# PAN AFRICA CHRISTIAN UNIVERSITY

## SCHOOL OF LEADERSHIP, BUSINESS AND TECHNOLOGY

## END OF SEMESTER EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN ORGANIZATIONAL LEADERSHIP

## SEPTEMBER – DECEMBER 2017

**CAMPUS: ROYSAMBU**

**DEPARTMENT: LEADERSHIP**

**COURSE CODE: POLD824**

**COURSE TITLE: ADVANCED QUANTITATIVE RESEARCH**

**EXAM DATE: TUESDAY 5th –FRIDAY 8th DECEMBER 2017**

**INSTRUCTIONS**

- Read all questions carefully before attempting.
- Answer Question **One** (Compulsory) and any other **TWO** questions

**SECTION 1 - COMPULSORY**

1. In quantitative research methods, statistical computations take the form descriptive statistics, univariate, bivariate and multivariate analysis. Distinguish between these methods and demonstrate your understandingof how these methods are used in quantitative research using examples with hypothetical situations. **10 marks**

**SECTION 2 – ANSWER ANY TWO QUESTIONS**

2. Medex International commissioned a researcher to carry out a study to assess the effects of various change management practices on the implementation of a new planning system widely known as Enterprise Resource Planning. The researcher developed the title and some objectives and hypotheses as follows.

*Title: The effects of change management practices on the implementation of Enterprise Resource Planning (ERP) at Medex International*

One of the objectives and its corresponding hypothesis was the following:

*Objective: To establish the effect of leadership on ERP implementation at Medex International*

*Null Hypothesis (Ho): Leadership has no significant effect ERP implementation at Medex International*

The data was collected, analyzed and inferential statistics used to test and verify the hypothesis in line with the study objective. The aim of the hypothesis was to help the researcher to understand whether strategic leadership had a significant effect on ERP implementation in the organization. To conduct this analysis, regression analysis was used as the statistical test to understand this relationship. The table below is a summary of the results for the hypothesis.

| Model Summary | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .316[a] | .100 | .093 | 5.24435 |

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 381.496 | 1 | 381.496 | 13.871 | .000[b] |
| | Residual | 3437.906 | 125 | 27.503 | | |
| | Total | 3819.402 | 126 | | | |

From the table of results (above) the simple linear regression analysis that was conducted to test the influence of leadership on ERP implementation at Medex International revealed a value of (R=0.316). The regression model had an F ratio = 13.871 with $p<0.05$. Based on these results, answer the following questions:

a) What does the "R"value of (R=0.316) tell the researcher about the relationship between leadership and ERP implementation?
b) What does the F ratio and p value of $p<0.05$ tell the researcher about the significance of the results?
c) Should the hypothesis be rejected or accepted?
Okay

**5 marks**

3. The development and testing of hypothesis as well as the use of Chi-square and analysis of variance are central to quantitative research data analysis. Using an example anda hypothetical situation for each method highlight the significance and use of these methods in quantitative statistical analysis.

**5 marks**

4. Using one relevant example for each method, briefly state your understanding of the content and context of regression, factor and discriminate analyses and how they are used to infer meaning in quantitative research.

**5 marks**

5. Mashariki Enterprises conducted a study on leadership competencies and implementation of the Employment Act. The assessment was based on 10 key elements which were then grouped into three categories for deeper analysis of possible relationships with the elements of implementation and compliance with the Employment Act. The first broad category was "Understanding the Employment Act, 2007". The second was "Effective facilitation towards compliance with the Employment Act" and the third one was "Strategic thinking and planning". The total rating scores for each component were generated to assess the effect of leadership competencies on implementation of the Employment Act of Kenya, 2007. The scores obtained from the elements of leadership competencies were regressed against the total scores on implementation and compliance with the Employment Act. The following were the results:

a. The regression co-efficient between leadership competencies and compliance with the Employment Act was (r2=0.635) with a P value of p<0.01). The resultant regression model was of the form CEA=6.7+0.882 leadership competencies.

b. The stepwise regression analysis of each of these components based on the total scores of leadership competencies namely understanding, facilitation towards compliance, and strategic thinking and planning was (p<0.01)

c. The standardized model coefficients on the three broad components of leadership competencies showed that the rating on effective facilitation was (0.804), strategic thinking and planning elements (0.764) and understanding the Act (0.745) as shown in the Table 4 below.

| Model | Standardized Beta (β), model coefficient | t- statistic | P value |
|---|---|---|---|
| Effective facilitation towards compliance with the Act | 0.804 | 7.29 | 0.000 |
| Strategic thinking and planning | 0.764 | 6.272 | 0.000 |
| Understanding the Act | 0.745 | 6.018 | 0.000 |

From these results answer the following questions:

i. What does the correlation co-efficient of (r2=0.635, p<0.01) tell you about the relationship between leadership competencies and compliance to the Employment Act?
ii. Interpret the significance of the three leadership competence variables tested.

**5 marks**