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Reasons for the transformation of facilities management in the public sector

Peer reviewed

Abstract

Facilities managers in the National Department of Public Works (NDPW) have to manage one of the biggest property portfolios in South Africa. This requires a systematic approach to ensure that tax-payers' monies are not wasted. Research was conducted to determine whether the required policies and expertise are in place or whether there is a need for a transformation strategy in the public sector relating to facilities management. Primary data was collected by means of questionnaires to regional, property and facilities managers in the NDPW. Secondary data was obtained from the literature reviewed in relevant publications. The main findings were that more than half of facilities managers are inexperienced, information management systems are not used extensively and that there is a need for the appointment of properly trained facilities managers in the NDPW.

Keywords: facilities management, transformation strategy, public sector.

Abstrak

Fasiliteitsbestuurders in die Nasionale Departement van Openbare Werke (NDOW) is verantwoordelik vir die bestuur van een van die grootste eiendomsportfolios in Suid-Afrika. Hiervoor is 'n sistematiese benadering nodig om te verseker dat belastingbetalers se geld nie vermors word nie. Navorsing is gedoen om te bepaal of die nodige beleidsrigtinge en kundigheid reeds bestaan en of daar 'n behoefte is dat daar transformasie moet plaasvind rakende fasiliteitsbestuur

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in die NDOW. Primêre data vir die navorsing was verkry met behulp van vraelyste aan streeks-, eiendoms- en fasiliteitsbestuurders in die NDOW. Sekondêre data is verkry uit relevante bestaande literatuur. Die hoofresultate dui aan dat die meerderheid fasiliteitsbestuurders nie genoegsame kennis het nie, inligtingstelsels nie genoegsaam gebruik word nie en dat bevoegde fasiliteitsbestuurders dringend aangestel moet word.

Sleutelwoorde: fasiliteitsbestuur, transformasie-strategie, openbare sektor.

1. Introduction

The South African Government has the largest property portfolio in the southern hemisphere; it is in the custodianship of the National Department of Public Works. This portfolio constitutes approximately 243 000 properties at the value of R120 billion and its running costs amount to R4 billion per annum (Sigcawu, 2000: online). It is estimated that the deferred maintenance (backlog maintenance) is in the region of R13 billion (Bici, 2006). This is a huge challenge facing the South African Government as well as facilities managers in this sector. Research by Mavasa (2007) indicated that the National Department of Public Works (NDPW) is currently ineffective in asset life cycle management, there is no clarity on the existence of an immovable asset management plan and that there is an urgent need for competent personnel with adequate skills to verify, capture and correct property data in an effective asset register.

Smith (1995) states that maintenance is a cost that management does not understand well. The result is that it becomes an orphan at the budget table. This result in most of the decision-makers in an organisation failing to understand that maintenance is also an investment, an essential expense that ensures the long-term reliability and availability of operating equipment and infrastructure. Buys (2004) concludes that having a sound maintenance management system (policy) is one of the most important criteria in any facilities management department. Such a policy should ensure that sufficient funds are provided for maintenance.

Dunn (1990: 19) is of the opinion that "if funding for facility maintenance does not become a regular budgeted item, organisations will soon find themselves mired in the same situation despite today's fix-up campaign". Inappropriate maintenance budget methodology and unstructured facilities management (FM) in the public sector have resulted in inadequate allocation of funds and a substantial

decline in the condition of buildings over a number of years. Hence, this sector now has a huge cost of deferred maintenance. It could be argued that a lack of understanding and the misinterpretation of FM placed it 'in the basement' for too long. The result is that its growth is forcing its place into the boardroom from a hidden function entrusted to the sleepy, slow, and steady to one performed by increasingly bright-eyed and dynamic facilities managers (Becker, 1990). Buys (2004) concurs by stating that it is vital that top management should be made more aware of the importance of maintenance and the consequences of neglecting maintenance/facilities management.

2. Facilities management

Best, Langston & De Valence (2003) define facilities management as "the practice of integrating the management of people and the business process of an organisation with the physical infrastructure to enhance corporate performance." Atkin & Brooks (2005) state that facilities management covers a broad spectrum of real-estate management, financial management, change management, human resources management, health and safety and contract management, as well as building and engineering services, domestic services and other utilities' supplies.

FM is a wide field, which encompasses models that tend to differ considerably from one organisation to another. Atkin & Brooks (2005) also agree with this statement by defining FM as a profession that encompasses multiple disciplines to ensure the functionality of the built environment by integrating people, place, process, and technology. The modern facilities manager has adopted the principles and concept of continuous improvement. Best, *et al.* (2003), in support of this notion, emphasised that any organisation should strive for improvement in its operations whether it is customer satisfaction, increased productivity, better quality of output, better environmental performance, or any other performance indicator. FM emanates from the premise that "no building is perfect and buildings are never perfect" (Cloete, 2002).

It is important that professions involved in property development and occupiers of buildings start to acknowledge mistakes that come with the building and learn to manage them in order that organisational objectives can be achieved and programmatic dysfunction reduced (Cloete, 2002). These are the factors that made FM grow at a very fast rate in the modern business environment.

It is this state of affairs that prompted this research project on FM in the public sector. FM is assumed to be the driving force of the future in the management of buildings and its related services; it could also rescue government from the stated dilemma.

The article reports on attitudes and perceptions regarding FM in the NDPW to establish whether there is a need for a transformation strategy for facilities management in the public sector.

3.   Research method

The primary objective of the research was to determine the perceptions and attitudes of people dealing with FM in the public sector and thereby determine whether there is a need for a transformation strategy. Leedy & Ormrod (2005: 1) state, "in virtually every subject area, our knowledge is incomplete and problems are waiting to be solved. We can address the holes in our knowledge and those unresolved problems by asking relevant questions and then seek answers through systematic research". Leedy (1993) continues by stating that 'facts' are needed to solve any research problem.

A quantitative method of data gathering was used to generate important information from the target population. Mouton & Prozesky (2001) agree that, more often than not, data collection methods that are more quantitative in nature are used in action research. Primary data was obtained through questionnaires completed by facilities managers, regional managers and property managers of the National Department of Public Works (NDPW). The secondary data was obtained through a literature review of relevant publications and information sourced from libraries and the Internet. The secondary data played a major role in the establishment of the criteria and theories against which the empirical research was to be measured and in the compilation of the questionnaire for the survey.

4.   Target population

The NDPW has eleven regional offices, each headed by a regional manager and supported by heads of divisions who are supported by line managers. The target population consisted of 33 managers comprising regional managers (11), property managers (11) and facilities managers (11) selected by being involved in facilities management one-way or another. Gay & Airasian (cited in Leedy & Ormrod, 2005) have the following guidelines for the identification of a sufficient sample:

- For a small population – less than 100 people – there is no need for sampling;

- If the population size is around 500, 50% of the population should be sampled;

- If the population size is around 1500, 20% of the population should be sampled; and

- Beyond a certain point (at about 5000 units or more), a sample of 400 people is adequate.

Based on the above information, the target population for this survey did not require sampling. Every effort to eliminate the likelihood of biased data has been made, but if any can be identified, it is acknowledged. Buys (2004) defines bias as "any influence, condition, or set of conditions that may singly or together distort the data from what may have been obtained under the conditions of pure chance."

5.   Survey results

Data gathered to achieve results, data analysis, and interpretation was analysed using descriptive statistics, namely frequency and percentages with the help of the Department of Statistics at the Nelson Mandela Metropolitan University.

5.1   Target population and respondents

The first table illustrates the composition of the target population and the respondents. The three functional groups form part of the existing organogram of the public sector and was used for categorisation. The responses are shown in Table 1.

Table1:   Target Population and Respondents

Function	Position	Target population		Respondents		Response group
		Number	Percentage	Number	Percentage	Percentage
Regional Managers	Chief Directors/ Directors	11	33.3	4	36.4	23.5
Property Managers	Directors/ Deputy Directors	11	33.3	2	18.2	11.8
Facilities Managers	Deputy & Assistant Directors	11	33.4	11	100	64.7
	Total	33	100	17	51.5	100

A response rate of 51.5% was achieved and this formed the basis
for the analysis and the subsequent conclusions. All Facilities Managers responded, but only 36.4% of Regional Managers and 18.2%
of Property Managers responded. Although Regional and Property
Managers play major roles in the formulation of the policies and programmes in the organisation, the high percentage (64.7%) of the
Facilities Managers group, should give a true and accurate reflection of the state of FM in the public sector.

5.2   Experience in facilities management in the public sector

As experience plays a major role in any field it was important to
establish how much experience respondents had in FM. Experience is linked to tacit knowledge. Tacit knowledge forms one kind
of knowledge, which is sometimes difficult to articulate when using
formal language. Nonaka & Takeuchi (1995) state that tacit knowledge is personal knowledge embedded in individual experience
and involves intangible factors such as personal beliefs, perspectives, and value systems.

Table 2:   Experience in facilities management

Years	Number of respondents	Percentage	Cumulative Percentage
Less than 1 year	3	17.6	17 6
1 - 5 years	6	35.3	52.9
6 - 9 years	3	17.6	70 5
10 years and more	5	29.5	100
Total	17	100	

Most of the respondents (35.3%) had between 1 and 5 years experience while 17.6% had less than 1 year experience in FM. The table
also indicates that more than half of the respondents (52.9%) had
less than 5 years of experience in FM. This is not a satisfactory state of
affairs taking into account the huge property portfolio of the public
sector.

5.3   Definition of FM

Table 3 indicates the respondents' ratings of the definition of FM,
measured by using a five-point Likert scale, namely 1 = strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A) and 5 =
strongly agree (SA). Respondents were not requested to rank the
statements but merely to rate each statement on the 5-point scale.

Table 3:   Statements describing facilities management

Description of facilities management	SD	D	N	A	SA	Total	Weighted Average	Ranking
	1	2	3	4	5			
	Number of responses							
The management of buildings and their related services	0	2	0	9	6	17	4.11	1
Practice of integrating people business process and physical infrastructure	0	0	4	8	5	17	4.05	2
Management of specific physical entities to enable the business to carry out its functions	0	3	2	7	5	17	3.82	3
Management of cleaning and gardening services	1	3	3	6	4	17	3.52	4
Management of all services that support core-business	3	3	3	5	3	17	3.11	5
Property management facilities management and asset management are the same	4	4	3	5	1	17	2.7	6

The results from the table above indicate that the respondents have a fairly good idea of the scope of FM. However, the definition of "Management of cleaning and gardening services" was rated unexpectantly high as FM entails much more than just that. The low rating of 2.7 (disagree) for the last statement also supports the perception that the respondents are knowledgeable about the scope of FM.

5.4   Factors stimulating growth of FM

Table 4 illustrates respondents' perceptions on the factors that have stimulated the growth of the FM discipline. Respondents rated all five factors higher than 3 (thus 'Agree') and this corresponds with the opinion of Becker (1990) who states that the five factors that stimulate the growth of FM is global competition, information technology, the high cost of space, employee expectations, and the cost of mistakes.

Table 4:   Factors stimulating growth of facilities management

Factors stimulating growth of FM	SD	D	N	A	SA	Total	Weighted Average	Ranking
	1	2	3	4	5			
	Number of responses							
Global competition	0	0	1	9	7	17	4.35	1

Information technology	1	0	0	11	5	17	4.12	2
High cost of space	1	0	5	5	6	17	3.88	3
Employee expectations	1	1	8	2	5	17	3.53	4
Cost of mistakes	2	3	4	5	3	17	3.24	5

Although the public sector does not compete globally with other organisations, it is affected to a large extent by the other factors and therefore plays a major role in the management of its facilities.

5.5   Perceptions of FM

Table 5:   Perceptions of FM

Statements about FM	SD	D	N	A	SA	Total	Weighted average	Ranking
	1	2	3	4	5			
	Number of responses							
A lack of knowledge of FM results in poor performance of state properties	0	1	1	6	9	17	4.35	1
A building needs to be nurtured understood and developed to its full potential	0	2	1	4	10	17	4.29	2
Senior-level people should be appointed to interpret the policy in terms of FM to fulfil the role of an 'intelligent client'	0	1	4	6	6	17	4.0	3
FM has developed from its technical base to more of a management discipline	0	3	3	7	4	17	3.71	4
The public sector is far advanced in FM	0	10	1	1	5	17	3.06	5
The availability of funding is the only cause of decay in state properties	4	7	1	1	4	17	2.65	6

It can be noted from the results in Table 5 that respondents agree that a lack of knowledge of FM results in the poor performance of state properties whilst they also agree that buildings need to be nurtured, understood, and developed to its full potential; ratings of 4.35 and 4.29 respectively. Respondents also agree that senior-level people should be appointed to interpret the FM policy to fulfill the role of an 'intelligent client'; thereby agreeing with Cloete (2002). Sievert (1992: online) is further of the opinion that the quality of decisions made by facilities managers is directly related to the quality of information available to them. Buys (2004: 185) supports this viewpoint by stating: "Maintenance/Facilities managers have to make important

decisions regarding maintenance work to be carried out such as whether the work must be carried out immediately or whether it can be deferred, redirect or re-allocate resources for maintenance work to be done and determine whether an item should be repaired or replaced. To make these decisions, he/she must have all the relevant information available such as cost implications of the various alternatives and minimum acceptable standards."

Although the previous results indicate that the respondents are 'knowledgeable' about the scope of FM, there appears to be a need for the appointment of properly trained facilities managers in the public sector. This view is further augmented by the respondents' views that the public sector is not really advanced in FM (rating of 3.06 – 'Neutral').

A lack of funding is usually given as the main reason why there is decay in the condition of buildings. Buys (2004: 10) states that "there is evidence that inadequate finance is one of the biggest problems facing maintenance managers as maintenance budgets seem to be the easiest to cut in times of financial stringency. The limited funds are rather used for new buildings than the upkeep of existing buildings with the result that the maintenance manager is faced with a growing portfolio of responsibilities but diminishing resources". It is noted from the above results that respondents generally disagree (rating 2.65) that the availability of funding is the only cause of the decay or poor condition of state properties.

5.6   Information management systems

The use of information management systems can be very beneficial to any organisation as computer software makes it possible to store and retrieve maintenance data making it easier to obtain the required information in order to make the right decisions. Magee (1988) maintains that the computer, because of its ability to store and manipulate large amounts of data, can be a valuable asset to the facilities manager. Corti (2001) states that it is vital to have a system which can respond rapidly to inquiries from senior management, providing accurate and detailed information. Buys (2004) concludes that it is vital for organisations to use computerised maintenance management systems to enhance data and information communication throughout the building life cycle and to assist maintenance managers to record, monitor and predict the maintenance costs associated with the building elements, components or parts.

Table 6 indicates the extent to which Information management sys-
tems are used in the NDPW.

Table 6:   Information management systems in use

FM systems in use	Use of Information management systems					Total	Weighted Average ratings
	Never			Always			
	1	2	3	4	5		
	Number of responses						
Facilities Management Information Management System	14	1	0	2	0	17	1.41
Property Management Information Management System	7	0	4	5	1	17	2.59
Maintenance Management Information Management System	11	2	3	1	0	17	1.65
Average rating							1.88

The average rating of 1.88 clearly indicates that Information man-
agement systems are not used extensively in the NDPW. The highest
rating is for using a Property Management Information management
system. Although the reasons for the under-utilisation of Information
management systems was not made known, it may be that the soft-
ware is too expensive, users are not trained to use the software, the
organisation are not aware of the advantages of using information
management systems or do not know which software to use.

The effect of this phenomenon could result in major setbacks for the
organisation such as client dissatisfaction, non-competitiveness, and
the poor performance of the portfolio. Smith (1995) states that the
maintenance management system develops benchmark informa-
tion from operating data and it helps the maintenance manager to
determine where changes for improvement are needed.

5.7   FM activities

FM covers a wide range of activities and a list of these activities was
included in the questionnaire to ascertain which activities are included
in the portfolio of the respondent and to what degree respondents
rate its importance. These are generic facilities management activi-
ties which form the core of this discipline. The following table tabulates
the activities, the percentage of respondents who are responsible for
these activities, and respondents' views on their importance. The lit-
erature review formed the basis for identifying the activities.

Table 7:   FM activities

FM activities:	Percentage of respondents responsible for the FM activity	Importance of activity 1=Not important 5=Very important Number of responses					Weighted Average ratings	Ranking
		1	2	3	4	5		
Health and Safety	88						4.600	1
Statutory compliance	88	0	0	1	4	10	4.60	
Safety environment	88	0	0	1	4	10	4.60	
Real Estate/Property Management	85						4.583	2
Condition assessment survey	94	0	0	1	3	12	4.69	
Unplanned maintenance	94	0	1	0	4	11	4.56	
Planned maintenance	76	0	0	0	3	10	4.77	
Building maintenance plan	76	0	0	3	3	7	4.31	
Financial Management	75						4.580	3
Budget preparation	82	0	0	0	6	8	4.57	
Operating cost analysis	71	0	0	0	4	8	4.67	
Budget reviews	71	0	0	0	6	6	4.50	
Support services	57						4.330	4
Cleaning	71	0	0	1	5	6	4.42	
Catering	29	0	0	1	1	3	4.40	
Horticulture	71	0	0	2	6	4	4.17	
Operations	79						4.435	5
Management of contracts	82	0	0	0	4	10	4.71	
Preparation of specifications	88	0	0	0	6	9	4.60	
Analysis of requirements	82	0	0	0	8	6	4.43	
Benchmarking	65	1	0	1	5	4	4.00	
Managing Services	68						4.275	6
FM strategic management	65	0	0	2	6	3	4.09	
Client satisfaction	94	1	0	1	6	8	4.25	
Value chain	71	0	0	1	6	5	4.33	
Research survey analysis	41	0	0	1	2	4	4.43	
Business Management	78						4.200	7
Business planning	82	0	0	0	7	7	4.50	
Strategic advice	71	0	0	2	6	4	4.17	
Business transformation	82	1	0	1	9	3	3.93	

Business Organisation	65						4.090	8
Organisational structure	65	1	0	1	4	5	4.09	
Business strategy	65	1	0	1	4	5	4.09	
Security	65						3.810	9
Security systems	65	2	0	2	2	5	3.73	
Security management	76	2	0	0	6	5	3.92	
Security risk management	53	2	0	0	3	4	3.78	
Work Place/Space Planning	24						3.743	10
IT distribution	24	0	0	2	2	0	3.50	
Energy conservation	18	1	0	0	1	1	3.33	
Post-occupancy evaluations	29	0	0	0	3	2	4.40	
Average	69						4.265	

The table indicates that, with the exception of one FM 'category' (Work Place / Space Planning), more than half of respondents are involved with the FM activities listed. Only a small percentage (29%) of respondents has 'Catering' as an activity which falls within their scope of responsibility. The table also shows that, on average, 31% of FM activities are not performed by the NDPW. This may be as a result of the outsourcing of some of the FM activities; the question-naire unfortunately did not make provision to ascertain this. Spedding (1994: 218) defines outsourcing as "the procedure adopted to discover and introduce suppliers and service providers from outside the organisation, often on a competitive basis of price, quality and performance." Although outsourcing has many benefits e.g. management is relieved from the responsibility of managing the activity (e.g. maintenance), competition amongst outside service providers may have economical benefits for the organisation and it can be used where there is insufficient in-house expertise, it also has many disadvantages. Barrett (1995) lists lack of control over suppliers and risk of selection a poor supplier as potential disadvantages while Buys (2004) concludes that many organisations do not find outsourcing to be very cost-effective.

'Health and Safety, Real Estate/Property Management and Financial Management' were rated as the three most important FM activities. Although 'Security and Work Place/Space Planning' were ranked in the 9th and 10th position on the importance scale, it still had

average ratings of 3.81 and 3.74 respectively. None of the individual FM activities had an average importance rating of less than 3 (Neutral). This indicates that although some of the FM activities do not fall within the scope of the respondents' portfolio, they are all rated as important.

6. Conclusion

Government is spending huge sums of money on infrastructure and development, but less on maintaining these structures. This results in the perceived poor condition of state properties.

The results of the survey have indicated that although the facilities managers are fairly knowledgeable about FM and that almost 70% of the respondents are responsible for all FM activities, more than half of them have less than five years experience in FM. This is not satisfactory taking into account the huge property portfolio of the NDPW and the important decisions they have to make regarding managing its facilities. Information management systems are not used extensively in the NDPW and the introduction of such systems could greatly assist facilities managers in managing FM.

A lack of funding should not be seen as the only cause of the decay or poor condition of state properties; other causes may be the lack of properly trained facilities managers and a need for a transformation strategy which should include the appointment of properly trained facilities managers. These managers should set the necessary policies, frameworks, and interventions in place to ensure that taxpayers' money is not wasted through poor management. Tertiary institutions should not only offer built environment related programmes such as engineering, architecture, construction management and quantity surveying, but also programmes in FM to satisfy this need.

References

Atkin, B. & Brooks, A. 2005. *Total Facilities Management*. 2nd ed. Oxford: Blackwell Publishing.

Barrett, P. 1995. *Facilities management – towards best practice*. Oxford: Blackwell Science.

Becker, F. 1990. *The Total Workplace: Facilities Management and Elastic Organisation*. New York: Van Nostrand Reinhold.

Best, R., Langston, C. & De Valence, G. 2003. *Workplace Strategies and Facilities Management*. Oxford: Butterworth-Heinemann.

Bici, L. 2006. Billion-rand Opportunities for Women in Construction. *The Herald* 20/4/2006.

Buys, N.S. 2004. Building Maintenance Management Systems in South African Tertiary Institutions. Unpublished Ph.D. Thesis, University of Port Elizabeth.

Cloete, C.E. 2002. *Introduction to Facilities Management*. Pretoria: The South African Foundation Trust.

Corti, P. 2001. Empowering employees and the organisation by implementing and evolving a maintenance management system. *Conference Proceedings No. 23, Ninth Maintenance Management Conference*, Juneau, Alaska, July 16-20, 2000. Washington D.C.: National Academy Press.

Dunn, J.A. 1990. Overview of Tufts University's experience in financing capital maintenance. In: Meyerson, J.W. & Mitchell, P.M. *Financing capital maintenance*. Washington: National Association of College and University Business Officers.

Leedy, P.D. 1993. *Practical Research, Planning and Design*. 4th ed. New York: MacMillan Publishing Company.

Leedy, P.D. & Ormrod, J.E. 2005. *Practical Research Planning and Design*. 8th ed. Upper Saddle River: Pearson Prentice-Hall.

Magee, G.H. 1988. *Facilities maintenance management*. United States of America: R.S. Means Company Ltd.

Mavasa, T. 2007. The management of government immovable assets. Unpublished MSc Built Environment treatise, Nelson Mandela Metropolitan University.

Mouton, E.B.J. & Prozesky, P.V.B. 2001. *The Practice of Social Research*. Cape Town: Oxford University Press, Southern Africa.

Nonaka, I. & Takeuchi, H. 1995. *The Knowledge Creating Company*. New York: Oxford University Press.

Sievert, R. 1992. Asset Management: Facilities as Strategic Resources [Online]. Available: <http//www.p2pays.org/ref/24/23728 pdf>. [Accessed 15 August 2006].

Sigcawu, S. 2000. Briefing by The Minister of Public Works on Behalf of the Employment and Investment cluster [Online]. Available: <http/www.pmg.org.za/briefings/000208employmentcluster.htm> [Accessed 15 August 2005].

Smith, B.D. 1995. Benchmark and Maintenance Management Systems. *Circle Reader Service*, 130, pp. 75-78.