

## **Comparison of Job Evaluation Methods: Implications for the Salaries Design in Publishing Company**

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**Abstract -** Job evaluation is an crucial factor in compensation design because it relates to issues of equity and worker satisfaction. Case study at the Human Resources Department of a publishing company show that there is a problem with the compensation system that is felt to be unfair. The existing method used in the company was job classification without considering workload. Therefore, it is important to determine the job relative value as a reference for designing compensation. This study compared two job evaluation approach using point system method: (1) an adjusted factors and weight; (2) standardized factors and weight using Cullen Egan Dell. Finding in this study shows that different approach in conducting the job evaluation results different number of job clusters. It will affect the proposed compensation design, which from the first approach (1) requires an increase in compensation budget of 4.9% from the existing budget, while second approach (2) requires a higher budget allocation of 11.6%. Based on the results of the comparison, company can choose alternatives that align with availability of budget, business strategies and compensation strategies to retain employees or recruit potential prospective employees.

### **Introduction**

Rapid change of technology in all sector industries became main reason of organizational change in many companies. PT XYZ, a publishing company, also undergoing change in its organization. A number of challenges faced by publishing based company, including change of people's lifestyles from the original reading of print media to digital media, which in turn will change the company's business strategy. A survey held by Nielsen Indonesia, said there was a decline in the number of print media (magazines) since 2012 to 2017 by 41% and newspapers by 3%. There was actually no decline from the numbers of media readers, despite changes to the platform media of reading. It was also revealed that the generation Z segment preferred to read in digital media [1]. Thus, conventional publishing company, including here PT XYZ, is required to be able to make changes by considering the digital media platform in its media business.

The existence of change can trigger feelings of distress, especially when employees are not equipped with adequate information, support and consulting services [2]. This lack of support will lead to employee job dissatisfaction and subsequently cause of employee turnover. Justice or fairness issues, giving a fair compensation for example, have an impact to job satisfaction [3,4]. Some employee of PT XYZ perceived that the compensation system was unfair and there was no clear explanation about the policy of that. Of course, it increase of job dissatisfaction on employee of PT XYZ. Effective compensation can have a positive impact on employee satisfaction and further increases employee retention [5,6].

Another challenge of publishing company is related to talent management. A number of studies showed relation between compensation, job satisfaction and employee retention [6]; salary with retention [7,8]. Increasing retention especially for high performance employee that can be done by offering

competitive compensation. Some types of compensation that are still high demand include base salary, merit pay and year-end bonus [8]. Issue of justice in providing rewards included in compensation is also the factor that determines employee job satisfaction [7,9] and improve expected outcomes [10].

Evaluating jobs within organization could be an good effort to create fair compensation system. Job evaluation is the process of evaluating the relative value or contribution of various positions for a company [11]. There are several methods to execute job evaluations, including ranking methods, job grade, point system and factor comparison [12]. Point system and factor comparison methods are an analytical job evaluation schemes [13]. The point system is most widely used by company because its advantages, such as more objective and better explain the differences in each position based on existing criteria [14].

Some studies showed the effectiveness of job evaluation implementation using point factor systems at the operational level [15,16,17], and at managerial level [18]. However, there is still limited research that compares the factors, weighting on point factors and their impact on the company's budget and compensation strategies. This study aims to compare the compared two approach in job evaluation: (1) adjusted factors and (2) standardized factors from Mercer Cullen Egan Dell (CED). Both of the method are point factor system, but Mercer CED have more complex methodology but more easier to use by companies because it clear and consistent guidelines. How was the relatives positions value which is using both method impact the basic salary design of PT XYZ? The results of this study are expected to provide some alternatives about compensation strategy should be taken by management based on its availability budget and business strategy.

## **Literature Review**

**Job Evaluation.** Job evaluation is a systematic process to compare inter jobs internally within organization. Objectives to evaluate job are providing a base for pay structure in the company, and basic policy for other compensation such as bonus policy and incentives. The formal process of the evaluation is more acceptable than informal process and systematic process will enhance issue of fairness and transparency in the compensation process. There were two job evaluation schemes to value the jobs : analytical and non-analytical schemes. Both, especially analytical, are used to grade job so organization can make some decision about salary/ employee payroll. Some features of analytical job scheme are systematic, judgemental, concern to the job not person, and concern with internal relatives [13]. Point factor rating and factor comparison are example of analytical job evaluation scheme.

**Point System.** Point system is most common of the analytical job evaluation schemes that breaking jobs into some factors, subfactors or key elements. Some stages should be used to evaluated the job in point system. First stage is select a number of job factors, including in this factors are characteristics of job demands or requirements such as responsibility, interpersonal skills, education. These factors also called as compensable factors. Next stage is design factor plan, that divided factors into hierarchical of levels. Definition of each level should be clear, so evaluator can decide the level applies in job to be evaluated. After design factor plan, evaluator analyze the job or role. Purpose of this stage is to gather factual evidence, usually from job holder, so evaluator can decide what level the factor exist on a job. Panels studies and made agreement about the level of the factor, the score of each factor and total score.

Some studies tried to determine factors that will help in the identification of relative job value (compensable factors). Byars and Rue [19] revealed factors that most common used by organization to value the job are responsibility, working skills, expertise, effort and work conditions. Meanwhile [13] suggest decision making, interpersonal skills, responsibility and other financial or non-financial resources, emotional demands and physical demands. Other studies suggest creativity, responsibility, working experience, education, working skills, discipline, and work results [20,21].

Other studies focus on how it impact to organization budget for payroll or compensation planning. An example of compensation planning using the point rating system supported by analytical hierarchy process was done by [15]. In their research on PT. Pabrik Kaos Aseli, the jobs in PT. Pabrik Kaos Aseli were broken down—by doing job analysis—into different compensable factors (education, complexity, responsibility, effort, and working environment). Then, the payment structure was made by using the 1:3 interpolation method. Another research from [16] aims to analyze and evaluate the positions in a textile company using the same method. The output are job description, job specification, and basic salary for each position in the textile company. The proposed basic salary for the positions increased by 10.24% except for 8 positions—that were already excessive in salary based on the point factor system.

Study from [22] compared different weighting methods. The payment rating was ranked, and the order of 52 job samples in the study was the same for all of the weighting method. But once the job payment was calculated, the pay grades were different. The next finding shows that certain jobs both in male and female dominated ones can benefit from different weighting methods. The last finding and also the conclusion of the research shows that the multiple regression weighting resulted in idiosyncratic payment structure that is difficult to explain to the employees [22].

**Cullen Egan Dell Method.** The Cullen Egan Dell method is a method developed by the Mercer consulting company. The Cullen Egan Dell method is a quantitative valuation method and uses factors as assessment material. Cullen Egan Dell method evaluates 3 (three) position factors ( expertise as input, judgment as a process and accountability as output of a position). Expertise as input measures position requirements including knowledge and expertise gained from education, training, and experience needed to do work. Judgment as part of the process is a job processing component. Defined as the complexity of the task, the basic framework of work operations, and the need for problem solving. And accountability as output is interpreted as a result of work, an impact on organizational goals, freedom to decide the level of position and authority possessed by the position [23]. And these three factors have derivatives in the form of 8 (eight) subfactors which are the main ingredients for the job evaluation.

## **Methodology**

The object of this research is in the HR department of a publishing company. The steps taken in this study are divided into three stages, namely the initiation, the job evaluation, and the proposed salary design. In general, the scheme of research steps taken as follow: 1) Initiation: develop assessment team, determination of the job to be evaluated. 2) Job evaluation: conduct job evaluation using point system in two alternatives (adjusted of factors and subfactors form [19]; standardized factors with Cullen Egan Dell [23]), 3) Proposed salary design: regression analysis, external pay survey.

In the initiation stage, the assessment team and jobs will be determined to be evaluated. The assessment team in this study consisted of three HR field managers who understood and were familiar with the scope of work in human resources of the company. There are nine positions in the HR department that will be evaluated. The second stage is conducting a job evaluation. This study used point system job evaluation method, because this method is easy to implement, can result in group classification of the job, and can be used to evaluate a large number of jobs [24]. This method has been widely used in various previous studies [16, 18 19, 22]. One of the issues in the point system method is to determine the factors and subfactors to be assessed, and their weighting. In this study there are two alternatives approaches that will be used relating to factors evaluated, namely (1) the first approach is adaptation factors and subfactors from [19], with weighting adjusting to the existing conditions of the company. Adaptation of factors from [19] is also used in other studies [16,18]. While the second approach (2) uses Cullen Egan Dell (CED), where there are standardized factors and subfactors, as well as weighting that can be directly used. The CED method is developed by [23] and has been widely applied to company [25] and governments [26]. After the factors and subfactors, and their weighting is

determined, the complete job description document for each job is shared within the assessment team members. The assessment team rated each job using two alternatives approach independently.

The third stage is to design proposed salary. This proposed design is obtained by conducting a regression analysis to determine the relationship between the relative value and the existing salary received. Regression analysis is done for relative values of the two approaches that have been done before. The results of the regression analysis then compared with external salary surveys that work in a similar industry. Based on these comparisons, two alternatives salary proposals can be obtained that can be applied in the company.

## Results and Discussions

One of the critical issues in conducting job evaluation is choosing the factors that will be used to evaluate the job, which varied [24]. There are four factors used to evaluate a job : responsibility, skills, working conditions, and business. Based on these four factors, the weighting can be determined according to each company condition [19]. The second alternative is to use standardized factor, subfactors, and weighting, which have been developed by independent consultants. One of the standard that has been widely used is Mercer Cullen Egan Dell (CED), because it can produce a consistent system to assess various types of work and can provide the same results (close to 99%) for a job even though evaluated by different evaluators [26]. There are three factors that need to be evaluated based on CED. The expertise factor as input, the judgment factor as a process, and the accountability factor as the output of a job. Comparison the factors to be evaluated from the two alternatives can be seen in following Table 1.

**Table 1 Comparison of Job Evaluation Factors**

Evaluation Perspective	Job Evaluation Factors	
	Adaptation factors from [19]	Standardized factors by Cullen Egan Dell [23]
Input	Expertise	Expertise
Process	Effort Working Conditions	Judgment
Output	Responsibility	Accountability

Next is determine rating score for each factor and subfactors based on the two alternatives approach for the nine jobs that will be evaluated. The results of relative value obtained can be seen in the following Table 2. Based on the calculation of the job relative value (JRV) using two alternatives, there are similarities and differences that are generated. The highest JRV according to the two alternatives is Head of Department, while the lowest JRV is Head of the Subsection level. However, the two alternatives produced two different grades of job classification. Alternative 1 resulted in two grades of job classification, where group one consists of Head of Department and Head of Section with JRV score ranging between 307-372, while the second group consists of Head of Subsection with JRV score ranging from 219-298. Meanwhile, the alternative 2 obtained three grades of job classifications, namely the Head of Department level, Head of the Section level, and Head of the Subsection level. Differences in grade of job classification have an impact on the pay grade system that might be generated in the design of the salary scheme.

In the alternative 2, the difference of JRV score between the Head of Department and the Head of Section is quite significant, because the two jobs have different specification levels on factors of expertise and accountability, where the Head of Department has a higher level than Head of Section. Using the standard Cullen Egan Dell, each difference in level for the factors assessed has a significant difference in scores, so that it has an impact on the results obtained. While in alternative 1, the two positions were considered to have high differences only in the factors of responsibility, so the relative value of positions obtained was not significantly different. In addition, because weighting is determined based on the real

conditions of the research object so that there are no significant differences in weight between the factors (the weight is between 20-35%).

**Table 2. Comparison of Job Relative Value**

No	Job title	Job Code	Job relative value (JRV)	
			Alt 1	Alt 2
1	Head of Human Resources Department	HHRD	372	636
2	Head of Planning and Development Section	HPDS	307	479
3	Head of Industrial Relations Section	HIRS	314	429
4	Head of Service Payment Section	HSPS	328	463
5	Head of Planning Subsection	HPS	256	265
6	Head of Development Subsection	HDS	224	265
7	Head of Industrial Relations Settlement Subsection	HIRSS	298	185
8	Head of Employee Welfare Subsection	HEWS	219	201
9	Head of Payroll Subsection	HPSS	272	201

Note: Alternative 1 based on adaptation factors from [19]; Alternative 2 based on standardized factors Cullen Egan Dell (CED)

Based on the two schemes of JRV score, the proposed salary design generated using regression analysis can be seen in the following Table 3. In the proposed design from regression analysis, there are several proposed salary that lower than the existing salary (in the green circle condition). In accordance with the principle of compensation, when there is a change in the salary scheme, the proposed salary can not decrease compared to the existing salary received. Therefore, in these conditions, the proposed salary value does not change from the existing condition.

**Table 3. Salary Design Alternative**

No	Job Code	Existing Salary	Proposed Salary for Alternative 1 ( $y = -1.433.518 + 24.862 x$ )	Proposed Salary for Alternative 1 ( $y = 2.451.021 + 8434,16 x$ )
1	HHRD	Rp.7.815.146	Rp.7.815.146	Rp.7.815.146
2	HPDS	Rp.6.094.500	Rp. 6.199.116	Rp. 6.490.983
3	HIRS	Rp.6.094.500	Rp. 6.373.150	Rp. 6.069.275*
4	HSPS	Rp.6.094.500	Rp. 6.721.218	Rp. 6.356.037
5	HPS	Rp. 4.011.337	Rp. 4.931.154	Rp. 4.686.031
6	HDS	Rp. 4.011.337	Rp. 4.135.570	Rp. 4.686.031
7	HIRSS	Rp. 4.011.337	Rp. 5.975.358	Rp. 4.011.337
8	HEWS	Rp. 4.011.337	Rp. 4.011.260*	Rp. 4.146.287
9	HPSS	Rp. 4.011.337	Rp. 5.328.946	Rp. 4.146.287

Note: (\*) proposed salary is lower than existing salary

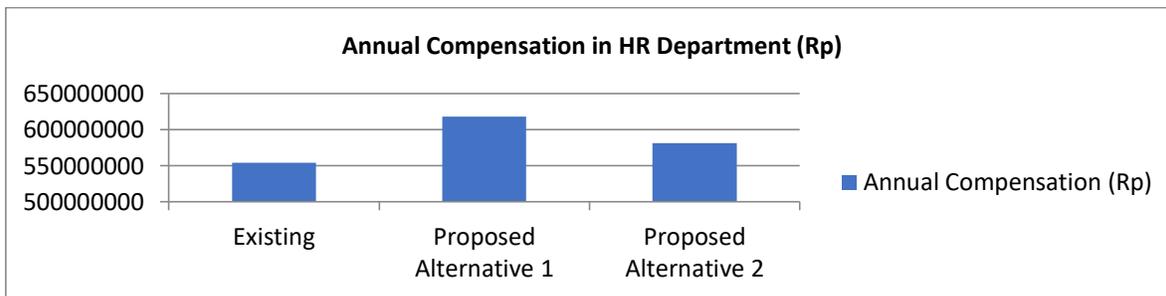
The compensation plan should also need to consider justice from external aspects. External justice refer to whether the salary or wages paid by a company are fair compared to the wage level paid by similar companies. Therefore it is necessary to conduct an external survey of similar work at different companies. But obtaining external data that can be used to compare is not easy, because there are differences in the job description and job specifications for each company. Therefore, the comparisons only made for several jobs, can be seen in Table 4. From the external survey, the salary range offered by the company on the existing conditions is actually quite competitive compared to competitors. Companies offer an average salary ranges compared to external surveys.

**Table 4. Comparisons between External Survey Salary & Proposed Salary**

No.	Job Code	External Survey		Existing Salary	Proposed Salary	
		Minimum Salary	Maximum Salary		Alternative 1	Alternative 2
1	HHRD	Rp. 5.071.774	Rp.12.610.973	Rp.7.815.146	Rp.7.815.146	Rp.7.815.146
2	HPDS	Rp. 4.780.035	Rp. 8.049.732	Rp.6.094.500	Rp. 6.199.116	Rp. 6.490.983
3	HIRS	Rp. 3.365.315	Rp. 6.822.142	Rp.6.094.500	Rp. 6.373.150	Rp. 6.094.500
4	HPSS	Rp. 3.178.313	Rp. 5.513.314	Rp. 4.011.337	Rp. 5.328.946	Rp. 4.146.287

Source : gaji.com

Based on the JRV score, the two alternatives offer a different pay strategy. Alternative 1 offers an increase in the proposed salary from the existing condition so that the company can have a higher bargaining value compared to the competitor. This condition is known as the high pay strategy. While the alternative 2 offers a little increase in the proposed salary that is not significantly different from the existing conditions, so the payroll strategy offered by the company is still similar to the existing conditions, namely average pay. The selection of payroll strategies that will be applied to the company can have an impact on the need for budget allocation and the ability to attract, recruit and motivate employees. The scheme for changing the budget allocation requirements in the HR section can be seen in the Figure 1.



**Figure 1. Annual Compensation in HR Department**

The proposed payroll scheme from alternative 1 requires an increase in payroll allocation of 11.6%. However, with this increase in allocation, companies have higher competitiveness for employee salaries than competitors. The company is expected to be able to retain key employees who are crucial for the company and can attract more competent new employees. While in alternative 2, an increase in payroll allocation of 4.9% is needed. The application of this scheme can increase satisfaction from the employee perspective because it can provide an increase in salaries received but on a scale that is still applicable to be applied directly by the company. Both method suggest that company should increase salary budget of the positions based on the job relatives value and external salary survey. Company can choose the alternatives based on their strategy and availability of salary budget. For some tightened position in labor market and key position, company can used alternative 1, and alternative 2 for other position.

**Conclusions**

This study provides an empirical findings on the relationship between job evaluation approach and compensation design. Results from our study shows that different job evaluation approach will obtained different job clusters. The first approach using an adjusted factors and weight results three job clusters. Meanwhile in the second approach using a standardized factor and weight from Cullen Egan Dell (CED) results two job clusters. It has an impact on the proposed compensation design, which based on the job relative value obtained in the first approach requires an increase in compensation budget of 4.9% from the existing budget, while in the second approach requires a higher budget allocation of 11.6% because

some jobs are at the green-circle point that needs to be adjusted. The results of this study provide some alternatives about compensation strategy should be taken by management based on its availability budget and business strategy. It can help the organization to overcome some human resource challenges. The decrease of revenue made company should use cost efficient strategy to minimize its operational cost. On the other side, company has to retain its best employee and attract new talent for its new strategy to face the organizational change.

## References

- [1] Information on <https://www.nielsen.com/id/en/press-room/2017/MEDIA-CETAK-MAMPU-MEMPERTAHANKAN-POSISINYA.print.html>
- [2] R. K. Smollan: *Causes of stress before, during and after organizational change: a qualitative study*. Journal of Organizational Change Management Vol. 28 Issue: 2 (2015), pp.301-314. .
- [3] H. A. Al-Zu'bi: *A study of relationship between organizational justice and job satisfaction*. International Journal of Business and Management Vol. 5 Issue: 12 (2010), pp. 102-109.
- [4] Y. Hao, J. Hao and X. Wang: *The relationship between organizational justice and job satisfaction: Evidence from China*. Journal of Chinese Human Resource Management Vol. 7 Issue: 2 (2016), pp.115-128.
- [5] J. B. Salisu, E. Chinyio and S. Suresh: *The impact of compensation on the job satisfaction of public sector construction workers of jigawa state of Nigeria*. The Business and Management Review, Vol. 6 Issue: 4 (2015), p.282-296.
- [6] S. Iqbal, L. Guohao and S. Akhtar: *Effects of Job Organizational Culture, Benefits, Salary on Job Satisfaction Ultimately Affecting Employee Retention*. Review of Public Administration and Management Vol. 5 No: 3 (2017).
- [7] P. P. Greer, M. Wallace and Y. Al-Ansaari: *Do Human Resource Practices, Employee Remuneration And Employee Benefits Have Significant Influence on the Retention of Childcare Teachers in the Childcare Service Industry?* Asian Academy of Management Journal Vol. 21 No: 1 (2016), pp.1–26.
- [8] R. K. Chiu, V. W. Luk and T. L. Tang: *Retaining and motivating employees: Compensation preferences in Hong Kong and China*. Personnel Review Vol. 31 Issue: 4 (2002), pp.402-431.
- [9] A. C. Kao, A. J. Jager and B. A. Koenig: *Physician Perception of Pay Fairness and its Association with Work Satisfaction, Intent to Leave Practice, and Personal Health*. Journal of General Internal Medicine Vol. 33 No: 6 (2018), pp. 812-817.
- [10] T. Ren, R. Fang and Z. Yang: *The impact of pay-for-performance perception and pay level satisfaction on employee work attitudes and extra-role behaviors: An investigation of moderating effects*. Journal of Chinese Human Resource Management Vol. 8 Issue: 2 (2017), pp.94-113.
- [11] L.R. Gomez-Meija, D. B. Balkin and L.R. Cardy: *Managing Human Resource*, 6<sup>th</sup> Edition. New Jersey: Pearson Education Inc. (2010).
- [12] Moekijat: *Analisis Jabatan*. Bandung: Mandar Maju (2011).
- [13] M. Armstrong, C. Ann and H. Sue: *Job Evaluation : A Guide to Achieving Equal Pay*. Sterling : Kogan Page Limited (2003).
- [14] W. Adamus: *A New Method of Job Evaluation*, Proceedings of the Tenth International Symposium on the Analytical Hierarchy Process (2009).
- [15] R. Sukwadi and F. Gerald: *Usulan Perancangan Sistem Kompensasi dengan Menggunakan Point Rating System (Studi Kasus: PT Pabrik Kaos Aseli)*, INASEA Vol. 22 No: 1 (2010), pp. 16-25.
- [16] R. Sukwadi and L. Okteваны: *Analisis dan Evaluasi Jabatan pada Perusahaan Tekstil*, Jurnal Rekaya Sistem Industri Vol. 5 No. 1 (2016), pp.1-6.

- [17] X. Sun and N. Luo: *Study on the effectiveness of point-factor job evaluation system in operation position*. Communication in Information Science and Management Engineering Vol. 3 No: 3 (2013), pp. 154-160.
- [18] D. Kurniawan, A. Syihab and H. S. Rukmi: *Penentuan Gaji Pokok Manajer Menengah Dengan Metode Point System*, Jurnal Teknik Industri Vol. 13 No. 1 (2012), pp. 78-84.
- [19] L. L. Byars and L. W. Rue: *Human Resource Management (7 Ed.)*. New York: The McGraw-Hill. (2004).
- [20] M. A. Fahrodji: *Perancangan Sistem Pemberian Kompensasi Karyawan dalam Meningkatkan Produktivitas Kerja dengan Menggunakan Metode Merit System di CV. Lancar Jaya—Mojokerto*. Seminar Nasional Waluyo Jatmiko II FTI—VPN “Veteran” Jawa Timur (2008), pp. O1-7.
- [21] N. Maisaroh: *Perancangan Sistem Pemberian Kompensasi Karyawan dalam Meningkatkan Produktivitas Kerja dengan Menggunakan Metode Merit System di PT. Sinar Karya Bahagia Mojokerto*. Seminar Nasional Waluyo Jatmiko II FTI—VPN “Veteran” Jawa Timur (2008), pp. T1-8.
- [22] Davis Jr, R. Kermit, W. I. Sauser Jr: *A Comparison of Factor Weighting Methods in Job Evaluation: Implications for Compensation System*, Public Personnel Management Vol. 22 No: 1 (1993), pp. 91-106.
- [23] W. Mercer: *Job Evaluation Manual*. Sydney: Mercer Cullen Egan Dell (2000).
- [24] J. Ivancevich and R. Konopaske: *Human Resource Management: 12th Edition*. McGraw-Hill Higher Education (2012)
- [25] M. R. Triantoro, B. Yogaswara and L. W. Suwarsono: *Usulan Perancangan Gaji Pokok Pada Bagian Executive Assistant Manager Berdasarkan Evaluasi Jabatan Menggunakan Metode Cullen Egan Dell Pada Padma Hotel Bandung*. e-Proceeding of Engineering Vol.5, No: 1 (2018).
- [26] Commissioner for Public Employment: *Job Evaluation System (JES)*. Darwin: Commissioner for Public Employment (2008).