

# Salary Determinants for Higher Institutions of Learning in Kenya

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## **Abstract**

There has been a debate over the years on which category of salary determinants best predicts an employee salary, that is, whether it is organizational characteristics or individual attributes. This study adopts a hybrid approach and seeks to examine the relationship between work experiences, level of education, job category, and employee's salary. The findings of the study have shown that there is a strong relationship. In addition, we have constructed a salary determinant model for employees of higher institutions of learning in Kenya. The study has great significance to human resource practitioners, who would find the salary determination model very useful in their practice. The hybrid approach to salary determination will also provide a different academic and scholarly perspective to the study of salary determinants.

**Keywords:** Salary Determinants, Stepwise Multiple Regression, Level Of Education, Work Experience, Job Category, Organizational Characteristics And Individual Attributes.

JEL Classification: M51

## **1. Introduction**

The determinants of salary fall into two broad categories: organizational characteristics such as ability to pay, profitability and collective bargaining agreement; and individual attributes such as education and experience (Pfeffer and Davis-Blake, 1987). The human capital theorists argue that the investment in human capital through education, training and experience has positive effect on an individual's earnings and are therefore key determinants of an employee's wage from an individual attributes perspective (Becker, 1962 and Mincer, 1970). Other scholars argued for organizational characteristics as salary determinants (Pfeffer & Davis-Blake, 1987; Nickell & Wadhvani, 1990; Ciscel & Carroll, 1980). According to Pfeffer and Davis-Blake (1987), positional attributes are also determinants of an individual wage, in that, critical positions will need highly skilled and experienced people; thus, higher salaries are needed to attract those more capable individuals.

A number of studies found that education, work experience and job category, are key determinants of salary. For instance, Bachan (2008) found out that staff with more work experience got a higher pay. Other scholars share in the same view that more experienced employees received better salaries (Gaag & Vijverberg 1989; Xiao, 2001). On job grade, a study by Maloa (2011), found out that job category was the strongest determinant of employee compensation. This view was supported by Dohmen (2004) whose findings showed that there was a strong relationship between job category and employee salary. There are also a number of studies that showed that education is also a key salary determinant. A study by Hirsch (2006) revealed that the high pay received by workers in the air transportation industry reflects the training and skills required for jobs in the airline industry. Other studies conducted by Forth & Millward (2000) and Formby & Hoover (2002) also showed that education is a key pay determinant.

On the other hand, other scholars argue that individual attributes are the best predictors of individual salary. Pfeffer and Davis-Blake (1987) strongly argue that the reason why there is a lot of interest in studying the effects of organizational characteristics on individual salaries is partly because the scholars have ignored the role of organizational attributes in salary determination.

Several scholars have argued for individual attributes as determinants of salary. Becker (1962), one of the human capital theorists, found out that investment in human capital through education and training had positive effect on an individual's earnings. Another scholar, Mincer (1970) also found out that individual attributes such as schooling, tenure and experience were major determinants of an employee's wage.

Moreover, a number of scholars support organization characteristics as salary determinants. According to Pfeffer and Davis-Blake (1987), the salary paid to the incumbent of a given position depends not only on the characteristics of the incumbent and the position but also on the characteristics of the organization in which the position is located. Nickell and Wadhvani (1990) investigated wage determination at the individual firm level focusing on insider versus outsider effects. They discovered that insider forces have a significant impact on wage determination. In particular, they found that financial performance of a firm, among other factors, determined how much employees received as salary.

Ciscol and Carroll (1980) also argue in favor of organizational characteristics. They propounded that executives are paid for increasing profits, whether through sales growth or cost control. They continue that "since the sales variable may also serve as a measure for firm size, and since asset size of the corporation also bears an important influence on executives' salaries, there is a strong indication that decisions concerning executives' salaries are influenced by several aspects of corporate performance". In another formulation of the compensation formula they observed that both sales (as a measure of size and profitability) and residual profits (as a measure of technical efficiency) have a strong influence on the levels of executive compensation in the large corporation.

Bachan (2008) showed that the Chief Executive Officers who had previous work experience in industry or in governmental higher education departments were paid well for their experience and skills. Other scholars who share in the same view that more experienced employees received higher salaries include Gaag and Vijverberg (1989) and Xiao (2001). Xiao (2001) concluded that work experience showed significantly positive effects on mean salary. A

study carried out by Gaag and Vijverberg (1989) also concluded that experience turned out to be one of the good salary predictors.

A study done by Hamermesh, Johnson & Weisbrod (1982), showed that quality of research had a major impact on the faculty member's salary but they did not rule out experience as a determinant of pay, indicating that there was a positive reward for experience. Another study by Siegfried and White (1973) did not refute that experience influences salary determination. They found out that while teaching is rewarded, research output and administrative experience are key determinants of faculty salary levels.

Job categorization commonly known as job grading, involves developing a job hierarchy, either by putting jobs in a ranking order on the basis of information about the jobs as a whole, or by matching them against criteria in a job classification system (White & Druker, 2009). Pfeffer & Davis-Blake (1987) supported the view that the hierarchical positioning of the job had some relationship with salary. According to Pfeffer and Davis-Blake (1987), the salary paid to the incumbent of a given position depends on the characteristics of the incumbent and the position among other factors. These scholars argued that the idea of 'how organizational and positional characteristics affect the wage for a position relative to the wages for other positions in a firm' has been neglected. Their study showed that positional attributes are also determinants of an individual wage, in that, critical positions will need highly skilled or experienced people; thus, higher salaries are needed to attract those more capable individuals.

According to Dohmen (2004) there is a strong relationship between job category and employee salary. This view is supported by Maloa (2011). Maloa (2011) found out that job category was the strongest determinant of employee compensation.

A good number of writers agree that education is a key determinant of salary. Gaag and Vijverberg (1989) showed that experience and education, were good salary predictors and that higher education resulted to a higher pay-off as compared to elementary schooling. This view is also supported by Xiao (2001) who found out that level of education and work experience show significantly positive effects on mean salary.

Similar results were obtained by Forth and Millward (2000) acknowledging that higher levels of qualifications, training and experience explained a good deal of the wage differences. A study by Hirsch (2006) also revealed a similar pattern. He found out that workers in the air transportation industry are relatively highly paid. Some of this high pay reflects the training and skills required for jobs in the airline industry. Another study conducted by Formby and Hoover (2002) also showed that the academic staff with Ph.D. were paid higher salaries with more benefits than others. Unlike other studies that have focused either on organizational characteristics or individual characteristics, this study takes a combined approach and seeks to examine the relationship between work experience, education and job category (the hierarchical positioning of a job) on employee salary.

In our study we aim to examine the relationship between work experience, level of education and job category and employee salary. Also, we develop a model that can be used in predicting an employee salary. The hybrid approach to salary determination, that is, a combination of both individual attributes and organizational characteristics would provide a different academic and scholarly perspective to the study of salary determinants. On the other hand, human resource practitioners would find the salary determination model very useful in their practice.

Determining an employee salary at appointment has been a challenge in most organizations. Some hiring officers consider the individual attributes while others organizational characteristics. A hybrid approach to salary determination - a combination of both individual attributes and organizational characteristics, has not been adequately studied, hence the focus of this study. The study seeks to examine the relationship between work experience and level of education (individual attributes) and job category (organizational characteristic), and employee salary.

The following hypotheses are conjectured for the research:

- i. There is a significant relationship between employee’s salary and work experience.
- ii. There is a significant relationship between employee’s salary and level of education.
- iii. There is a significant relationship between employee’s salary and job category.

**2. Research methodology**

The study targeted all the full-time staff members in the Catholic University of Eastern Africa i.e. the academic staff, administrative staff and support staff, with the population size of 438 people. The data was obtained from the office of human resources of the Catholic University of Eastern Africa. The researchers used Stepwise Multiple Regression in order to evaluate the relationship between a set of independent variables that best predicted the dependent variable (i.e. Salary).

**3. Data analysis and results**

A correlation analysis was done to determine if the independent variables were negatively or positively correlated with dependent variable. The table 1, shows that there is a very strong positive correlation between salary and level of education i.e. 0.709. The same table also indicates a strong positive correlation between salary and job category, i.e. 0.681 and a relatively strong positive correlation between salary and work experience, i.e. 0.627.

**Table 1: Correlation between dependent variable and independent variables**

		Correlations				
		Salary in Kshs	Work experience in Months	Level of Education in Years	Job Category	Age in Years
Pearson Correlation	Salary in Kshs	1.000	.627	.709	.681	.337
	Work experience in Months	.627	1.000	.515	.522	.577
	Level of Education in Years	.709	.515	1.000	.624	.251
	Job Category	.681	.522	.624	1.000	.271
	Age in Years	.337	.577	.251	.271	1.000

In table 2, the Multiple R for the best single independent variable (Job category level of education) in predicting the dependent variable is 0.709, which would be characterized as strong. The Multiple R for the best subset of independent variables (level of education, job

category and work experience) in predicting the dependent variable is 0.804 which is a very strong correlation.

**Table 2: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.709 <sup>a</sup>	.503	.502	27743.496
2	.772 <sup>b</sup>	.596	.595	25024.528
3	.804 <sup>c</sup>	.647	.644	23445.815
a. Predictors: (Constant), Level of Education in Years				
b. Predictors: (Constant), Level of Education in Years, Job Category				
c. Predictors: (Constant), Level of Education in Years, Job Category, Work experience in Months				

In this model, the R-Square for the relationship between the independent variable (level of education) that best predicts the dependent variable is approximately 0.503, as shown in table 2. This is a moderate R-square, implying a moderately good fit. The R-Square for the relationship between the subset of independent variables (level of education, job category and work experience) that best predicts the dependent variable is 0.647. This is a strong R-square, implying a good fit.

The Adjusted R Square indicates that level of education alone account for 50.2% variance in the dependent variable (Salary), hence a moderately good predictor of salary. The Adjusted R Square also indicates that the subset of independent variables (level of education, job category and Work experience) in the model account for 64.4% variance in the dependent variable (Salary), hence good predictors of salary.

In order to come up with a salary determination model, we did a regression analysis and the results are as in table 3.

**Table 3: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-81700.009	6453.226		-12.660	.000
	Level of Education in Years	7386.424	351.714	.709	21.001	.000
2	(Constant)	-76544.162	5843.374		-13.099	.000
	Level of Education in Years	4844.487	405.817	.465	11.938	.000
	Job Category	15805.767	1573.576	.391	10.044	.000
3	(Constant)	-74558.028	5480.585		-13.604	.000
	Level of Education in Years	3961.859	396.510	.380	9.992	.000
	Job Category	12161.505	1545.747	.301	7.868	.000

	Work experience in Months	148.996	18.991	.274	7.846	.000
a. Dependent Variable: Salary in Kshs						

From table 3, the three explanatory variables in the study i.e. level of education, work experience and job category, are statistically significant. It is also worth noting that they all have positive coefficients – meaning that the more the years of education, the higher the salary and the more the work experience, the more the salary. It also means that staff members in higher job categories received higher salaries compared to those in lower job categories.

The theoretical model for the variables under study is therefore as follows;  
 $Salary = \beta_0 + \beta_1(\text{Level of education}) + \beta_2(\text{Job category}) + \beta_3(\text{Work experience}) + e_i$   
 Where  $e_i$  = The deviation of the value dependent variable from the mean value of the distribution independent variable. We assume that the error terms  $e_i$  have a mean value of 0.

The estimated was therefore given by:  
 $Salary = -74558.028 + 3961.859(\text{Level of Education}) + 12161.505(\text{Job Category}) + 148.996(\text{Work Experience})$

### 3.1 Test of Hypothesis

In this study, we were interested in testing the null hypothesis that: There is no significant relationship between employee’s salary and work experience, level of education or job category. From the ANOVA test (see results in the table 4), the calculated F statistic (441.051) for the regression relationship (for the best single predictor variable) was found to be greater than the critical value 1.96 (given that this was a two-tailed test at significance level of 0.05). Alternatively, the p-value (0.000) was found to be smaller than the assumed level of significance, i.e.  $\alpha = 0.05$ . The calculated F statistic (321.496) for the regression relationship (for the best set of predictor variables) was seen to be greater than the critical value 1.96. The p-value (0.000) was found to be smaller than the assumed level of significance,  $\alpha = 0.05$ .



**Table 4: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	339477293038.593	1	339477293038.593	441.051	.000 <sup>b</sup>
	Residual	335589883762.915	436	769701568.264		
	Total	675067176801.508	437			
2	Regression	402658422312.200	2	201329211156.100	321.496	.000 <sup>c</sup>
	Residual	272408754489.308	435	626227021.815		
	Total	675067176801.508	437			
3	Regression	436494665345.977	3	145498221781.992	321.496	.000 <sup>d</sup>
	Residual	238572511455.531	434	549706247.593		
	Total	675067176801.508	437			
a. Dependent Variable: Salary in Kshs						
b. Predictors: (Constant), Level of Education in Years						
c. Predictors: (Constant), Level of Education in Years, Job Category						
d. Predictors: (Constant), Level of Education in Years, Job Category, Work experience in Months						

We therefore rejected the null hypothesis that there is no significant relationship between employee's salary and work experience, level of education or job category. Hence, we supported the research hypothesis that there is a statistically significant relationship between the employee's salary and work experience, level of education and job category.

#### 4. Discussion

This study provides a different academic and scholarly perspective to the study of salary determinants. It adopts a hybrid approach, combining individual attributes and organizational characteristic in salary determination. Work experience and level of education are salary determinants under the individual attributes category whereas Job category is a salary determinant under the organizational characteristics category. From our analysis, there is a strong relationship between salary of an employee and level of education, which according to our findings is a better salary predictor than work experience or job category.

#### 5. Conclusion and Recommendations

One of our objectives was to examine the relationship between work experiences, level of education, job category and employee's salary. We have made an empirical study to demonstrate that there exists a strong relationship. Also, we have developed a model that can be used in predicting an employee's salary. Our hybrid approach to salary determination provides a different perspective to the study of salary determinants and is applicable to human resource practitioners, who would find the salary determinant model very useful in their practice. In particular, using our model they will be able to objectively predict the salary of a new employee, hence reducing bias in salary determination. Further, due to the sensitivity of the information and data involved in our study, we were not able to extend our study to all higher institutions of learning in Kenya. We therefore recommend a further comparative study on salary determinants using the data for all higher institution learning in Kenya.

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