

# “Predictors of satisfactory employee performance in the South African Department of Health”

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Zeleke Worku (South Africa)

# PREDICTORS OF SATISFACTORY EMPLOYEE PERFORMANCE IN THE SOUTH AFRICAN DEPARTMENT OF HEALTH

## Abstract

A study was conducted at the South African Department of Health (DOH) in order to assess the perception held by employees of the DOH at national and provincial levels about the suitability of the Performance Management System (PMS) tool that was being used in the DOH for the assessment and evaluation of the performance of employees working for the DOH at national and provincial level based on their Key Performance Areas (KPA) and Key Performance Indicators (KPIs). The study was based on a stratified random sample of size  $n=120$  employees of the DOH working at national and provincial levels. The study was quantitative, and used methods of data analyses such as frequency tables, cross-tab analysis and binary logistic regression analysis. The degree of productivity of employees at work was measured by using a composite index defined by Le Brasseur, Zannibbi & Zinger (2013). Results obtained from the study showed that about 74% of employees held a favorable view of the PMS tool that was used for the assessment and evaluation of employees. The percentage of respondents who viewed the PMS tool as unhelpful was about 26%. The study showed that the view held by employees working in the DOH about the relevance and objectivity of the PMS tool used for the assessment of employee performance in the DOH was significantly and adversely affected by the perception that the PMS policy was incapable of promoting the effectiveness of the DOH as an organization, the perception that the PMS policy was incapable of rewarding deserving employees, and the perception that there were not enough training opportunities in the PMS, in a decreasing order of strength.

## Keywords

South African Department of Health, Performance Management System, productivity, logistic regression analysis

**JEL Classification** I11, M54, C35

## INTRODUCTION

The study was conducted in 2016 in an attempt to assess and evaluate the perception held by employees of the South African National Department of Health (DOH) about the degree of relevance and suitability of the Performance Management System (PMS) tool used in the South African National Department of Health (DOH) for objectively assessing and evaluating the performance of employees working in the DOH based on their Key Performance Areas (KPA) and Key Performance Indicators (KPIs). The study was conducted by gathering data from employees of the DOH at national and provincial level. A composite index developed by Le Brasseur, Zannibbi and Zinger (2013, pp. 315-330) was used for assessing and measuring the performance of employees. The annual report issued by the South African National Department of Health (2016) for the financial year 2014–2015 indicates that the DOE has received a qualified report from the South African Auditor-General. Areas that need im-

provement were related to the provision of basic and essential health service delivery to South Africans who need the services. The strategic and operational plans used by the DOH for health service delivery in the nine provinces of South Africa are aligned with recommendations and guidelines set out by the United Nations Development Program (UNDP), the World Bank (WB), the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) to be implemented by member nations. In 1978, the WHO had adopted the policy of Health for All by the year 2000, although the policy was not fulfilled due to a number of obstacles (WHO, 2016). Policies set out by the WHO are also used by international institutions such as the United Nations Children's Fund (UNICEF), the World Bank (WB) and the United Nations Development Agency (UNDP). The goal of providing health for all people of the world by the year 2000 was not achieved in most Sub-Saharan African countries mostly due to lack of resources needed for implementation, poor infrastructure, the abuse and misappropriation of resources needed for the provision of basic health services and lack of leadership and political commitment.

The DOH is required to ensure improved health coverage to all South Africans based on the Millennium Development Goals (MDG) that have been adopted by the South African Government. In the course of health service delivery, the DOH is required to work with local municipalities that are characterized by lack of specialized skills, poor productivity, the maladministration and abuse of scarce resources and lack of adherence to the basic principles of good corporate governance. In South Africa, the key challenges faced by the DOH are the magnitude and diversity of the burden of communicable and occupational diseases such as HIV/AIDS, tuberculosis and maternal and child morbidity and mortality (Statistics South Africa, 2012). In order for the DOH to be able to reduce the prevalence and incidence of communicable and occupational diseases to MDG levels, employees working for the DOH, as well as municipal employees who are required to work with the DOH on the provision of health care services must be able to perform adequately on their KPAs and KPIs. To this end, the DOH assesses and evaluates the performance of employees by using a PMS tool. The purpose of this study is to assess the degree to which employees of the DOH view the suitability of the PMS tool for objectively and effectively assessing the performance of employees and the fulfilment of key duties and obligations.

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## 1. BACKGROUND OF STUDY

Hurlbut and Robert (2012) have shown that the ability of the DOH to meet its MDG goals adequately depends upon the degree to which it can utilize resources such as scarce manpower and financial resources optimally. In order for the DOH to fulfil its key mandate, it needs to be able to assess and evaluate the performance and productivity of its employees. Pooe, Worku and Van Rooyen (2016, pp. 24-30) have pointed out that the ability of national South African Departments such as the DOH to fulfil their key mandates is often undermined by the failure of local municipalities to provide efficient municipal level services to clients, stakeholders and the general public mostly due to shortage of specialized skills, lack of leadership, the abuse and maladministration of public assets and resources, and the absence of monitoring and evaluation systems that could be used for ensuring adequate service delivery. Khale and Worku (2015) have pointed out that a key obstacle to effective

municipal level service delivery is lack of adherence to good corporate governance principles such as accountability, objectivity and transparency. Studies conducted by Municipal IQ Hotspot Monitor (2016) and Elliot & Boshoff (2013) have shown that the key obstacles to adequate municipal service delivery in almost all South African municipalities are the acute shortage of specialized skills that are required for municipal level service delivery, lack of accountability, transparency and objectivity by elected officials, and inability to assess and evaluate the performance and productivity of employees who work on service delivery issues and mandates. There is a shortage of empirical studies that could show how effective PMS tools developed by national ministries such as the DOH are for effectively assessing and evaluating the overall productivity and performance of employees. The aim of the study was to fill the gap by conducting empirical research at the DOH by collecting data from employees working for the DOH at national and provincial levels.

## 2. LITERATURE REVIEW

The provision of incentives and good leadership at the workplace is critically needed for ensuring efficient service delivery and adequate performance by civil servants and municipal employees (Fahy, 2013). Studies conducted by Pooe, Worku and Van Rooyen (2016, pp. 24-30), Khale (2015) and Khale & Worku (2013, 2015) indicate that lack of specialized skills and the absence of a performance monitoring and evaluation system often undermine the quality of municipal service delivery in large municipalities in all regions of South Africa. The South African Municipal Systems Act of 2000 (Act 32 of 2000) requires all municipalities to cooperate and work with the DOH in areas that are related to the provision of health care services to South Africans. To this end, local municipalities are required by law to use an Integrated Development Plan (IDP) that provides guidance and specific instructions on public service delivery norms and standards that must be complied with by all South African municipalities. Khale (2015) has shown that the IDP is often disregarded or poorly complied with by most South African municipalities. This problem is known to undermine the quality of municipal services. It also undermines the ability of the DOH to provide quality health care services to ordinary South Africans at municipal levels. As such, the DOH needs to assist and empower underperforming municipalities by providing skills-based training opportunities to employees who are required to work with and liaise with the DOH on matters of basic health service delivery. Doing so is critically vital for both the DOH and local municipalities, and has the potential for enabling the DOH to improve the current rate of health service coverage in South Africa and fulfilling commitments that are related to the Millennium Development Goals adopted by the South African Government (South African National Department of Health, 2016; World Health Organization, 2016; World Bank, 2016; United Nations Development Program, 2016; Statistics South Africa, 2012). In this regard, the key challenge has been a shortage of highly skilled and motivated employees of the DOH, as well as local municipalities. The mandate of the DOH requires the presence of adequate collaboration with local municipalities as a key strategy

of ensuring adequate health service delivery to all South Africans. Quality assurance entails the training and motivation of employees working for the DOH and local municipalities, as well as good leadership within the DOH and local municipalities all over South Africa (Khale & Worku, 2015; Worku, 2016).

In order for large organizations to be productive, their employees must be encouraged to question aspects of assessment that are not relevant to their KPAs and KPIs. Harris (2013) has pointed out that highly successful performance assessments are credible in the eyes of employees. The authors recommend that assessment criteria should be made relevant to KPAs and KPIs of employees and the circumstances in which work was performed by employees. An objective, reliable and trustworthy PMS system motivates employees to work hard under difficult circumstances. Health economists and public health specialists such as Dick, Gallimore & Brown (2009), Dzansi & Dzansi (2010) and Dashwood (2014) have pointed out the benefits of providing employees with skills-based and tailor-made training opportunities in large organizations. It has been pointed out that the absence of incentives to hard-working employees often leads to the loss of such employees as well as failure to perform optimally.

The key mandate of the DOH is to provide adequate health care services to all South Africans. In order to achieve this goal, the DOH must collaborate with stakeholders such as local municipalities and non-governmental organizations. One of the biggest challenges of the DOH is to reduce the prevalence and incidence of HIV/AIDS, as well as maternal and child mortality and morbidity. This massive task of the DOH requires the ability to utilize scarce resources and manpower efficiently and according to approved plans of action. This fact makes it essential for the DOH to use highly efficient and objective PMS systems for the assessment of performance. Providing skills-based training opportunities is strategically beneficial for empowering employees who underperform their duties. This fact has been corroborated by Akinboade, Mokwena & Kinck (2013), Alexander (2010), Atkinson (2009), Amir, Ahmad & Mohamad (2010).

### 3. OBJECTIVES OF STUDY

The overall objective of study is to assess and evaluate the degree to which the PMS tool used by the DOH for the assessment of employee performance is viewed favorably by employees of the DOH at national and provincial levels. The study has the following specific objectives:

- to determine the percentage of employees working in the South African National Department of Health who view the PMS tool used by the DOH for assessing the performance of employees favorably;
- to identify and quantify factors that affect the view held by employees of the DOH about the suitability of the PMS tool for objectively assessing the performance of employees of the DOH;
- to determine practical amendments that ought to be made to the PMS tool that is currently being used for assessing the performance of employees working in the DOH at national and provincial levels.

### 4. METHODS AND MATERIALS OF STUDY

Data were collected from a stratified random sample of 120 employees of the DOH working at national and provincial levels. Data collection was done by using a structured, pre-tested and validated questionnaire of study. The performance of employees was assessed by using a composite index developed by Le Brasseur, Zannibbi & Zinger (2013) for assessing the performance of employees in large organizations such as the DOH. Cross-tab analyses (Hair, Black, Babin & Anderson, 2010) and binary logistic regression analysis (Hosmer & Lemeshow, 2013) were used for performing statistical data analyses.

### 5. RESULTS OF STUDY

Table 1 shows frequency proportions for the general characteristics of the 120 employees of DOH who took part in the study. The table shows actual

numbers of respondents out of 120, as well as percentages of attributes. It can be seen from the table that about 74% of respondents had a positive view of the PMS tool used by the DOH for the assessment of employee performance. The percentage of respondents who had a negative view of the PMS tool was about 26%. The percentages of male and female respondents were equal to 55% and 45%, respectively. About 58% of respondents were married. About 53% of respondents had served the DOH for between 3 and 5 years at the time of the study. Nearly 70% of respondents were permanently employed by the DOH.

**Table 1.** General characteristics of respondents (n=120)

Variable of study	Percentage
View held by employees about PMS tool	Positive: 89 (74.17%) Negative: 31 (25.83%)
Gender of respondents	Male: 66 (55.00%) Female: 54 (45.00%)
Marital status of respondents	Married: 70 (58.33%) Single: 24 (20.00%) Divorced: 14 (11.67%) Widowed: 3 (2.50%) Living together: 9 (7.50%)
Highest level of education of respondents	Master's degree or above: 26 (21.67%) Bachelor's degree: 42 (35.00%) Diploma: 37 (30.83%) Certificate or less: 15 (12.50%)
Rank of respondents	Chief Director: 3 (2.50%) Director: 6 (5.00%) Deputy Director: 8 (6.67%) Assistant Director: 59 (49.17%) Clerical employee: 33 (27.50%)
Duration of service of respondents	Less than a year: 8 (6.67%) 1 to 2 years: 15 (12.50%) 3 to 5 years: 63 (52.50%) 5 years or more: 34 (28.33%)
Type of employment of respondents	Volunteer: 7 (5.83%) Intern: 6 (5.00%) Temporary: 7 (5.83%) Contract: 17 (14.17%) Permanent: 83 (69.17%)

Pearson's Chi-square tests of association were performed between values of variable Y and each of the factors that are known to affect the views held

by employees about the suitability of the PMS tool used at the workplace by the DOH for assessing the performance of employees working for the DOH at national and provincial levels. Results obtained from cross-tab analyses showed that negative perception on the suitability of the PMS tool for the assessment of employee performance was significantly associated with 8 factors at the 5% level of significance. At the 5% level of significance, significant two-way associations are characterized by large observed Chi-square values and P-values that are smaller than 0.05. It can be seen from Table 2 that the 8 factors used for cross-tab analyses are significantly associated with productivity at the 5% level of significance.

**Table 2.** Results obtained from cross-tab analyses

Factors significantly associated with negative view about PMS tool	Observed Chi-square value	P-value
Perception that the PMS policy is incapable of promoting the effectiveness of the DOH	19.9322	0.000***
Perception that the PMS policy is incapable of rewarding deserving employees	15.4087	0.000***
Perception of lack of training opportunities in the PMS policy	13.0908	0.000***
Perception of lack of support for the PMS policy from the top leadership of DOH	10.3245	0.000***
Inability of employees to work together with their managers	9.3643	0.002**
Short duration of service at DOH	8.4907	0.005**
Non-permanent employment at DOH	6.7709	0.008**
Low rank of employment	5.1186	0.014*

Notes: significance at \* P < 0.05; \*\* P < 0.01; \*\*\* P < 0.001 levels of significance.

Table 3 shows results obtained from binary logistic regression analysis (Hosmer & Lemeshow, 2013). At the 5% level of significance, influential predictors of motivation have odds ratios that are significantly different from 1, P-values that are smaller than 0.05, and 95% confidence intervals of odds ratios that do not contain 1.

**Table 3.** Odds Ratios (OR) estimated from binary logistic regression analysis

Variable	P-value	OR and 95% Confidence Intervals of Odds Ratio
Perception that the PMS policy is incapable of promoting the effectiveness of the DOH	0.000***	6.04 (2.47, ..., 9.97)
Perception that the PMS policy is incapable of rewarding deserving employees	0.002**	4.37 (1.59, ..., 8.62)
Perception of lack of training opportunities in the PMS	0.014*	2.88 (1.22, ..., 5.49)

Results obtained from binary logistic regression analysis show that 3 of the variables used for binary logistic regression analysis were highly influential predictors of a negative view about the suitability of the PMS tool used by the DOH for the assessment of employee performance. These 3 predictor variables of study were the perception that the PMS policy is incapable of promoting the effectiveness of the DOH, the perception that the PMS policy is incapable of rewarding deserving employees, and the perception that there were not enough training opportunities in the PMS, in a decreasing order of strength.

## 6. DISCUSSION OF RESULTS OF STUDY

The key finding of study is that about 74% of employees had a positive view about the PMS tool used by the DOH for assessing the performance of employees. The percentage of respondents who had a negative view of the PMS tool was about 26%. The percentages of male and female respondents

were equal to 55% and 45%, respectively. About 58% of respondents were married. About 53% of respondents had served the DOH for between 3 and 5 years at the time of the study. Nearly 70% of respondents were permanently employed by the DOH.

Based on results obtained from cross-tab analyses, the view held by employees of the DOH about the suitability of the PMS tool used in the DOH for objectively assessing the performance of employees was significantly and adversely affected by 8 factors. These 8 factors were: the perception that the PMS policy is incapable of promoting the effectiveness of the DOH, the perception that the PMS policy is incapable of rewarding deserving employees, the perception of lack of training opportunities in the PMS, the perception of lack of support for the PMS policy from the top leader-

ship of DOH, the apparent inability of employees to work together with their managers, short duration of service at DOH, non-permanent employment at DOH, and low rank of employment at the DOH, in a decreasing order of strength.

Results obtained from binary logistic regression analysis showed that the view held by employees of the DOH about the suitability of the PMS tool used in the DOH for objectively assessing the performance of employees was significantly and adversely affected by three predictor variables. These three predictor variables of study were the perception that the PMS policy is incapable of promoting the effectiveness of the DOH, the perception that the PMS policy is incapable of rewarding deserving employees, and the perception that there were not enough training opportunities in the PMS, in a decreasing order of strength.

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## CONCLUSION

The study has shown that about 26% of employees hold a negative perception about the suitability of the PMS tool being used for the assessment of employee performance in the DOH. Since this figure is larger than a quarter, the DOH ought to allow employees to point out aspects of the PMS tool that might need improvement or amendment. The study found that about 55% of respondents believed that the policy was quite capable of making a meaningful contribution to the effectiveness of the DOH. The percentage of respondents who felt that the policy was incapable of making a meaningful contribution was less than 20%. About 45% of respondents believed that it was beneficial for the DOH to allow managers to work with employees as a means of promoting overall efficiency and productivity at the workplace. The percentage of respondents who felt that it was not beneficial to allow managers to work with employees as a means of promoting overall efficiency and productivity at the workplace was about 22%.

The views held by employees about the PMS tool was significantly and adversely affected by the perception that the PMS policy was incapable of promoting the effectiveness of the DOH, the perception that the PMS policy was incapable of rewarding deserving employees, and the perception that there were not enough training opportunities in the PMS.

## RECOMMENDATIONS

Based on the findings of the study, the following two recommendations are made to the South African National Department of Health (DOH):

- the Performance Management System (PMS) being used at the DOH for the assessment of performance by employees must include a detailed plan of action that enables employees to acquire skills-based and tailor-made training opportunities based on their KPAs and KPIs. Doing so enables employees to have confidence in the PMS system. In order for this recommendation to be effective, a needs assessment survey should be conducted within the DOH by collecting empirical data from all employees who are required to provide services to stakeholders;

- the PMS system currently being used by the DOH for the assessment of productivity and performance must demonstrate its capacity for accurately and objectively identifying and rewarding top-performing or deserving employees. This task must be performed by taking into account the basic principles of good corporate governance. Examples of such principles are objectivity, fairness and transparency;
- the study has shown that the ability of the DOH to offer adequate health care services to South Africans depends upon the degree to which local municipalities offer efficient municipal services. With this in mind, the DOH must develop a comprehensive plan of action in which employees will be able to work with municipalities and local governments that are responsible for the provision of basic health related services to the general public and population. Training and supervisory support must be provided to employees working in local municipalities with a view to have them adequately equipped and familiarized with KPAs and KPIs of employees of the DOH who will be working with them and supervising them. Doing so has the potential for improving the current health coverage rate at local municipality levels.

## REFERENCES

1. Akinboade, O. A., Mokwena, M. P., & Kinck, E. C. (2013). Understanding Citizens' Participation In Service Delivery Protest In South Africa. *International Journal of Social Economics*, 40(5), 461-462.
2. Alexander, P. (2010). Rebellion Of The Poor: South Africa's Service Delivery Protests-A Preliminary Analysis. *Review of African Political Economy*, 37(123), 25-40.
3. Amir, A. M., Ahmad, N. N. N., & Mohamad, M. H. S. (2010). An Investigation On Pms Attributes In Service Organizations In Malaysia. *International Journal of Productivity and Performance Management*, 59(8),734-756.
4. Atkinson, D. (2009). *Post-Apartheid Local Government Reform: A Small Town Perspective*. Pretoria: Centre For Development And Enterprise.
5. Dashwood, H. S. (2014). Sustainable Development And Industry Self-Regulation Developments in the Global Mining Sector. *Business & Society*, 53(4), 551-582.
6. Dick, G. P. M., Gallimore, K., & Brown, J. C. (2009). Exploring Performance Attribution: The Case of Quality Management. *International Journal of Productivity and Performance Management*, 58(4), 311-328.
7. Dzansi, D. Y., & Dzansi, L. W. (2010). Understanding the impact of Human Resource Management Practices on Municipal Service Delivery in South Africa: An Organizational Justice Approach. *African Journal of Business Management*, 4(6), 995-1005.
8. Elliot, R., & Boshoff, C. (2013). The influence of Organisation Factors in Small Tourism Businesses on the Success of Internet Marketing. *Management Dynamics*, 14(3), 44 -58.
9. Fahy, J. (2013). The Resource-Based View of the Firm: Some Stumbling-Blocks on the Road to Understanding Sustainable Competitive Advantage. *Journal of European Industrial Training*, 21(2), 94-104.
10. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*. London: Pearson.
11. Harris, P. G. (2013). *What's Wrong With Climate Politics and How To Fix It*. New York: Polity.
12. Hosmer, D. W., & Lemeshow, S. (2013). *Applied Logistic Regression Analysis*, 2nd Ed. New York: John Wiley & Sons.
13. Hurlbut, J. B., & Robert, J. S. (2012). Good Governance Connects Science And Society. *Journal of Policy Analysis and Management*. <https://doi.org/10.1002/Pam.21612>
14. Khale, S., & Worku, Z. (2013). Factors that Affect Municipal Service Delivery in Gauteng And North West Provinces of South Africa. *African Journal of Science, Technology, Innovation and Development*, 2(3), 61-70.
15. Khale, S., & Worku, Z. (2015). Benefits of Good Corporate Governance Principles: A Study of the City of Tshwane, South Africa. *Journal of Corporate Governance and Control*, 13(1), 753-770.
16. Khale, S. (2015). Assessment of the Quality of Municipal Services in the City of Tshwane, South Africa. *Journal of Corporate Governance and Control*, 13(1), 678-695.
17. Khale, S., & Worku, Z. (2015). Benefits of Good Corporate Governance Principles: A Study of the City of Tshwane, South Africa. *Journal of Corporate Governance and Control*, 13(1), 753-770.
18. Le Brasseur, R., Zannibbi, L. Y., Zinger, T. J. (2013). Growth Momentum in the Early Stages of Small Business Start-Ups. *International Small Business Journal*, 21(3), 315-330.
19. Municipal Iq Hotspot Monitor. (2016). *Press Release: Municipal Iq's Municipal Hotspots Results For*



2015. Retrieved from: <http://www.municipaliq.co.za/> (accessed on 07 February 2017).
20. Pooe, S., Worku, Z., & Van Rooyen, E. J. (2016). The impact of Tailor-Made Skills Based Training Programmes on the Performance of Municipalities: The Case of the City of Tshwane. *Journal of Risk Governance & Control: Financial Markets and Institutions*, 6(4), 24-30.
  21. South African Government Communication and Information System. (2004). *The Municipal Finance Management Act Number 56 of 2003*. Retrieved from <http://www.info.gov.za/acts/> (accessed on 07 February 2017).
  22. South African National Department of Health. (2016). *Annual Report for 2014/2015*. Retrieved from <http://www.doh.gov.za/> (accessed on 07 February 2017).
  23. South African National Department of Public Service and Administration. (2012). *Batho Pele Principles*. Retrieved from <http://www.dpsa.gov.za/batho-pele/index.asp> (accessed on 07 February 2017).
  24. Stata Corporation. (2015). *User's Guide for Stata Version 14*. College Station, Texas: Stata Corporation.
  25. South African Auditor-General. (2016). *Annual Report for the Financial Year 2014/2015*. Retrieved from <http://hsf.org.za/resource-centre/> (accessed on 07 February 2017).
  26. South African Government Communication and Information System. (1996). *Constitution of the Republic of South Africa: Act No. 108 of 1996*. Retrieved from [www.info.gov.za/documents/](http://www.info.gov.za/documents/) (accessed on 07 February 2017).
  27. Statistics South Africa. (2012). *Results of Census 2011*. Retrieved from [www.statssa.gov.za](http://www.statssa.gov.za) (accessed on 07 February 2017).
  28. United Nations Development Program. (2016). *Annual Report for the Year 2015*. New York: United Nations.
  29. Worku, Z. (2016). The impact of Service Quality on the Viability of Start-Up Businesses. *Journal of Corporate Ownership and Control*, 13(3-3), 518-522.
  30. World Health Organization. (2016). *Annual Report for 2015*. Geneva: World Health Organization.