

A NEED FOR A TRANSFORMATION STRATEGY FOR FACILITIES MANAGEMENT IN THE PUBLIC SECTOR

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ABSTRACT

Purpose of this paper - The paper was written to establish the need for a transformation strategy for facilities management in The Public Sector. This was encouraged by the notion that the National Department of Public Works (NDPW) is the largest custodian of state properties in the southern hemisphere. This amounts to huge financial investment which needs to be managed properly to retain its investment values by observations. The management of these state assets leaves much to be desired, hence a study of this nature was conducted.

Methodology/Scope - The research adopted the principles of applied research. Due to the nature of the study, a quantitative research methodology was used. Questionnaires became the suitable research tool to obtain the data about facilities management in The Public Sector.

Findings - The facilities managers are fairly knowledgeable about facilities management (FM) but half of them have less than five years experience. Information management systems are not used extensively in the sector. Lack of funding should not be seen as the only cause for the poor condition of state properties; other causes may be due to the lack properly trained FM managers and no senior management appointed to steer the discipline in the sector.

Research limitations - Limiting the study to only in the NDPW could not be the determinant for the performance of the sector, although NDPW is the largest custodian of state properties. A larger sample of the sector would have given a better understanding of FM knowledge, understanding and the performance of the sector.

Practical implications - This paper was based on the application of the findings hence applied research was adopted.

Value - It was alarming to note that the facilities management systems in NDPW are not extensively used while they play a major role in the management of the portfolio. The inferential statistics indicates insignificant proportion of respondents performing FM activities. These short comings indicate the importance of the transformation strategy for facilities management in The Public Sector, particularly the National Public Works as a property leader.

Keywords: facilities management, transformation, strategy public sector.

1. INTRODUCTION

The Public Sector has the largest property portfolio in South Africa. Sigcawu (2000) argues that the National Department of Public Works (NDPW) has the largest property portfolio in its custodianship in this sector in the southern hemisphere. She further argues that it constitutes approximately 243 000 properties at the value of R120 billion and its running costs amount to R4 billion per annum. It is estimated that the deferred maintenance is in the region of R13 billion (Bici, 2006). This is a huge challenge facing the NDPW as well as facilities managers in this sector. 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 organization 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, organizations 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 management 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.

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

2. FACILITIES MANAGEMENT

Best, Langston and De Valence (2003) define facilities management as the practice of integrating the management of people and the business process of an organization with the physical infrastructure to enhance corporate performance. Atkin and 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 organization to another. Atkin and 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, emphasized that any organization 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 “buildings are never perfect” (Cloete, 2002:11).

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 organizational objectives can be achieved and programmatic dysfunction reduced (Ibid). 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.

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 and 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 and 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. 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 National Department of Public Works 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 and Airasian (cited in Leedy and 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.

5. RESULTS OF SURVEY

Data gathered to achieve results, data analysis, and interpretation was analyzed using descriptive and inferential statistics with the help of the Department of Statistics at the Nelson Mandela Metropolitan University. Chi-square (χ^2) tests were used to determine how well the obtained sample proportions fit the population proportions or relationships specified in the null hypothesis.

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.

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 organization, 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. The high response from regional and property managers would have given a strong indication of how they perceive FM in the 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 and Tekeuchi (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 year 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 Education and Training in facilities management

Explicit knowledge is one of the knowledge that is acquired through education. It forms the key in the development of the human nature. Nonaka and Tekeuchi (1995) define explicit knowledge as knowledge that can be articulated in a formal education.

Table 3: Training in facilities management

Training	Number of respondents	Percentage	Cumulative Percentage
None	10	59	59
N. Diploma	1	6	65
B. Degree	0	0	65
M. Degree	2	12	77
D. Degree	0	0	77
Other Trainings	4	23	100
Total	17	100	

The table 3 indicates that 59% of the respondents had no training in FM, 23% had other forms trainings, 12% had a Masters degree and 6% a National Diploma. This reveals serious situation facing the sector in terms of the skill shortage in the discipline. Lack of education cannot be compromised if the sector has to succeed.

5.4 Definition of FM

Table 3 shows 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 4: Statements describing facilities management (n=17)

Description of Facilities Management	SD	D	N	A	SA	M	χ^2	P	V	Rank
It is the management of buildings and their related services	0 12%	2	0	9 88%	6	4.11	9.94	.002	.076	1
Practice of integrating people, business process and physical infrastructure	0	0	4 24%	8 76%	5	4.05	4.76	.029	.53	2
Management of specific physical entities to enable the business to carry out its functions	0 18%	3	2 12%	7 70%	5	3.8	7.12	.008	.65	3
Management of only cleaning and gardening services	1 24%	3	3 18%	6 58%	4	3.5	4.76	.029	.53	4
Total management of all services that support core-business	3 35%	3	3 18%	5 47%	3	3.1	1.47	.225	n.a.	5
Average	3		4	12			7.12	.008	0.65	

The results from the table above show that the respondents have a fairly good idea of the scope of FM. This is also confirmed by inferential statistics which indicates significant proportion of respondents in support of top four statements describing FM, $\chi^2(1, n=17)=9.94, p<.002, v>0.76$; $\chi^2(1, n=17)=4.76, p<.029, v>.53$; $\chi^2(1, n=17)=7.12, p<.008, v>.65$; $\chi^2(1, n=17)=4.76, p<.029, v>.53$. However, the “definition” of “Management of cleaning and gardening services” was rated unexpectedly high as FM entails much more than just that. Although the last statement is also describing FM in the literature reviewed the statistical results indicate insignificant proportion of respondents in support of the statement, $\chi^2(1, n=17)=1.47, p>.225$. This could reflect poor understanding of the subject by the respondents.

5.5 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 FM is global competition, information technology, the high cost of space, employee expectations, and the cost of mistakes.

Table 5: Factors Stimulating the Growth of Facilities Management (n=17)

Factors stimulating growth FM	SD	D	N	A	SA	M	χ^2	P	V	Rank
Global competition	0	0	1 6%	9 94%	7	4.4	13.24	<.0005	.88	1
Information technology	1	0	0 6%	11 94%	5	4.1	13.24	<.0005	.88	2
High cost of space	1	0	5 29%	5 65%	6	3.9	13.24	<.0005	.88	3
Employee expectations	1	1	8 47%	2 41%	5	3.5	9.94	.002	.76	4
Cost of mistakes	2	3	4 24%	5 47%	3	3.2	2.88	.090	n.a.	5
Average	2	3	3	12			9.94	.002	0.76	

Although the public sector does not compete globally with other organizations, it is affected to a large extent by the other factors and therefore plays a major role in the management of its facilities. The statistical results indicate that although significant proportion of respondents in support of the top four factors, $\chi^2(1, n=17)=13.24, p<.0005, v>.88$; $\chi^2(1, n=17)=13.24, p<.0005, v>.88$; $\chi^2(1, n=17)=13.24, p<.0005, v>.88$; $\chi^2(1, n=17)=9.94, p<.002, v>.76$, the last factor was not support, $\chi^2(1, n=17)=2.88, p>.090$. This creates uncertainty about the knowledge of the respondents in this field because, cost of mistakes forms part these factors (Bekker, 1990).

5.6 Perceptions of FM

Table 6: Perception of Facilities Management (n=17)

Statements about FM	SD	D	N	A	SA	M	χ^2	P	V	Rank
Lack of knowledge of facilities management results in poor performance of state properties	0	1	1 6%	6 6%	9 88%	4.4	13.24	<.0005	.88	1
A building needs to be nurtured, understood, and developed to its full potential	0	2	1 12%	4 6%	10 82%	4.3	9.94	.002	.76	2
Senior level people should be appointed to interpret the policy in terms of facilities management to fulfil the role of an “intelligent client”.	0	1	4 6%	6 23%	6 71%	4.0	13.24	<.0005	.88	3
The public sector is far advanced in facilities management	0	10	1 59%	1 6%	5 35%	3.1	0.53	.467	n.a.	4
Property management, facilities management and asset management are the same.	4	4	3 47%	5 18%	1 35%	2.7	0.06	.808	n.a.	5
Funding availability is the only cause of state properties’ decay	4	7	1 65%	1 6%	4 29%	2.4	1.47	.225	n.a.	6
Average	5.5	1.83	9.67				2.12	.147	na	

It can be noted from the results in Table 6 that respondents agree that a lack of knowledge of FM results in the poor performance of state properties and statistical results support the statement, $\chi^2(1, n=17)=13.24, p<.0005, v>.88$; whilst they also agree that buildings need to be nurtured, understood, and developed to its full potential; statistical results support the findings, $\chi^2(1, n=17)=9.94, p<.002, v>.76$. 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 (2002:38). The statistical results significantly support the findings, $\chi^2(1, n=17)=13.24, p<.0005, v>.88$. Sievert (1992) 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, to 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 and statistical results support the findings, $\chi^2(1, n=17)=0.53, p>.457$.

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 2.4) that the availability of funding is the only cause of the decay or poor condition of state properties. Statistical results indicate insignificant relationship with the statement, $\chi^2(1, n=17)=1.47, p>.225$.

5.7 Information management systems

The use of Information management systems can be very beneficial to any organization 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 with 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 7 shows the extent to which Information management systems are used in the NDPW.

Table 7: Information management systems in use (n – 17)

FM systems	Never ↔ Always		M	χ^2	P	V	Rank
Property Management Information System (PMIS)	7 41%	0 1 59%	2.4	0.53	.467	n.a.	1
Computerised Maintenance Management System (CMMS)	11 76%	2 3 0 24%	1.6	4.76	.029	.53	2
Computer-Aided Facilities Management System (CAFMS)	14 88%	1 0 12%	1.4	9.94	.002	.76	3
Average	12	5	1.8	2.88	.090	na	

The mean rating of 1.8 clearly indicates that Information management systems are not used extensively in the NDPW. Although the highest mean rating (2.4) is for using a Property Management Information management system, statistical results indicate insignificant relationship in the use of the system, $\chi^2(1, n=17)=0.53, p>.467$. Furthermore, statistical results show significant proportion of respondents not using both CMMS and CAFMS respectively, $\chi^2(1, n=17)=4.76, p<.029, v>.53$; $\chi^2(1, n=17)=9.94, p<.002, v>.76$.

The effect of this phenomenon could result in major setbacks for the organization such as client dissatisfaction, non-competitiveness, and the poor performance of the portfolio. Smith (1995) states that the maintenance management system develops benchmark information from operating

The table shows that, with the exception of two FM *category* (Work Place / Space Planning and Security), more than half of respondents are performing the activities listed. Statistical results indicate significant proportion of respondents perform these *categories* (Health and Safety, Real Estate/Property Management and Financial Management) respectively, $\chi^2(1, n=17)=9.94, p<0.002, v>0.76$; $\chi^2(1, n=17)=7.12, p<0.008, v>0.65$; $\chi^2(1, n=17)=4.76, p<0.029, v>0.53$. It is also noticed that the statistical results indicate insignificant proportion of the respondents performing security, $\chi^2(1, n=17)=1.47, p>.225$, while also indicate significant proportion of respondents do not perform work place / space planning, $\chi^2(1, n=17)=4.76, p<.029, v>0.53$.

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 4 and 5 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.

The final statistical results indicate insignificant proportion of respondents performing these activities, $\chi^2(1, n=17)=1.47, p>.225$. This indicates that although 65% of the activities are performed by respondents, statistically this is insignificant which means the performing of these activities by respondents is rejected.

6 CONCLUSION

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. The support for appointment of senior management to set the necessary policies and framework is an indication that the FM discipline is trailing behind in this sector.

Although 65% of the respondents performed the FM activities, the statistical results from the survey indicate that an insignificant proportion of the respondents perform these activities. This concludes to a need for transformation strategy of FM in this sector.

The research also recommends that tertiary institutions should be encouraged to offer more programmes in FM to satisfy this need.

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