knowledge Level

Approach or Measurement Model	Elaboration
<i>Balanced Scorecard</i> Kaplan and Norton (1992, 1996)	<ul style="list-style-type: none"> Translating the organization's mission and strategy into a comprehensive set of performance indicators for strategic management and measurement. A focus on financial objectives as well as capacity building and acquiring intangible assets for future growth. Attempts to get a balance between the score card outside steps for shareholders and customers, and internal measures of critical business processes, innovation, and learning and growth. Balance is also sought between relatively objective outcome measures and subjective measures or performance considerations. The Company's performance is measured by indicators covering four major focus perspectives: <ol style="list-style-type: none"> The financial perspective; Customer perspective; The internal process perspective; and Learning perspective. Indicators are based on the strategic objectives of the firm.
<i>Value Chain Scoreboard</i> Lev (2001)	<ul style="list-style-type: none"> A matrix of non-financial indicators organized into three categories according to the development cycle: Discovery, Learning, Implementation and Commercialization.
<i>Intellectual Asset Valuation</i> Sullivan (2000)	<ul style="list-style-type: none"> Methods for assessing the value of Intellectual Property.
<i>Value Added Intellectual Coefficient (VAIC)</i> Public (1998)	<ul style="list-style-type: none"> Measure how much and how efficiently working capital and intellectual capital to create value based on the relationship of three main components, namely: <ol style="list-style-type: none"> Capital employed; Human capital; and The capital structure
<i>Analytical Hierarchy Process (AHP)</i> Saaty (1980)	<ul style="list-style-type: none"> Mechanical structured to compile and analyze complex decisions, based on mathematics and psychology. This technique is an approach to decision making that involves diverse selection criteria. Based on the importance of these criteria, comparing it to other criteria and determine the overall ranking of the alternatives will be formed. Analytical Hierarchy Process (AHP) method through the development of pairwise comparison matrix of pairwise comparisons was also applied in the determination of the marks weightage criteria.

The process of analysis, Analytical Hierarchy Process (AHP), which was introduced by Thomas Saaty (1980) is the best method in determining the vector which will be the basis for the respondents' propensity to the types of knowledge they have, where they feel more dominant knowledge towards the types on how knowledge is in the context of the stamp duty valuation. The analysis, Analytical Hierarchy Process (AHP) involves one (1) integral part of Part A. Part A is intended to identify the weightage of each criterion and sub-criteria and scoring each element in the assessment of the level of knowledge of personnel in training programmes related to the types of knowledge in stamp duty valuation. The analytical methods are used to determine the stages of the valuation process as well as the weightage for each type of knowledge involved in the training programme attended by

each personnel of Valuation and Property Services Department (JPPH).

The purpose of this rule is to learn about more information on score weightage that was found in the results of the questionnaire that can identify the level of knowledge of the types of knowledge dominant in their opinion. Appendix A of the questionnaire Analytical Hierarchy Process (AHP) is used as a medium to obtain information in order to achieve the objectives of this study. Analysis using the Analytical Hierarchy Process (AHP) also involves a perception survey which ranked the relative importance of the criteria in the evaluation process and sub-criteria of which types of knowledge in stamp duty valuation is using pairwise comparison method in Analytical Hierarchy Process (AHP).

The basic step in analyzing the level of knowledge of personnel in stamp duty valuation by six (6) Valuation and Property Services Department (JPPH) in Klang Valley area is to determine the process at every stage of this hierarchy as depict in Table 2. Each Valuation and Property Services Department (JPPH) was analyzed by the relative importance of each criterion to get a hierarchy of importance of each of these criteria by using Analytical Hierarchy Process (AHP). This process is made to put these criteria based on hierarchy to determine the priority chosen by the respondents to evaluate the importance of each of the types of knowledge involved in stamp duty valuation, to ensure that this analysis is accurate and relevant.

Table 2. Level 1 and Level 2 in the Analysis of the Relative Importance of the Criteria

Objective	Phase 1	Phase 2	Six (6) offices of Valuation and Property Services Department (JPPH)
Measure of the level of knowledge of personnel in stamp duty valuation	Inspection	Building Technology Knowledge	JPPH Shah Alam
		Spatial Knowledge	
		Legal Knowledge	
		Personal Knowledge	JPPH Klang
		Technical Knowledge	
		Operational Knowledge	JPPH Kuala Lumpur
	Comparable Analysis	Market/Forecasting Knowledge	
		Legal Knowledge	JPPH Putrajaya
		Macro-Economic Knowledge	
		Personal Knowledge	
		Spatial Knowledge	JPPH Bandar Baru Bangi
		Theoretical Knowledge	
	Opinion of Value	Operational Knowledge	
		Market/Forecasting Knowledge	JPPH Gombak
		Macro-Economic Knowledge	
		Personal Knowledge	
		Operational Knowledge	
		Technical Knowledge	
		Legal Knowledge	
		Theoretical Knowledge	

V. DATA ANALYSIS USING ANALYTICAL HIERARCHY PROCESS (AHP)

Analysis Analytical Hierarchy Process (AHP) will produce findings individually according to each individual or tendency of each personnel involved in this study and to identify the overall level of personnel in the Valuation and Property Services Department (JPPH). The evaluation process of different kinds of knowledge in stamp duty

valuation requires measuring the weight of each criterion whether more value or par value each other. The scale used in the evaluation of these weightage is to use a scale of Saaty's as shown in the previous table on Analytical Hierarchy Process (AHP) (Saaty, 1994).

A. Analytical Hierarchy Process (AHP) Analysis
 Saaty's scale uses pairwise comparison method in which it is a method of comparison of each other for each criterion based on one hundred and fifty (150) of the respondents to determine the relative importance and weightage of these criteria to the criteria Level 1. With this, the objective of which is targeted to achieve the third objective was successfully implemented and detailed results are acquired. The findings have been analysed in detail once again to provide an easy conclusion to explain the level of knowledge of personnel in Valuation and Property Services Department (JPPH) for all respondents involved in this study, which can be referred to in Table 2.

Table 3. Results on Eigenvector Calculation Criteria – Overall Process Level 1

	53.6254	66.5863	40.4266	Total	Weighting
Inspection	53.6254	66.5863	40.4266	160.6383	0.3570
Comparable Analysis	45.2070	27.3662	53.6445	126.2177	0.2805
Opinion of Value	51.1508	56.0275	55.8513	163.0296	0.3623
				449.8856	1

Based on Table 3, it shows the final stage of pairwise comparison method for making comparisons in determining the relative importance of the criteria in the valuation process stage in the study area. As a result, the criteria are those to obtain the highest weightage is the criteria "opinion of value" that is 0.3623, while the criteria to obtain the lowest weightage is the criteria "comparable analysis" of 0.2805 followed by the criteria "inspection" of 0.3571.

The criterion "opinion of value" got the highest weightage following the criterion respondents which has concerned about this than the other criteria in ranking of stamp duty valuation process by the Valuation and Property Services Department (JPPH) of Klang Valley area as criterion for "opinion of value". The elements of different types of knowledge are very important for the respondent to conduct the valuation process involving different types of knowledge such as market/forecasting knowledge, macro-economic knowledge, personal knowledge, operational knowledge, operational knowledge, technical knowledge, legal knowledge and theoretical knowledge.

In the "opinion of value", we can state that based on the results obtained, this criterion is very important compared to the other criteria of personnel in the Department of Valuation and Property Services

Department (JPPH) involved in the valuation of stamp duty, for one's knowledge of valuer to the "opinion of value" is very high. These findings are supported by a statement, from Ismail and Buyong (1998), which states that the value of property acquired from a real estate valuer must also be accepted by the court and if there arises any disagreement or dispute of any valuation or substantially the same, able to defend their decision in court. It has been shown that the "opinion of value" is very important for valuer in the performance of their valuation work.

In addition, the criterion "inspection" got the second highest weightage criteria due to the importance of knowledge as a kind of building technology knowledge, spatial knowledge, legal knowledge, personal knowledge, technical knowledge, operational knowledge and contextual knowledge as an important asset to ensure that the valuation is done correctly and according to the latest market developments in the specification. At the same time, the valuation by Valuation and Property Services Department (JPPH) can reduce the number of appeals in revaluation and can improve personnel effectiveness.

The results obtained are of interest to respondents' perceptions of the level of stamp duty valuation process, in determining the criteria for evaluating the level of knowledge of the personnel involved in stamp duty valuation. Figure 4 shows clearly the position or ranking each of these criteria for Level 1, Criteria.

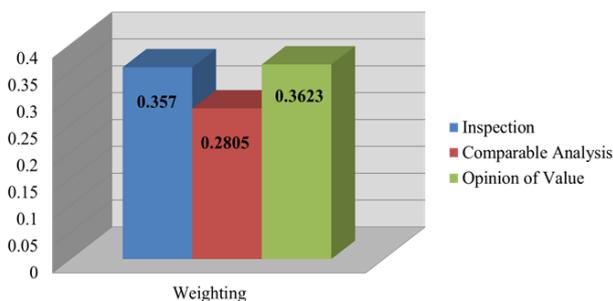


Figure 4. Overall Ranking of Weighting Criteria Level 1

Through this pairwise comparison method, the analysis continues using the same method for the next stage of comparing the relative importance of each criterion in Level 2. These criteria which are in Level 2 are involved in sub-criteria for Level 1. This process is based on hierarchy, namely by using Analytical Hierarchy Process (AHP). Thus, each of the criteria and sub-criteria necessary to obtain the weightage according to the relative importance of these rules, in the hierarchical method of Analytical Hierarchy Process (AHP). The pairwise comparison process is similar to that done in Level 1. The results of the criteria analysis and calculations are made.

Table 3 shows the ranking of each sub-criterion with the relative importance of each sub-criterion in Level 2 (Inspection).

Table 4. Results on Eigenvector Calculation Sub-Criteria Level 2 Overall – Inspection

	61.2326	90.9770	52.8768	37.5674	29.3555	24.4973	22.2489	Total	Weighting
Building Technology Knowledge								318.7555	0.3036
Spatial Knowledge	14.7589	16.9820	52.8275	37.7474	29.3580	24.4981	22.2495	198.4223	0.1890
Legal Knowledge	14.7616	8.5243	10.9183	37.8650	29.5795	24.4584	22.2255	148.3326	0.1413
Personal Knowledge	14.7826	8.2723	8.1769	9.0427	30.2812	24.8992	22.5615	118.0164	0.1124
Technical Knowledge	14.8268	8.3973	8.2472	9.2105	7.8167	24.8750	22.8927	96.0662	0.0915
Operational Knowledge	14.7299	8.3309	8.2823	9.2105	11.7825	8.0425	22.5188	82.8974	0.0789
Contextual Knowledge	14.8703	8.4559	8.6281	9.3105	11.7825	18.6841	15.4528	87.1842	0.0830
								1049.6750	1

Table 4 and Figure 5 show the results of the calculation of pairwise comparisons in Level 2 (Inspection) for six (6) Valuation and Property Services Department (JPPH) offices in the Klang Valley. The table shows the criterion for "building technology knowledge" which is having the highest ranking of importance that weights 0.3036, while the criteria for "operational knowledge" is the lowest importance weight of 0.0789. The criteria "spatial knowledge" has the second highest weightage of 0.1890.

The criteria "legal knowledge" gained the third highest weightage of 0.1413, while the criterion "personal knowledge" of 0.1124 obtained the fourth highest weightage criteria followed by "technical knowledge" and "contextual knowledge" in fifth and sixth places respectively with a total weight of 0.0915 and 0.0830.

The criterion "building technology knowledge" has got the highest weightage and this has proven that this type of knowledge is the most dominant and has been given priority in researching the content of the training programme conducted by the National Institute of Valuation (INSPEN) to personnel of the Valuation and Property Services Department (JPPH), while a stamp duty valuation process is in the "inspection". These findings are reinforced by statements of INSPEN (2014) that relate to building knowledge which involves valuation with excellent knowledge of all aspects of construction technology, materials used in construction of buildings and other concerns. Often this knowledge is one of building technologies related materials and technologies as well as knowledge of health and safety aspects of a building.

Knowledge relating to "technical knowledge", "contextual knowledge", and "operational knowledge" are to be given appropriate concern by the National Institute of Valuation (INSPEN) in controlling the content of the training programme to enhance knowledge to ensure that the knowledge acquired by personnel of Valuation and Property Services Department (JPPH) can be balanced, and

this eventually can produce something useful for the future.

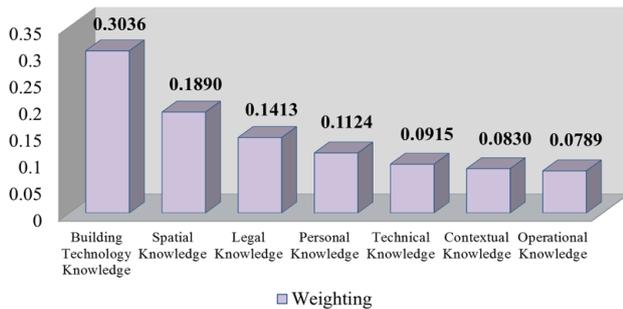


Figure 5. Overall Ranking Sub-Criteria Weightage Level 2 – Inspection

The results of pairwise comparison analysis for sub-criteria Level 2 (Comparable Analysis) is also shown in Table 4. This ranking is assessed based on the relative importance of each sub-criterion in the types of knowledge involved rated that is “comparable analysis” where it is very important in stamp duty valuation process.

Table 5. Results of Eigenvector Calculation of Sub-Criteria Level 2 Overall – Comparable Analysis

								Total	Weighting
Market/Forecasting Knowledge	60.1153	88.5735	51.6327	36.9265	29.6284	25.4102	22.6846	314.9712	0.3000
Legal Knowledge	15.2855	17.0678	52.7597	37.6531	28.6568	24.0375	21.8184	197.2988	0.1879
Macro-economic Knowledge	15.2882	8.6108	11.1181	38.0692	29.0073	24.1950	21.9120	148.2006	0.1411
Personal Knowledge	15.1402	8.3588	8.2237	9.1175	30.5541	24.7767	22.3657	118.5367	0.1129
Spatial Knowledge	14.8317	9.1948	8.6936	9.2897	8.0263	24.4708	22.8931	97.4000	0.0927
Theoretical Knowledge	14.5940	9.1284	8.5917	9.3992	12.1261	8.2744	22.7192	84.8330	0.0808
Operational Knowledge	14.7062	8.9867	8.9375	9.4992	11.9569	18.7898	15.5576	88.4339	0.0842
								1049.6740	1

Table 5 shows the results of pairwise comparisons for the evaluation of the relative importance weightage of sub-criteria in Level 2 (Comparable Analysis) for six (6) Valuation and Property Services Department (JPPH) offices in the Klang Valley. Results show that the criterion of “market/forecasting knowledge” gained the highest weightage in the evaluation process whereby 0.3000 is at the “comparable analysis”, this kind of knowledge is dominant where it has been proven that any stamp duty valuation made by the officers have a very good information on this type of knowledge. Nawawi (2005) also states that “the market/forecasting knowledge” is very important in the evaluation process as it is generally more in touch with the market and can provide assistance to Valuer in making market forecasts.

The criterion of “legal knowledge” gained the second highest weightage of 0.1879, while the criteria for “macro-economic knowledge” and “personal knowledge”, each has a weightage of 0.1411 and 0.1129. The criteria “spatial knowledge”, “operational knowledge” and

“theoretical knowledge” has obtained the lowest score of 0.0927, 0.0842 and 0.0808.

Therefore, it can be seen here that three (3) types of knowledge with the lowest score weightage should be given greater importance in determining the content of the training programme in the future and can improve the performance of personnel in conducting the evaluation process at this stage. Figure 6 shows a further explanation on the ranking weightage for each sub-criterion in Level 2 (Comparable Analysis).

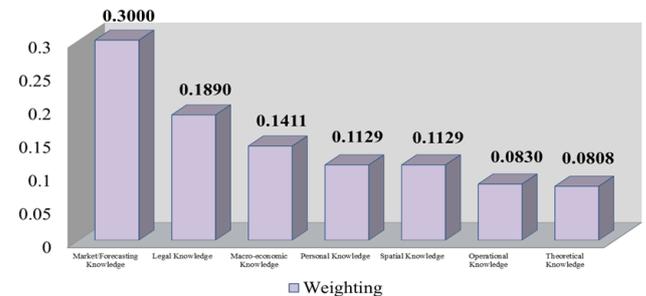


Figure 6. Ranking of Weightage on Sub-Criteria Level 2 Overall Comparable Analysis

Analysis of the relative importance of weightage of sub-criteria in Level 2 (Opinion of Value) also involves sub-criteria comprising market/forecasting knowledge, macro-economic knowledge, personal knowledge, operational knowledge, technical knowledge, theoretical knowledge and legal knowledge.

Assessment methods using pairwise comparisons to obtain the relative importance of each sub-criteria are shown in Table 4, based on respondents’ perceptions of the types of knowledge involved sub-criteria for the level of stamp duty valuation process for Level 2 (Opinion of Value).

Table 6. Results of Overall Eigenvector Calculation Sub-criteria Level 2 – Opinion of Value

								Total	Weighting
Market/Forecasting Knowledge	60.1985	89.8114	52.2497	36.9046	28.8787	24.0262	21.7266	313.7957	0.2989
Macro-economic Knowledge	14.4251	16.6347	51.9402	37.7193	28.8801	24.0574	21.7272	195.3840	0.1861
Personal Knowledge	14.6608	8.6988	10.8329	37.2484	29.5169	24.2359	22.1365	147.3302	0.1403
Operational Knowledge	15.1921	8.5597	9.2784	9.2036	30.3842	25.6093	22.5347	120.7620	0.1150
Technical Knowledge	15.2106	8.8191	8.5586	10.7135	8.7760	25.5487	23.2538	100.8803	0.0961
Legal Knowledge	15.0211	8.5727	8.5413	9.0822	11.7603	8.0603	23.2538	84.2917	0.0803
Theoretical Knowledge	15.2541	8.8447	8.5586	9.0822	11.7603	18.4167	15.3181	87.2327	0.0831
								1049.6770	1

Table 6 shows the results of analysis of the relative importance of weightage of sub-criteria for Level 2 (Opinion of Value). Perception of respondents indicated the criteria “market/forecasting knowledge” has the highest weightage over other criteria, that is 0.2989 followed by criterion “macro-economic knowledge” that has the second-highest weightage that is 0.1816. “Market/forecasting knowledge” had the highest scores in which

knowledge of this type is dominated by personnel at the Valuation and Property Services Department (JPPH) in the process valuation of stamp duty.

“Macro-economic knowledge” was the second highest of the value associated with the development of the world economy in the present example, the current interest rate charged by the Central Bank, recent policy and other relevant impact on the value of the property. Blanchard and Olivier (2000; 2011) have stated that the “macro-economic knowledge” is the most important knowledge in the field of economics.

The criteria that has the third highest weightage and is the fourth highest are “personal knowledge” and “operational knowledge” with a weightage of 0.1403 and 0.1150. In this stage, the criteria for “technical knowledge”, “theoretical knowledge” and “legal knowledge” is the most important criteria that must be addressed by the National Institute of Valuation (INSPEN) in handling the content of the training programme for the personnel of Valuation and Property Services Department (JPPH). The lowest weightage is “legal knowledge” of 0.0803 followed by the “theoretical knowledge” of 0.0831 and “technical knowledge” at 0.0961. Figure 7 below shows clearly the ranking sub-criteria for Level 2 (Opinion of Value).

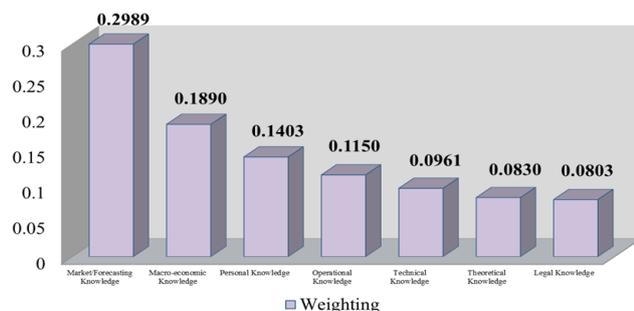


Figure 7: Ranking of Overall Sub-Criteria Weightage Level 2 – Opinion of Value

VI. CONCLUSION

The findings of the study have proven all the objectives in this study and hence, have been achieved. All the features and criteria for the types of knowledge involved in the stages of the evaluation process has to be adapted according to the needs of personnels of Valuation and Property Services Department (JPPH) in the Klang Valley area in improving the quality of the achievement of better knowledge in accordance with the requirements of the country, Malaysia, to generate international public service at the international arena.

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