Exploring the use of Information and Communication Technology in the Implementation of a Performance Management and Development System in the South African Public Service

DAVID M MELLO
North-West University
david.mello@nwu.ac.za

Abstract

The unhappiness of some South African public service officials regarding the performance management and development system of managing and assessing their performance is widely reported by the Public Service Commission through its annual reports, unpublished research reports, and published articles on the subject. As the world is moving faster on the information highway, it is expected that the South African Public Service should start pondering new ways of capturing, recording and using performance information with the aid of information and communication technologies (ICTs). The private sector, due to its relative flexibility, has been able to adapt quickly to the use of information and communication technologies in managing the performance of employees. A critical question posed in this article is: Can the South African Public service learn lessons from the private sector and other public services regarding the use of ICTs in performance management? In answering this pertinent question, a qualitative approach was adopted in the study. Two major findings are worth noting. The first finding is that the current ICTs-based PERSAL system which is mainly used by human resource officials is ineffective and unreliable. The second finding is that there is currently no documented attempt to modernise performance management and development system using ICTs. A recommendation is made for the overhaul of the current performance management system in the South African public service.

Key Words: Performance, Management, South Africa, public service, information and communication technologies

Introduction

Concerns regarding performance management and, in particular, performance appraisal are well documented (Aro-Gordon 2015, Mello 2015). Computer software is, according to Spinks, Wells and Meche (1999), one of the ways in which employee performance appraisals can be managed effectively and efficiently. Halachmi (2000) acknowledges the widely held perception that the public sector lags in exploiting advances in technology. While there is a perception that the public sector is always lagging, a study conducted by the University of Stellenbosch Business School, which includes nine top South African companies, cited by Grobler, Warnich Carrell, Elbert and Hatfield (2002), highlights inadequate performance information as one of the challenges. Spinks et al. (1999) are of the view that poorly managed performance appraisals have the potential to do more harm than good.

Any research must be based on sound methods and a theoretical basis. Within the broader scope of research methodology, there are several methods that researchers can choose from. When conducting research, researchers can choose a specific method within the broader scope of either the qualitative or quantitative approaches. For purposes of this study, the qualitative research methodology was adopted with the archival design chosen and applied. Secondary sources of data were relied upon to conclude the study. The discussion in this article is based on the agency theory. Agency theory is based on the belief that an agency relationship exists between a supervisor (principal) and subordinate (agent). The supervisor depends on the performance of the subordinate to achieve predetermined objectives, and consequently the obligation on the subordinate to perform while the supervisor retains the right to monitor performance (Kagaari, Munene, and Ntayi 2010).

To answer the question posed in the abstract, this article probes the status quo in the implementation of the performance management and development system (PMDS) in the South African public service. To this end, the extent to which ICTs are used internationally and in South African public service in the implementation of the PMDS is assessed. The article also focuses on key role-players necessary for the use of ICTs in the implementation of performance management and development systems. The discussion further focuses on the prerequisites for using ICTs in the implementation of the performance management and development systems. Attention is subsequently on the impact of the human factor on the implementation of performance management and development systems. Finally, to make a strong case for or against the use of ICTs in performance management, the advantages and disadvantages of using ICTs in performance management are explored.

Definition of Concepts

Three concepts are central to understanding the discussion in this article. These concepts are information and communication technology, performance monitoring and performance management. These concepts are explained within the context of this article.

Information and Communication Technologies

Information and communication technologies are described by Stone, Deadrick, Lukaszewski, and Johnson (2015) as the application of computers and telecommunication devices to collect, store, retrieve and disseminate data for operations of an organisation. A performance information system is defined by Prinsloo (2011) as a set of performance measures and the processes of producing the required information. ICTs are an inherent part of any sophisticated performance information system. The introduction of information and communication technologies in performance management requires updated software and hardware. A reliable operating system, a computer, printer and other gadgets that may be procured depending on the type of monitoring required as well as information technology specialists for backup are the minimum requirements for introducing and piloting a new system

Performance Monitoring

According to Manyaka and Sebola (2015), performance monitoring is about the continuous collection of data pertaining to job activities and assessing progress as well as the quality of work performed by employees. Collection of performance data is never disputed as this is part of the contractual agreement that exists between the employer and the employee. The use of information and communication technologies in the collection of performance data is often a bone of contention between the employer and employees. Employee performance monitoring relies on the use of technology to monitor the performance of employees through computer terminals and other gadgets such as the telephone (Aiello and Kolb, 2005). Performance monitoring refers to the collection of information about work effectiveness and productivity of individuals, groups and organisation units (Stanton and Julian 2002). Electronic performance monitoring is defined by Nebeker and Tatum in Stanton and Julian (2002) as the use of ICTs in the collection, storage, analysis and reporting of individual and group performance.

Performance Management

Rummler and Brache in Baker (2010) define what they term human performance system as inputs, processing, outputs, analysis and feedback that is performed by humans and it is part of the total system. Abbay, in Pfano and Beharry (2016), describes performance management as activities meant to ensure that goals are achieved consistently. Mello (2014) explains performance management as a process integrated with other organisational systems and strategies for the optimal realisation of organisational goals and continuous development of individual employees. Mello's (2014) explanation is

supported by Swanepoel, Erasmus, and Schenk (2008), who emphasise that the performance management system should be tailor-made per organisational needs, culture as well as the prevailing organisational milieu. Furthermore, the latter authors emphasise alignment with other systems. Prinsloo (2011) brings an interesting dimension to performance management. Prinsloo (2011) argues that institutions should develop and implement a performance information system that is either IT-based or manual. Such a system, it is argued, should be able to collect and process data into usable reports. Information from the system suggested by Prinsloo (2011) could be used for decision-making relating to promotions, rewards, development and consequence management, among others.

Grobler et al. (2002) suggest that there should be a human resource information system, which can collect, record, and store, analyse, and retrieve data. The South African public service has a system with a similar capacity. The system is further elaborated upon in the following section on past and current use of ICTs in performance management.

Past and Current Use of ICTs in Performance Management

A literature review on the subject shows that very little has been published on the use of ICTs in the implementation of the performance management and development system in South Africa. This scarcity of published material is not only confined to South Africa. On the African continent, most research focuses on ICTs as opposed to its use in performance management. Special issues edited by two groups of academics are worth noting when one appraises the literature. The first special issue was put together by Ponelis and Holmner in 2015. This special issue is titled 'ICT in Africa: Building a Better Life for All' was published in Information Technology for Development Journal. The second special issue is edited by Etoundi, Eteme, Onana, and Ndjodo, in 2016. The special issue focuses on ICT for African development in the Electronic Journal of Information Systems in Developing Countries. The review of literature further shows that on the African continent, two authors have tried to make inroads into the use of ICTs in performance management. Aro-Gordon (2015) writes on the subject from a Nigerian perspective. This author also tries to provide an overview of other African countries including South Africa. Another author, Prinsloo (2011), writes about the performance information system. While her work is broader than the subject being discussed, there are valuable lessons to be learned from her work.

Government departments in South Africa have historically been slower on the uptake of information and communication technologies. Departments have blamed insufficient resources for the slow pace of introducing and updating ITCs. However, it is common knowledge that there is no sense of urgency in government as compared to a private company that is pursuing profit margins. In the past 10 years, there have been some improvements with significant inroads having been made into the use of ICT for purposes of service delivery. Government institutions, which include, among others, the Department

of Home Affairs and the South African Revenue Services have somewhat successfully introduced the technology in the rendering of services to their clients. If one looks at the reasons for the introduction of ICTs in most government institutions, it becomes clear that security and the pressure to deliver better services at a faster pace were the main considerations for the introduction of the latest technology. It is my submission that the introduction of ICTs in most government institutions has mainly been a reaction to existing or looming crises.

Except for grievances that are lodged, there is no immediate threat of a crisis in the implementation of the performance management and development system, and consequently the improvement of the system is not a priority. The author contends that during periods of relative calm when there is no crises such as the Covid 19 pandemic, government institutions have the leisure of time and absence of pressure to explore the introduction of ICTs in performance management and development systems through pilot projects involving smaller government departments, which include, among others, the Office of the Public Service Commission, departments of Science and Technology as well as Sports and Recreation.

Two contending views are evident in the literature on the limited introduction of ICTs performance management and development system. These two contending views can, for purposes of this article, be referred to as pro-ITCs and anti-ICTs. Proponents of the pro-ICTs are mainly employers who stand to benefit. The anti-ICTs' view is supported by employees and trade unions who mainly focus on the rights that may be infringed upon by the introduction of ICTs. The anti-ICTs contends that machines and technology have no place in employee appraisal. The pro-ICTs view contends that using ICT can minimise incidences of subjectivity and related perceptions (Aro-Gordon, 2015). These two opposing views are central to decisions about whether technology should be introduced in performance management or not.

The introduction of technology in performance management represents change. Change forces people to learn and unlearn. Learning new applications may instil fear in some people; from there the argument that ICTs have no place in performance management. It is the author's view that introducing new technology in the performance management and development system is not a choice, but it is rather about when and how. The next section of this article focuses on when and how.

US Congress, Flanagan, American Management Association and Botan, as cited in Alder and Ambrose (2005), estimate that between 1987 and 2000 the number of US employees monitored using ICTs grew from 6 million to 40 million. Seventy five percent (75%) of large US companies were monitoring their employees using ICTs. Figures regarding the growth between 6 million and 10 million are corroborated by Alder (2001), as well as Aiello and Kolb (1995). The number of employees being monitored grew to 78% in 2001 (Carroll

2008). These figures rose to 82% of employers using ICTs to monitor employees (Alder, Scminke, Noel, and Kuenzi 2007).

Ninety-three percent (93%) of US organisations surveyed in 2014 use some kind of electronic performance management system (Stone, Deadrick, Lukaszewski, and Johnson 2015). Technology in these organisations is used primarily to support the performance management processes in areas such as performance measurement and feedback. Technology in these organisations is used to track performance on an ongoing basis and to capture formal and informal evaluations as well as the tabulation of the results of multi-rater feedback.

Research conducted by Ang and Cunnings, Kluger and Adler, Earley as cited in Stone, Deadrick, Lukaszewski, and Johnson (2015) provides evidence that employees are likely to prefer and trust computerised feedback to feedback provided by the supervisor. A quasi-experimental study conducted by Payne, Horner, Boswell, Schroeder, and Stine-Cheyne (2009) found that employees rated with the online version of the performance appraisal system reported significantly higher levels of rater accountability and participation than employee rated with the traditional instruments. While the evidence provided in the argument above may not be sufficient due to the limited number of studies conducted in the United States of America and Europe, one can still argue that these researchers and their studies provide some pointers regarding the direction that the South African public service should take. It is further important to note that research conducted in developed countries needs to be looked at with great circumspect as the circumstances that prevail in South Africa may be completely different from those prevailing in developed countries.

In South Africa, national and provincial government departments have since the early 1990s used the Personnel and Salary System (PERSAL). This is a basic IT system that can capture, store and retrieve human resource data using an employee's unique number. The system was, according to the PERSAL clean-up strategy (Department of Public Service and Administration, 2012), not reliable in providing accurate information and producing human resource information needed for decision-making. PERSAL deficiencies and other priorities prompted the government to ponder the possibility of replacing the system with the integrated financial management system, which includes, among others, integrated human resource, payroll, financial and supply chain management, and business intelligence information (Integrated Financial Management System and PERSAL projects, available online). The project mooted in 2010 was estimated at R559 million (Department of Public Service and Administration, 2012). The implementation of this project involved the Department of Public Service and Administration, Treasury, and SITA. Other stakeholders from the private sector were also involved. Despite good intentions and money spent, to date, the PERSAL system is still being used with its deficiencies.

Role Players in the Introduction of ICTs

The introduction of ICTs in performance management and development systems requires the involvement of all stakeholders in performance management. The presence of stronger unions in South Africa suggests that they are some of the key stakeholders who may contribute to or derail the process of introducing ICTs in performance management and development system. While their contribution cannot be trivialised, it is important that for purposes of this study, institutions that may play a key role during the conceptual stages are brought into the discussion. These institutions include the Department of Public Service and Administration and the State Information Technology Agency.

Department of Public Service and Administration

The Department of Public Service and Administration is a central government department responsible for policy development, which includes, among others, the performance management and development system. While the Policy on Performance Management and Development System provides guidelines without being too prescriptive and therefore allowing flexibility and the possible introduction of ICTs by other Departments, the author contends that the DPSA should be the catalyst in introducing ICTs in PMDS. The Department should work with other departments in improving innovative ways of introducing ICTs in the performance management and development system.

State Information Technology Agency

While the DPSA should be the catalyst, the State Information and Technology Agency (SITA) should be the enabler. SITA is responsible for, among others, the following functions that have a bearing on performance management and development systems:

- To maximise the delivery capabilities of state institutions
- Leverage information and technology as a strategic resource for the government (about SITA, available online at: http://www.sita.co.za accessed on 2017/08/01).
- Application development and maintenance services that have a bearing on digitisation of government as well as automation of departmental processes and functions (SITA services, available online at: http://www.sita.co.za accessed on 2017/08/01).

Depending on the capacity of the SITA to enable the government department to introduce ICTs-based performance management and development system in the South African public service, the private sector can be involved in partnering with the SITA and other government departments. The involvement of the private sector can be in two ways. Firstly, private sector companies that are advanced in the use of ICTs in performance management can be used as case studies. Secondly, private sector IT companies with a proven and verifiable track record could be invited to partner with the SITA in exploring possible ways of advancing the use of ICTs in the implementation of performance management and development system.

Prerequisites for Including ICTs in Performance Management

Employee participation is seen as an important element leading to the acceptance of a ICTs-based performance management and development system (Halachmi 2000, Alder 2001, Alder and Ambrose 2005, Alder, Schminke, Noel, and Kuenzi 2008). Prinsloo (2011) further asserts that it is crucial that in the introduction of a ICTs-based performance information system individuals who are responsible for the overall system should be identified. Furthermore, people who are responsible for the collection and input of data and the type of data necessary must also be identified. Many factors need to be considered for the successful implementation of PMDS. While the list of factors below may not be exhaustive, it is the author's view that these are priority areas that are essential for the success or failure of any new ICTs-based performance management and development system.

Simplicity

Introduction of technology in the implementation of performance management and development system should make the system effective yet simple for supervisors and subordinates alike. Simplicity should be considered during the design and the implementation phases. Developers need to design a system with the user in mind. The system should be user-friendly. On the implementation phase, one way of simplifying any new system will be through training supervisors as well as their subordinates. Emphasis in such training programmes should be the understanding as well as roles, responsibilities and obligations.

Performance monitoring must be embedded in the day-to-day activities of employees

PMDS is meant to ensure that all employees know how they are performing concerning institutional objectives, the expectation of their supervisors, peer benchmarking and their own set goals. Collection of performance data as part of monitoring must be coupled with frequent feedback. Knowledge of how employees are performing in relation to targets, and employer expectations will have a positive impact on future performance.

Infrastructure

Ponelis and Holmner (2015) account that ICTs' penetration on the African continent increased between the late 2000s and early 2010. Infrastructure in the form of computer networks is already available in South African government institutions. What is necessary at this stage is the development of new applications taking into consideration the requirements of interoperability as prescribed in terms of the Public Service Regulations.

Employee-focused system rather than reward or promotion focus

Aro-Gordon's (2015) study points out that the weakness of the South African performance management and development system is its focus on rewards. While rewards are essential for purposes of motivating employees, training and development of employees should be

central to the system. An employee-focused system prioritises employee development and wellbeing. Rewards and promotions are seen as positive spinoffs.

Training
ICT-based PMDS systems would require formal training for supervisors responsible for employee appraisal and information workshops for all employees. Training can be provided by external service providers or in-house. Training can either be practical or theoretical. On-the-job training may yield better results than training that is theoretical.

Accuracy
There must be a way of verifying the authenticity of performance data before capturing and during performance appraisals. The accuracy and authenticity of data will minimise grievances related to performance management and development systems. It is further important to note that any system is as good as its users, and therefore the next section focuses on the human factor in the system.

The Human Factor in Performance Management

Some of the prerequisites for the introduction of PMDS discussed in the preceding section are meant to mitigate human errors in the development and implementation of ICTs-based performance management and development systems. The transition from manual to ICTs-based performance management systems is not a panacea for human errors and indiscretions. The output of any involvement of ICTs in performance management is largely controlled by settings and involvement of a human being (Baker, 2010). Dealing with the imperfections of employees in the implementation of ICTs in performance management and development system requires a regular assessment of the system to identify loopholes and improve the system.

Human error, biases and misconceptions are some of the factors that are likely to impact negatively on a well-designed system of performance management and development. If the system require supervisors and employees to capture data into the system, a mistake that involves the omission or addition of a zero (0) may completely distort an employee's performance outlook and evaluation. The distortion can either be positive or negative. The data that are captured in the system still need to be interpreted by a supervisor. The interpretation of data may be clouded by personal biases and misconceptions. It is for this reason that developers of ICTs-based performance management systems should build in a quality assurance mechanism to verify collected data if collection is not automated and flawless. It is further important to indicate that a system needs to be reviewed at regular intervals of three years for improvement and to minimise human errors and biases.

Advantages of ICTs-Based Performance Management and Development System

Miller (2003) cautions that while computers may be good at accepting the quantity of work performed, they are likely to raise concerns relating to the measurement and acknowledgement of quality. Halachmii (2000) admits that it is not easy to exploit the use of ICTs in performance measurement. It is, for this reason, that one finds researchers on opposite sides of the debate on whether to introduce or not introduce ICTs in performance management. Proponents put more emphasis on advantages while opponents see more disadvantages than advantages.

Trust building and credibility

South African public sector employees demonstrated a lack of trust in the credibility of the system (Aro-Gordon, 2015). In addition to this view by Aro-Gordon, it can be argued that the introduction of ICTs in PMDS will go some way in building the credibility of the system. A new system will require a period of two years to earn trust of employees. The first year will be used to deal with any unexpected teething problems. Such teething problems can be perfected in the second year. Regular review of a performance system should be the norm.

Saving time

ICTs are meant to cut down appraisal bureaucracy. Stone, Deadrick, Lukaszewski and Johnson (2015) argue that the introduction of an automated performance management and development system can save time as supervisors are likely to spend less time on the collection of performance-related data and writing reports for performance appraisal. Many managers are, according to Spinks, Wells, and Meche (1999) too busy to collect the necessary information for performance reviews.

ICTs can allow managers to conduct performance meetings with employees stationed in different geographic locations

Stone et al (2015) argue that conducting performance meetings using ICTs may be a solution to some national government departments in which supervisors and subordinates are located in different provinces of South Africa. It should further be noted that performance meetings using ICTs should be minimised as they are impersonal.

Consistent, fairness and transparency

People who log in and out of the ICTs-based system can be traced, thereby improving transparency in the system. Job satisfaction and low staff turnover (Aro-Gordon, 2015) can be the result of a consistently fair and transparent performance management and development system.

Data security

The use of ICTs can improve the security of data relating to individual performance appraisal results. Prinsloo (2011) advocates the use of logical access control, which, in her view, differs from physical access control. Logical access, as she further explains, uses special files to determine whether a person is allowed access, level of access, and what the user can do on the system. Effective data security should, among others, ensure that modification of data is accompanied by a complete audit trail for accountability purposes. Furthermore, unauthorised access should be denied and any such attempt should be reported.

Rater accountability

Rater accountability has to be both upwards and downward. Supervisors have to justify their rating to both their bosses and subordinates. If employees are to be rated on a scale of one (1) to five (5) (one being worst performance and five being excellent), any value that is attached to an employee's performance must be accounted for. A supervisor who allocates 1 (poor performance) must explain the steps he or she has taken to assist the affected employee. Accountability measures ensure that supervisors act on underperformance in time. Similarly, a supervisor who allocates five (excellent performance) must justify his or rating to ensure that there is no favouritism. Evidence is crucial for a supervisor to justify any rating.

Disadvantages of ICTs-Based Performance Management and Development System

Treating people and their performance as statistics

The human touch and regular performance meetings are necessary to avoid instances where employees feel that they are one of the many in a pool. ICT can create interpersonal distance between subordinates and their supervisors (Stone, et al. 2015)

Supervisor phobia for numbers and technology

Aro-Gordon (2015) asserts that technophobic supervisors are likely to oppose the introduction of ICTs in the performance management and development system. This situation will require careful change management so that all supervisors and subordinates can accept technology. It is further the contention of the author that the advantages outweigh the disadvantages and there is a stronger case for the introduction of ICTs in the South African public service. A system that is considered impersonal by employees is likely to lose credibility and lead to employees antagonising its continued implementation.

Way Forward

In light of the discussion in this paper, a number of recommendations can be made. The current PERSAL system should be upgraded or replaced with an interactive system that can continuously record employee performance without being invasive. The DPSA should play

a key role in the introduction of a ICTs-based system in the next five years (2021 to 2025). An improved PERSAL system or a new system will require consultation with all stakeholders. Important stakeholders are employees, unions and workplace forums where they exist. Training on the new system should be provided to all employees. The new system should be piloted in smaller national departments. The departments of Arts and Culture and the Office of the Public Service Commission are the smallest departments that could be considered for piloting without disadvantaging employees.

Conclusion

A qualitative approach was followed in the research and compilation of this article. For purpose of clarity in the discussion, the concepts of information and communication technology, and performance management were explained within the context of this article. This article further assessed the past and current uses of ICTs in performance management internationally and in South Africa. Role players, the human factor, as well as the advantages and disadvantages of associated with the introduction of ICTs were part of the discussion in this article.

The argument advanced in this article provides evidence that there is little research on the African continent regarding the introduction of ICTs in the performance management and development system. Furthermore, South African government institutions have not fully explored the use of ICTs in PMDS. SITA should be approached or be proactive by suggesting new ways of introducing ICTs in PMDS. This study was qualitative and not conclusive as the views of public sector employees on the use of ICTs in performance management have not been tested. A follow-up survey may be necessary to establish facts regarding the perception of employees on the implementation of IT-based performance management and development systems. Future research could focus on the perceptions of public service employees regarding the overhaul or introduction of a new ICT-based performance system.

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