EMPLOYEES DATA ANALYSIS BY APPLIED SPSS

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ABSTRACT

SPSS is powerful to analyze employee data. This paper intends to support business leaders the benefits of data analyzing with applied SPSS. This paper shows whether facility rates is harmony on each employee rank or not. It showed the data analysis of employee facilities such as care, support, workplace, meaningful, salary and happiness given rates between 1 to 10. As SPSS's background algorithms, it showed the mean algorithm for the tables. And then Sample data 'bank_clean.sav' was downloaded from Google free share and was analyzed and viewed. It used IBM SPSS statistics version 23 and PYTHON version 3.7.

Keyword : - *SPSS is powerful to analyze employee data*

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1. Introduction

Nowadays businesses are competing with others not to lose their market places in local and external regions. This paper shows whether facility rates is harmony on each employee rank or not. Business leaders can get their employees with good quality and can avoid the loss of good employees of his business by using SPSS software. This paper used SPSS integrated with Python software. It showed the data analysis of employee facilities such as care, support, workplace, meaningful, salary and happiness that includes 7 tables, two graphs and data analytical views.

1.1 SPSS

SPSS, standing for Statistical Package for the Social Sciences, is a powerful, user-friendly software package for the manipulation and statistical analysis of data. The package is particularly useful for students and researchers in psychology, sociology, psychiatry, and other behavioral sciences, containing as it does an extensive range of both univariate and multivariate procedures. Data analysis generally begins with the calculation of a number of summary statistics such as the mean, median, standard deviation, etc., and by creating informative graphical displays of the data such as histograms, box plots, and stem-and-leaf plots.[2]

1.2 SPSS Crosstabs

Cross tabulation tables, or contingency tables are frequently employed to examine the relationship between two variables (usually nominal or ordinal) that have a small number of categories.[4]

1.3 SPSS Graph

SPSS can display your data in a bar chart, a line graph, an area graph, a pie chart, a scatterplot, a histogram, a collection of high-low indicators, a box plot, or a dual-axis graph. Adding to the flexibility, each of these basic forms can have multiple appearances. For example, a bar chart can have a two- or three-dimensional appearance, represent data in different colors, or contain simple lines or I-beams for bars. The choice of layouts is almost endless.[3]

2.Algorithm

MEANS Algorithms[1]

Cases are cross-classified on the basis of multiple independent variables, and for each cell of the

resulting cross-classification, basic statistics are calculated for a dependent variable.

Notation	Description
X_{ip}	Value for the pth independent variable for case i
Y_i	Value for the dependent variable for case i
w_i	Weight for case i
P	Number of independent variables
N	Number of cases

Statistics

For each value of the first independent variable (X_1), for each value of the pair (X_1, X_2), for the

triple (X_1, X_2, X_3), and similarly for the P-tuple , the following are computed:

Sum of Case Weights for the Cell

$W = \sum_{i=1}^{N} w_i l_i$ where $l_i = 1$ if the ith case is in the cell $l_i = 0$, otherwise.

The Mean

$$\overline{Y_h} = \frac{\sum_{i=1}^{N} w_i l_i Y_i}{W}$$

3. Testing

3.1. Calculate mean values

A. Calculate mean values for care facility

SPSS Code: MEANS TABLES=q1 BY jtype /CELLS=MEAN

Table-1: care facility

Current job type	Mean
Sales	5.49
Marketing	6.08
IT	6.37
Middle Management	7.21
Upper Management	6.83
Total	6.02

B. Calculate mean values for support facility

SPSS Code: MEANS TABLES=q2 BY jtype /CELLS=MEAN

Table-2: support facility

Current job type	Mean
Sales	4.52
Marketing	4.92
IT	5.44
Middle Management	5.62
Upper Management	4.92
Total	4.92

Continue to Calculate mean values for workplace, meaningful, salary, happyness , facilities as the above way.

**And got the mean values for all facilities**

Table-3: mean values for all facilities

Current job type	care	support	workplace	meaningful	salary	happy	average
Sales	5.49	4.52	5.43	4.54	5.46	6.32	5.29
Marketing	6.08	4.92	5.98	4.96	5.83	6.58	5.73
IT	6.37	5.44	6.09	5.05	6.47	6.77	6.03
Middle Management	7.21	5.62	6.18	5.44	6.27	7.07	6.30
Upper Management	6.83	4.92	7.91	5.90	7.50	7.17	6.70

H. Drawing Graph

Bar Graph-1: mean values for all facilities
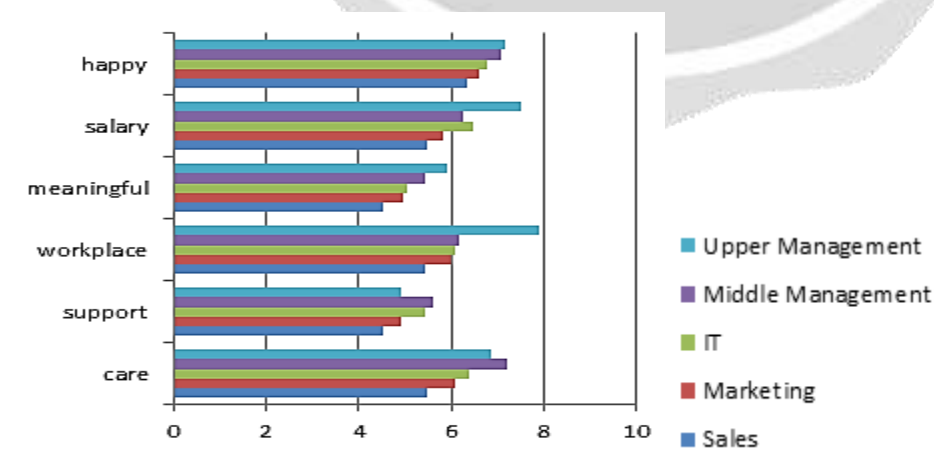
Bar Graph-2: average values for total facilities

average values for total facilities
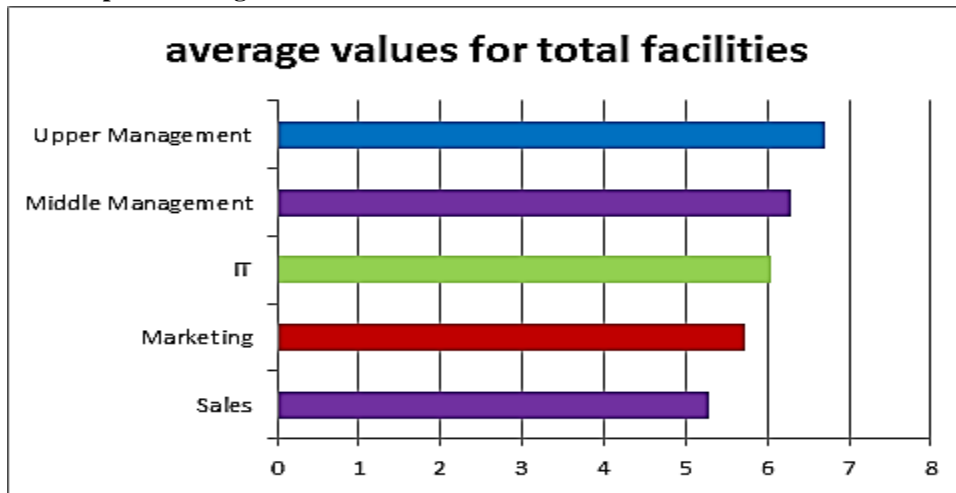
3.2 Data analytical view:

As a result of table-3 and bar graph-1,

- o In happy, salary, meaningful and workplace rates, upper management level is maximum and sales level is minimum.

  These facilities should be given to upper manager because he is key player for decision making to success plan.

- o In support and care rates, middle management level is maximum and sales level is minimum.

  These facilities should be given to middle manager because he is joker to interface between upper and lower employee levels.

- o In salary rates, IT level got more than middle management.

  This facility should be given to IT technician because he is a very important person for data processing, data security and data distribution in internal and external of the business.

As a result of table-3 and bar graph-2,

       the important rank levels by facilities sequence are

1. Upper level management.
2. Middle level management
3. IT
4. Marketing
5. Sales

    So you can see that higher rank was, higher rate got. Minimum rate is more than 5. Different rates among continuous levels are nearly same amout.The business has good harmony in facilities and ranks.

I think this business leader shared the voters or auto voter machine the information to know the standard skills of each employee level for the giving facilities rates before giving.

If data is more true, information is more actuate and reliable for other actions.

4.Conclusion

SPSS data analysis tools are valuable in social science, business and marketing fields. It is very good for presentation report by graphical design. This paper shows whether facility rates is harmony on each employee rank or not. Business leaders can get their employees with good quality and can avoid the loss of good employees of his business by using SPSS software.

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