FACTORS EFFECTING PERFORMANCE MANAGEMENT SYSTEM: AN EMPIRICAL ANALYSIS WITH REFERENCE TO HEALTH CARE INDUSTRY AROUND HYDERABAD METRO

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ABSTRACT

In this empirical research we are reporting the results of a survey carried out in Healthcare Industry in the Metro city of Hyderabad, whether the performance appraisal management system is effected by the independent factors performance management, improved employee performance and impact of performance appraisal system on employee performance. The authors surveyed 750 staff working in various healthcare centres including hospitals, training centres consisting of 435 men and 315 women employees, to evaluate the how the said factors effect the performance management system in healthcare industry. The reliability statistics Cronbach Alpha, Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett’s tests of sample adequacy, principal component analysis and multiple linear regression analysis carried out. The Cronbach alpha measured at for performance management 0.870 factors for improvement of employee performance 0.776 and factors for Impact of performance appraisal system on organization is 0.742. The KMO-Bartlett tests reveal a strong relationship among the study variables and Bartlett’s test of Sphericity is significant (P<0.001) for all the three factors indicating the correlation matrix is not an identify matrix. The multiple regression analysis reveals the three factors significantly influencing the performance management system in healthcare industry in the Metro of Hyderabad.

Keywords: Performance appraisal system, Cronbach Alpha, KMO and Bartlett test, Health care, Hyderabad

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1. INTRODUCTION

Performance appraisal management system is major of element of performance management system irrespective of the type of organisation. Performance appraisal management system (PAMS) measures the performance of an employee in line with the assigned job roles and vision, mission and goals of the organisation. The PAMS also take the necessary action to correct the deviation if any in the employee performance which effect the organisation performance also a whole. In most of the employee performance is measured on core competencies that required for job such as job knowledge, punctuality of employee, whether the employee goals are aligning with organisations goals, employee capacity to carry out the team work, able to work with minimum supervision etc.

The healthcare industry fast growing and the industry always stress of the quality and economic treatment to the patients, and require big human resource pool of dedicated medical and paramedical staff with state of the art infrastructure. Healthcare is one of the fastest growing industries. To offer quality care to patients, a large pool of well-trained, dedicated medical professionals and cost saving clinical procedures are required. Apart from medical physicals, surgeons, and require support staff, nurses, and front desk operation employees and this sector is critically workforce intensive. The health care sector is also facing several challenges with huge opportunities, however there are several bottlenecks which effected the performance of health industry. The performance improvement opportunities are lacking in the health care industry and over 50% of health care professional does not have appropriate learning and development opportunities. Employee demotivation high due to lack of inappropriate training, and medical professionals are dissatisfied because of repetitive tasks and with the limited learning and career progress opportunities. High turnover due to poor work environment and culture, heavy workload, depending till on obsolete technology is another challenge for performance appraisal system in Health Care sector. Absence standard practices to measure performance appraisal, poor succession planning, lack of vision, mission and assessable goals, biased performance review are the major concern for health industry performance appraisal management system [1].

Hewko and Cummings (2016) [2] made a critical analysis and reported that health care industry have the abundant potential to create a work force which is technically sound, compliant to the advanced healthcare standards, to support quality of healthcare systems. However, the existing and outdated performance appraisal management system and performance management system need to rewriter to suit the current trends of healthcare management practices. Salvatore Trifilio (2018) [3] presented the present situation of performance management in healthcare and reported about 20% of health professions are disengaged, and about 30% of the employees leave the organisation in the first year due poor treatment, conditions of the employment.

In healthcare industry there is an urgent of setting the goals for the employees, feedback mechanism, and peer-employees reviews. Antique Nguyen (2017) [4] suggested the annual reviews with continuous feedback, moving away from training to learning and development culture, engagement of employee to experience of employees to reform the performance appraisal management process and these three trends are very important factors need to be considered
2. REVIEW OF LITERATURE

The Infosys (2018) [5] presented a white paper on hospital performance management strategies and suggested that SaaS implementation, effective reporting tools, dashboard system, meaningful performance metrics to successfully implement performance management systems and growth. Zack Budryk (2015) [6] suggested strategies to engaging the employees, selection of best talent, and selection of best fit for improving performance management in hospitals. Sabina Nuti et. al. (2012) [7] assessed the effectiveness performance evaluation system in Tuscany region healthcare areas. The authors reported that five critical factors – visual reporting system, PES linked to rewards, transparency with data disclosure, employee involvement and commitment. Nxumalo, Nonhlalha et al. (2018) [8] shared the experiences of implementing a performance assessment practices in a South African district and reported that organisation culture, training, communication and employee unions will influence the implementation of the performance management system.

Lutwama et al. (2013) [9] noted performance assessment evaluates the employee performance and complements the overall function of the performance management system. However, opined that performance assessment system may not have a significant impact on health professional, and will improve considerably work performance. Some employee concern about their performance may not meet the standards and this concern will effect the motivation and result in low employee engagement [10]. The performance assessment if implemented effectively will motivate the employees and increase the staff engagement and this is the main role for performance management system [10]. The health care industry is under severe pressure to ensuring the best available services for the money paid with high quality services and is one the reason for performance assessment is critical in enhancing the quality health services [11]. The effective and efficient management skills are necessary to improve the performance management process in healthcare industry. This also strengthens the capacity for enhanced performance system in healthcare industry [12].

Adam and Leena (2017) [13] suggested that appraisal mechanism should have feedback and the appraiser should be trained based on the need and objectives of the organisation. The authors further suggested that appraisals quality need to be improved with frequent appraising rather yearly appraisal and regular peer-staff meetings are required to ensure the present, past and future. Al-Kaabi et al. (2019) [14] suggested a balance score card system as a performance tool in health care system in Ministry of Public Health, Qatar. The balance score card system proved to be a good tool for change management in an organisation and the employees engagement, strategic thinking will be improved. Kim et. al. (2015) [15] carried out Hierarchical regression analysis to measure the impact of hospital specialization on four operational factors, profitability, efficiency, productivity and quality of care. The authors suggested high concentration index to decrease the mortality and positive relationship with the society. Nusrat Fatema (2018) [16] performed simulation studies as HRM practice in healthcare sector of Bangladesh and suggested that of motivation enhancement, increase employee engagement, reward system, good organizational culture, learning and development and employee participation are the main factors to be considered to enhance the performance of health care sector.

2.1. Research Gap

The main basis for performance management systems in any organization is to see the employee capabilities and its alignment with organization goals. If any deviations are observed corrective measured need to be undertaken and PMS also a model for improving the employee performance based on appropriate interventions. However, the healthcare system no such research has been found to study the factors that effect the on performance management system
using the said three factors, The authors made a sincere attempt to fill this gap with their positivist approach depending on scientific evidence where the outputs are measurable.

3. THEORETICAL FRAMEWORK

The proposed empirical study consists three study factors with 26 items – the factor 1) Performance appraisal management 9 items; 2) Factors responsible for improved or performance of employee with 9 items and factor 3) Impact of performance appraisal system on employee performance 8 factors. The conceptual frame work provided in figure A

A theoretical and conceptual framework of PMS

3.1. Research Hypotheses

Based on the research study, review of literature, research gap in the healthcare systems the following hypotheses have been developed top make further assessments on the benchmark created:

H₀₁: Performance appraisal management system measures the qualitative and quantitative aspects of job performance in Healthcare Industry around Hyderabad

H₁₁: Performance appraisal management system does not help in measuring the qualitative and quantitative aspects of job performance in Healthcare Industry around Hyderabad

H₀₂: An efficient performance appraisal management system evaluates the performance of employee and has the potential for organizational and employee as individual in Healthcare Industry around Hyderabad

H₁₂: An efficient performance appraisal management system does not evaluate the performance of employee and has the potential for organizational and employee as individual in Healthcare Industry around Hyderabad

H₀₃: An efficient performance appraisal management system helps in the improvement of performance of employees in Healthcare industry around Hyderabad Metro

H₁₃: An efficient performance appraisal management system does not help in the improvement of performance of employees in Healthcare industry around Hyderabad Metro

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Table 1. Demography of the samples

| Gender  | Number | Percent |
|---------|--------|---------|
| Male    | 435    | (58%)   |
| Female  | 315    | (42%)   |

| Age Group | Number | Percent |
|-----------|--------|---------|
| 20-30     | 118    | 15.73   |
| 31-35     | 152    | 20.27   |
| 36-40     | 121    | 16.13   |
| 41-50     | 124    | 16.53   |
| 51-60     | 129    | 17.20   |
| >60       | 106    | 14.13   |

Source: Primary data

Research instrument and data gathering: The research survey instrument used for this study is a structured questionnaire with 4 Likert-type scales 1) performance management scale, with 8 factors measured on Likert-type 5-point scale with Strongly agree scored as 5 to Strongly disagree as 1; 2) improved employee performance with 9 factors with Strongly agree scored as 5 to Strongly disagree 1; 5 factors for Performance management system. The study factors were represented in Table 2.

Table 2 Description and estimation of the factors studied

| Sl No | Factors                              | Items                                                                 |
|-------|--------------------------------------|----------------------------------------------------------------------|
| 1     | Performance Management               | 9: Resource use, Quality, Dead line, Punctuality, Job Satisfaction, Praise and reward, Employee capabilities, Management of time |
| 2     | Improved employee performance        | Feedback from employee, handling stress, maintaining performance standards, Clarity on objectives, Rewards, Lack of career planning, Career growth, Interaction with peer, Demotivation |
| 3     | Impact of PAS on performance         | 8: Quality of work life, Enhanced efficiency, Work completion, Decision making, Employee rights, Handling pressures, Job knowledge, Real time decisions |
| 4     | Performance management system        | 5: Training and development, Output standards, Succession planning, Objectives fulfilled, Enhanced profits, Resource savings |

4. DATA ANALYSIS

As we have followed the positivist approach for scientific evidence, the statistical analysis was carried out and appropriate inferences were made from the outcome of the data analysis. The data analysis carried out using statistical package SPSS ver. 26

4.1. Reliability Methods

The measured Cronbach alpha values as reported in the Table 3, indicates internal consistency and reliability of the survey instruments. (Cronbach, 1951).

Table 3 Reliability statistics of the survey instrument (Cronbach alpha)

| Factor                  | Cronbach’s alpha | Cronbach’s alpha based on Standardized items | Number of items |
|-------------------------|------------------|---------------------------------------------|-----------------|
| Performance Management  | 0.870            | 0.869                                       | 9               |
| Improved employee       | 0.776            | 0.777                                       | 9               |

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| Impact of PAS on performance | 0.742 | 0.72 | 8 |
| Performance management system | 0.764 | 0.741 | 4 |

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy, which determines if the responses given with the sample are adequate or not, the measured value for performance management 0.852, improved employee performance 0.810 and impact of PAS on performance is 0.811, and for PMS is 0.764, indicating highly acceptable and factor analysis can be carried out. The Bartlett’s test is another indication of the strength of relationship among variables. The Bartlett’s test of Sphericity significant (0.00) for all the three factors and this indicates the matrices for all the three variables are not identify matrix (Table 4). The data generated through the responses are fit for carrying our further analysis.

Table 4 KMO and Bartlett’s Test statistic of performance management

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | Performance Management | Improved employee performance | Impact of PAS on performance |
|--------------------------------------------------|------------------------|------------------------------|-----------------------------|
| Bartlett’s Test of Sphericity                     | Approx. Chi-Square     | Df              | Sig.                      |
|                                                  | 1718.315               | 36              | .000                      |
|                                                  | 1632.912               | 36              | .000                      |
|                                                  | 1436.844               | 28              | .000                      |

For PMS: 0.876 with significant values are 0.000

In Table 5 we have presented the variance of component for performance management and extract the component which initial total Eigen values are greater than 1 and you can observe two components are extracted out 9 and these two components are causing a cumulative variation of 53.54%. The scree plot (Figure 1) is plot Eigen values as against the components, the two components with Eigen values of 3.777 and 1.042 are indicated in the plot above 1-point mark.

![Figure 1. Scree plot of performance management (9 items)](https://ssrn.com/abstract=3523648)

Similarly, the Table 6 describes the variance of component for improved employee performance and extract the component which initial total Eigen values are greater than 1 and you can observe two components are extracted out 9 and these two components are causing a cumulative variation of 50.66%. The scree plot (Figure 2) is plot Eigen values as against the components, the two components with Eigen values of 3.512 and 1.048 are indicated in the plot above 1-point mark.
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Table 5 Total variance explained statistics of performance management

| Component | Initial Eigenvalues | Extraction Sums of Squared Loadings | Rotation Sums of Squared Loadings |
|-----------|---------------------|-------------------------------------|-----------------------------------|
|           | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1         | 3.777 | 41.962        | 41.962       | 3.777 | 41.962        | 41.962       | 3.776 | 41.956        | 41.956       |
| 2         | 1.042 | 11.58         | 53.542       | 1.042 | 11.58         | 53.542       | 1.043 | 11.586        | 53.542       |
| 3         | 0.863 | 9.589         | 63.131       | 0.863 | 9.589         | 63.131       | 0.863 | 9.589         | 63.131       |
| 4         | 0.757 | 8.408         | 71.538       | 0.757 | 8.408         | 71.538       | 0.757 | 8.408         | 71.538       |
| 5         | 0.707 | 7.86          | 79.399       | 0.707 | 7.86          | 79.399       | 0.707 | 7.86          | 79.399       |
| 6         | 0.613 | 6.815         | 86.214       | 0.613 | 6.815         | 86.214       | 0.613 | 6.815         | 86.214       |
| 7         | 0.444 | 4.932         | 91.146       | 0.444 | 4.932         | 91.146       | 0.444 | 4.932         | 91.146       |
| 8         | 0.407 | 4.52          | 95.666       | 0.407 | 4.52          | 95.666       | 0.407 | 4.52          | 95.666       |
| 9         | 0.39  | 4.334         | 100          | 0.39  | 4.334         | 100          | 0.39  | 4.334         | 100          |

Extraction Method: Principal Component Analysis.

Figure 2: Scree plot of improved employee performance (9 items)

Table 6: Total variance explained statistics of improved employee performance (Extraction method: Principal Component Analysis)

| Component | Initial Eigenvalues | Extraction Sums of Squared Loadings | Rotation Sums of Squared Loadings |
|-----------|---------------------|-------------------------------------|-----------------------------------|
|           | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1         | 3.512 | 39.018        | 39.018       | 3.512 | 39.018        | 39.018       | 2.662 | 29.583        | 29.583       |
| 2         | 1.048 | 11.645        | 50.663       | 1.048 | 11.645        | 50.663       | 1.897 | 21.08         | 50.663       |
| 3         | 0.936 | 10.404        | 61.067       | 0.936 | 10.404        | 61.067       | 1.024 | 11.586        | 61.067       |
| 4         | 0.804 | 8.934         | 70           | 0.804 | 8.934         | 70           | 0.804 | 8.934         | 70           |
| 5         | 0.675 | 7.497         | 77.497       | 0.675 | 7.497         | 77.497       | 0.675 | 7.497         | 77.497       |
| 6         | 0.635 | 7.055         | 84.552       | 0.635 | 7.055         | 84.552       | 0.635 | 7.055         | 84.552       |
| 7         | 0.577 | 6.41          | 90.962       | 0.577 | 6.41          | 90.962       | 0.577 | 6.41          | 90.962       |
| 8         | 0.454 | 5.04          | 96.002       | 0.454 | 5.04          | 96.002       | 0.454 | 5.04          | 96.002       |
| 9         | 0.36  | 3.998         | 100          | 0.36  | 3.998         | 100          | 0.36  | 3.998         | 100          |

The Table 7 describes the variance of component for Impact of PAS on performance and extract the component which initial total Eigen values are greater than 1 and you can observe
one component is extracted out 8 and these one component is causing a cumulative variation of 41.43%. The scree plot (Figure 3) is plot Eigen values as against the components, and a single components with Eigen value of 3.315 is indicated in the plot above 1-point mark.

![Scree plot of Impact of PAS on performance (8 items)](image)

**Figure 3**: Scree plot of Impact of PAS on performance (8 items)

**Table 7**: Total variance explained statistics of

| Component | Initial Eigenvalues | Extraction Sums of Squared Loadings |
|-----------|---------------------|-------------------------------------|
|           | Total               | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1         | 3.315               | 41.437       | 41.437       | 3.315 | 41.437       | 41.437       |
| 2         | 0.941               | 11.759       | 53.196       |       |              |              |
| 3         | 0.886               | 11.074       | 64.27        |       |              |              |
| 4         | 0.738               | 9.221        | 73.491       |       |              |              |
| 5         | 0.652               | 8.152        | 81.643       |       |              |              |
| 6         | 0.634               | 7.925        | 89.569       |       |              |              |
| 7         | 0.455               | 5.684        | 95.253       |       |              |              |
| 8         | 0.38                | 4.747        | 100          |       |              |              |

Extraction Method: Principal Component Analysis.

5. RESULTS
The regression analysis was carried out for all the three factors that effect the performance management and test the hypothesis. A separate regression analysis was carried out for all the three factors

5.1. Hypotheses Testing

5.1.1. Testing hypothesis 1
H₀₁: Performance appraisal management system does not measure the qualitative and quantitative aspects of job performance in Healthcare Industry around Hyderabad

H₁₁: Performance appraisal management system measure the qualitative and quantitative aspects of job performance in Healthcare Industry around Hyderabad
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Table 8: Model Summary^a,b for performance management

| Model | R Gender = Male | R Squre | Adjusted R Squre | Std. Error of the Estimate | Durbin-Watson Statistic |
|-------|-----------------|---------|------------------|----------------------------|-------------------------|
| 1     | .806^a          | .649    | .649             | .43305                     | 1.79                    |

Predictors: (Constant), Performance Management System
b. Dependent Variable: Performance Management System

The model summary describes the relation between PMS and measurement of the qualitative and quantitative aspects of the performance management. The multiple correlation coefficient $R$, is Pearson correlation coefficient among the scores projected by the regression model, and actual values of the dependent variable. Where, $R$ is a measure of the strength of the linear association between these two variables. This can range from 0 to 1, and strong linear association will be indicated by higher values. The value 0.806, in Table is indicating a high level of relation. The $R^2$, the coefficient of determination is equal to 0.649. The $R^2$ is the proportion of variance in the dependent variable performance management system that can be predicted from the independent performance management. With the value 0.649 indicates that 64.9% of the variance in the dependent variable PMS can be predicted from the independent variable performance management.

The regression coefficients were presented in Table 9. The factor performance management is significantly influencing the performance management system. The dependent variable PMS show significant p value i.e. 0.001 which is less than 0.05 level of significant p value from t test with independent variable performance management. The collinearity statistics indicate there is no multicollinearity in the model.

PMS = 0.1735+0.810 performance management

Therefore, we accept the alternate hypothesis Performance appraisal management system measure the qualitative and quantitative aspects of job performance in Healthcare Industry around Hyderabad.

Table 9. Regression Coefficients^a,b for performance management

| Model | Unstandardized Coefficients | Standardized Coefficients | T | Sig. | 95.0% Confidence Interval for B | Collinearity Statistics |
|-------|-----------------------------|---------------------------|---|------|---------------------------------|-------------------------|
|       | B                           | Std. Error               | Beta |      |        | Lower Bound | Upper Bound | Tolerance | VIF |
| 1     | (Constant)                  | 0.735                    | 0.078 | 9.395 | 0.00   | .000        | 0.212      |           |     |
|       | Performance Management System | 0.810                    | 0.020 | 0.806 | 41.304 | 0.00        | -.123      | 0.07      | .41 | 20.412 |

a. Dependent Variable: Performance Management System

Similarly, from the Table 10 the value R=0.874 indicating a high level of relation between PMS and improved employee performance. The value 0.764 indicate 76.4% variance in dependent variable PMS in the model.

Table 10: Model Summary^a,b for improved employee performance

| Model | R       | R Squre | Adjusted R Squre | Std. Error of the Estimate | Durbin-Watson Statistic |
|-------|---------|---------|------------------|----------------------------|-------------------------|
| 1     | .874^a  | .764    | .764             | .35510                     | 1.67                    |

Predictors: (Constant), Improved employee performance
b. Dependent Variable: Performance management system

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5.1.2. Testing hypothesis 2

H02: An efficient performance appraisal management system evaluates the performance of employee and has the potential for organizational and employee as individual in Healthcare Industry around Hyderabad

H12: An efficient performance appraisal management system does not evaluate the performance of employee and has the potential for organizational and employee as individual in Healthcare Industry around Hyderabad

The regression coefficients from the Table 11 The factor improved employee performance is significantly influencing the performance management system. The dependent variable PMS show significant p value i.e. 0.001 which is less than 0.05 level of significant p value from t test with independent variable performance management.

\[
PMS = PMS=0.270+0.282_{\text{work performance}}+0.655_{\text{employee performance}}
\]

Therefore, we accept the alternate hypothesis an efficient performance appraisal management system does not evaluate the performance of employee and has the potential for organizational and employee as individual in Healthcare Industry around Hyderabad

| Table 11. Regression Coefficients\textsuperscript{a,b} for improved performance |
|-----------------------------------------------|
| Model                      | Unstandardized Coefficients | Standardized Coefficients | 95.0% Confidence Interval for B | Collinearity Statistics |
|-----------------------------|-----------------------------|----------------------------|-------------------------------|-------------------------|
|                             | B   | Std. Error | Beta | T    | Sig.        | Lower Bound | Upper Bound | Tolerance | VIF          |
| (Constant)                  | 0.270 | 0.068 | 3.978 | 0.00 | 0.000 | 0.162 | 0.123 | 0.47 | 21.213 |
| Work performance            | 0.282 | 0.019 | 0.319 | 14.170 | 0.00 | -0.112 | 0.07 | 0.51 | 19.214 |
| Employee performance        | 0.655 | 0.023 | 0.626 | 28.855 | 0.00 | -0.121 | 0.123 | 0.47 | 21.213 |

\textsuperscript{a}. Dependent Variable: Performance Management System

Similarly, from the Table 12 the R value 0.927 indicate a high strength of association between dependent and independent variable and 85.9 of variance in the dependent variable in this model.

| Table 12: Model Summary\textsuperscript{a,b} of impact of PAS on employee performance |
|-----------------------------------------------|
| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson Statistic |
|-------|---------|----------|-------------------|---------------------------|-------------------------|
| 1     | .927\textsuperscript{a} | .859 | .859 | .27262 | 1.81 |

\textsuperscript{a}. Dependent Variable: Performance Management System

Hypothesis 3

H03: An efficient performance appraisal management system helps in the improvement of performance of employees in Healthcare industry around Hyderabad Metro

H13: An efficient performance appraisal management system does not help in the improvement of performance of employees in Healthcare industry around Hyderabad Metro

The relationship between efficient performance appraisal management and improved employee performance with the factor Impact on performance appraisal system on employee performance. From the Table 13 it can be observed that Impact of PAS on employee performance factor also significantly influencing the performance management system as
p<0.001 at 0.05 significant level. Therefore, we accept the alternate hypothesis An efficient performance appraisal management system does not help in the improvement of performance of employees in Healthcare industry around Hyderabad Metro.

\[ PMS = 0.091 + 0.980 \text{impact of PAS on employee performance} \]

**Table 13. Regression Coefficients**

| Model | Unstandardized Coefficients | Standardized Coefficients | 95.0% Confidence Interval for B | Collinearity Statistics |
|-------|-----------------------------|---------------------------|---------------------------------|------------------------|
|       | B                            | Std. Error                | Beta                            | Lower Bound | Upper Bound |
| I     | (Constant)                  | 0.091                     | 0.052                           | 0.80        | 0.000       | 0.211       |
|       | Impact of Employee performance on PAS | 0.980 | 0.013 | .927 | 75.046 | 0.00 | -0.116 | 0.19 |

a. Dependent Variable: Performance Management System

We have also carried out the combined analysis all the three independent variables simultaneously entering into the model. From the Table 14 it can be observed that variation of 86.1% in dependent variable when all the three independent variables entered simultaneously

**Table 14: Model Summary**

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson Statistic |
|-------|---------|----------|-------------------|----------------------------|-------------------------|
| I     | .861*   | 0.741    | 0.740             | .37230                     | 1.64                    |

Predictors: (Constant),

b. Dependent Variable: Performance Management System

The significance value in ANOVA Table 14 is .000 indicate that p<.0005, and P<.05 is and an addition of all independent variables leads to a model that is statistically significant, and predicted the dependent variable better than the mean model. The predicted model is statistically significant and better fit to the data than the mean model. The results are F(3, 746) =878.608/ P<.0005; F is indicated that a comparison with F-distribution (F-test) is made, 3 in (3, 746) is degrees of freedom, 744 in (6, 744) indicate the residual degree of freedom, 878.608 is obtained value of the F-statistic i.e. F-value and P< .0005 is the probability of obtaining the observed F-value if the null hypothesis is true (Table 15).

**Table 15. ANOVA**

| Model | Sum of Squares | Df | Mean Square | F     | Sig.  |
|-------|----------------|----|-------------|-------|-------|
| I     | Regression     | 365.335 | 3 | 121.778 | 878.608 | .000* |
|       | Residual       | 127.516 | 746 | .139 |       |       |
| Total | 492.851        | 746 |       |       |       |       |

Predictors: (Constant), Performance Management, Improved employee performance, Impact of PAS on performance

Dependent variable: Performance management system
The regression coefficients from Table 16 indicate that all the three factors are significantly influencing the performance management system in healthcare industry (p<0.001) with 0.05 level of significant. Even when data analyzed combining all the variable the results confirm that all the three factors are influencing significantly the PMS and this also confirms the all the alternate hypotheses are accepted.

\[ PMS = 0.335 + 0.236 \text{Performance management} + 0.244 \text{Improved employee performance} + 0.441 \text{Impact of PAS on improved employee performance} \]

Table 16. Regression Coefficients\textsuperscript{a,b} for combined factors

| Model                      | Unstandardized Coefficients | Standardized Coefficients | 95.0% Confidence Interval for B | Collinearity Statistics |
|----------------------------|----------------------------|---------------------------|---------------------------------|-------------------------|
|                           | B                  | Std. Error | Beta   | T      | Sig. | Lower Bound | Upper Bound | Tolerance | VIF   |
| (Constant)                | 0.335              | 0.071      |        | 4.706  | 0.00 | 0.00        | 0.181      |            |       |
| Performance Management    | 0.236              | 0.045      | 0.2325 | 5.243  | 0.00 | -0.218      | 0.30       | 0.71       | 20.899 |
| Improved employee performance | 0.244            | 0.252      | 0.276  | 11.035 | 0.00 | -0.116      | 0.09       | 0.76       | 21.456 |
| Impact of PAS on improved employee performance | 0.441           | 0.052      | 0.415  | 8.245  | 0.00 | -0.012      | 0.07       | 0.65       | 19.238 |

\textsuperscript{a}. Dependent Variable: Performance Management

6. DISCUSSION
The authors tried to identify the association between performance management system an dependent factor with the three said independent variables in the healthcare industry around Hyderabad metro. A large data from the healthcare industry collected using google form and personal interviews. The results reveal a strong association between performance management system and three said factors, leading to all the alternate hypotheses accepted. The results and hypotheses are in line with the study carried out Pimperi et al. 2018 [17] and Bouphan et. al. (2015) [18]

7. CONCLUSIONS AND LIMITATIONS
Non-availability of appropriate literature and minimal research reports are the main reason for carrying out this study in healthcare industry. The authors restricted this study to the metro of Hyderabad as the design of the study does stops from doing outside Hyderabad and resources also a concern. The toughest part of the study is combining all the appraisals, performance management systems and to arrive at single questionnaire which fits for all, as performance management system vary from company to company and industry to industry. A factor analysis was carried out for dimension reduction and the factor loading values >0.6 components only included in the study.

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