



Analysis of Challenges of Facilities Management Practice in Selected Manufacturing Industries in Enugu State, Nigeria

Ndive Paul Chinedu¹, Dr. Esther I. Oladejo²
Department of Estate Management
Nnamdi Azikiwe University, Awka, Nigeria

Abstract:

Facilities Management is becoming an increasingly important factor in the built environment. It's important to note that there are some factors which are responsible for the performance of the manufacturing industries in Nigeria. This study analyzed the Challenges of facilities management practice in selected manufacturing Industries in Enugu State, Nigeria. The study adopted field survey method using structured questionnaires, personal interviews and observations. The sample size was determined using Taro Yamane's formula. The stratified random sampling technique was used to select the sample from the manufacturing industries. The data collected was subjected to descriptive statistical analysis method. Z- Test was used to test the hypotheses by examining the difference in mean. Relative importance Index was used to rank the analysed data. Tables, percentages and charts were used in the presentation of data gathered from the field. Analysis was done using statistical package for social sciences (SPSS) version 23. The study found out that facilities management practice has positive impact on industrial development and there are facilities management challenges encountered in the selected industries. It was recommended that the manufacturing industries studied should integrate adequate facilities management practice into its management structure through proper funding, streamline their mode of operation, pay attention to environmental factors, encourage adequate and regular inspection of the facilities, carry out regular corrective repairs, replace aging workforce with experienced and younger staff while adequate attention be paid on retirement benefit of the aged, organize adequate workshops and seminars regarding new technological innovation on maintenance programs.

Keywords: Facilities Management, Manufacturing Industries, FM Challenges.

1.0. INTRODUCTION

Fierce competition, variable trading conditions, high energy costs and other economic elements have forced companies to look at all means of reducing costs and maintaining a market edge (Jones and Jowett, 1998). In these circumstances, facilities management has become established in all five continents, though it has traditionally been seen as a poor relation of the property and construction professions (Grimshaw, 2002). Centre for Facilities Management (CFM, 2010) emphasizes the need to focus resources on meeting user needs to support the key role of people in the organizations and strives to continuously improve quality, reduce risks and ensure value for money. Facilities management lay out an organization's response to vital issues such as space allocation and charging, environmental control and protection, direct and contract employment. Facilities management is relevant to all sectors in developed and under developed and developing countries. Oladejo (2009) opines that facilities management can be summarized as creating an environment that is conducive for carrying out the organization's primary operations, taking an integrated view of the services infrastructure, and using this to deliver customer's satisfaction and value for money through support for and enhancement of the core business. Facilities management is important to the growth and survival of organization, particularly in the dynamic society as ours (Dell, 2008). The effectiveness and the survival of organization are largely enhanced by the ability of management to ensure that there is functional equipment, lands and building, infrastructure, fixtures etc. Overtime, organizations have become conscious of the need to concentrate on their core business activities and the

expediency of reducing the rising cost of occupying buildings, providing services to support business operations and improving working conditions so as to sustain productivity in their activities, which has led to the development of FM (Alexander, 2003). FM involves the development, coordination and management of all the non-core specialist services of an organization together with the building and their systems, plant, IT equipment, and fittings with the overall aim of assisting any giving organization in achieving its strategic objectives (Moore & Finch, 2004). However, result from studies revealed that most company has failed in the area of facilities management. Statistically, maintenance culture is poor among companies. This, to some extent has contributed to business failures and low business profit. The basic principle of facilities management is to know the policies, practice, and procedures guided by an organization's mission and its available resources (Sani, 1998). Organizations may not be aware of the extent to which value for money in facility management can be improved thereby causing challenges to suitability of the organization. Nevertheless, this study analyzed the challenges of facilities management practice in the selected manufacturing industries in Enugu State of Nigeria and proffer possible solutions to ameliorate the problems.

1.1. STATEMENT OF THE PROBLEM

Just like any new venture, facilities management practice in Nigeria is expected to also have its commencement problems like lack of improved space management, maintainability, lack of sustainability and efficient use of energy and many others. Fierce competition, variable trading conditions, high energy costs and other economic elements have forced companies to

look at all means of reducing costs and maintaining a market edge (Jones and Jowett, 1998). Thus, many of these developing countries have not yet been benefiting from the advantages derivable from the practice of FM including the manufacturing industries. There is a great struggle to meet up with the investment objectives, the cost of preserving the building and satisfying the organizations core value. Unlike facilities management in other sectors, facilities management in the manufacturing industries calls for expertise from the operators, careful ability to maintain and manage sophisticated equipment, plants and machinery to avoid costly failures during emergencies. The problems emanate from, controlling costs, Regulatory compliance and traceability, Aging workforce/ skills gap, Healthcare costs, Environment concerns, balancing maintenance with throughput. Therefore, this study intends to analyze the challenges of facilities management practice in the selected manufacturing industries in Enugu State of Nigeria and proffer possible solutions to ameliorate the problems.

1.2. AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to analyse the challenges of facilities management practice in selected manufacturing industries in Enugu State of Nigeria with a view to providing solution to the identified problems. The objectives of the study include the following:

- i. To identify the components of facilities existing in the selected manufacturing industries.
- ii. To ascertain the method of facilities management practice used in the selected manufacturing industries.
- iii. To examine the current state of facilities in the selected manufacturing industries.
- iv. To analyze existing challenges and alternative ways of facilities management practice in the selected manufacturing industries.

1.3. STATEMENT OF HYPOTHESES

H₀₁: Facilities Management practice does not have any positive impact in the selected manufacturing industries.

H₀₂: There are no significant FM challenges encountered in the selected manufacturing industries.

2.0 LITERATURE REVIEW

The modern form of Real Estate Management can be seen from three different viewpoints which are called Asset Management (AM), Property Management (PM) and Facilities Management (FM) (Loosemoore and Hsin, 2001). In Asset Management the owner and investor concentrate on the profitability of business, in Property Management the technical manager concentrates on the building and its equipment, whilst in Facilities Management, the occupant of a workplace is interested in the space and services supporting his/her work or company's production. Oladejo (2014) stated that Facilities Management (FM) is applicable to any form of structure or building that affords some space for the housing of certain user activities, equipment and furniture in order for it to execute jobs with optimum ease and satisfaction while reducing costs. A decade ago, facilities management was seen as the integral planning, realization and management of buildings and accommodation, services and resources which contribute

towards the effective, efficient and flexible attainment of organizational goals in a changing environment (Regterschot, 1990). The current trend is to view FM as "the management of non – core company assets to support and increase efficiency of the main business of the organization (Nelson & Alexander, 2002). Jordan (2000) defined facilities management as a diverse range of vital activities which can simply be summed up as getting the best from buildings for the benefit of the organization and in this view categorized facilities management into a broader dimension inclusive of support services outside the core business of an organization and having following components: Lease terms and negotiations, rent reviews, Building services, Engineering maintenance etc. While a number of researchers have tried to define facilities management, many have also identified challenges facing same as can be seen in several research works. Osagie (2004) noted that there are certain problems that have been militating against an effective facilities management practice in Nigeria. Some of these problems include; Conception of Idea, Operational Problems, Funding Cost, Assembling the Right Professionals, Inadequate Training of Facilities Manager etc. Oladejo (2009) pointed out that inadequate training in the theories, fundamentals and principles of facilities management has been the bane of the problem of many potential facilities managers. Many Estate surveyors for instance do feel that being a property manager is enough. Similarly, building, Civil and Structural Engineers equally feel that having been trained in the rudiment of the building fabric and components, a facilities manager has been made of them in like manner. Also, it's important to note that a substantial number of studies have analysed the size and composition of FM and established its relevance over and above traditional property management (Regterschot, 1990; Nelson & Alexander, 2002). Other studies in the USA and UK have concentrated on determining the strategic role of FM in a business organisation. Examples include the works of Pratt (1994), Rees (1997), Waardhuizen (1999), Nutt (2000) & Masha (2006). These studies however have not addressed the practice of FM in a developing country like Nigeria. Nevertheless, Oladejo (2009) examined the problems of facilities management in corporate organizations in Lagos State with focus on selected manufacturing industries. The findings suggest that facilities management problems have significant effect on efficient productivity in an organization. Benchmarking, safety and security provision, good communication, continuous training programs, adequate budgetary provisions, value-engineering application were recommended. The study actually explored the role of the facilities manager and highlighted the problems that constrain effective facilities management in Lagos State of Nigeria but did not extend to other part of the country. From the literature reviewed above, it has been discovered that various studies have actually been done on the subject matter of facilities management practice in many countries and sectors, but none of these studies dealt on the analysis of challenges of facilities management practice in manufacturing industries with particular reference to Nigeria Breweries Plc and Unilever Nigeria Plc Enugu State of Nigeria, hence this study was conceived to fill the identified knowledge gap by providing answers to the questions outlined in the research objectives section.

3.0. RESEARCH METHODOLOGY AND METHODS

The field survey design approached was employed for this study because it is amenable to situations where facts or data must be collected from respondents within the industry and

data collected from a sample of the target population was used to predict certain characteristics of the population.

3.1 SOURCES OF DATA COLLECTION

The study adopted both primary and secondary source of data. Primary data were generated through the use of oral interviews and questionnaire designed specifically for the study. The questions in the questionnaire are based on the key variables highlighted in the literature review and the research questions. Unstructured oral interview was used to probe for more information where necessary. The facilities managers, maintenance Engineers, staff in the human resources unit and in Nigeria Brewery Plc and Unilever Nigeria Plc were interviewed. Secondary data were retrieved through Text books, Journals, internet sources, official publications, periodicals, official gazettes etc. to back up the primary sources.

3.2 POPULATION OF THE STUDY

The population of the study is made up of employees of the selected manufacturing industry in Enugu State, Nigeria Breweries Plc staff comprising of Support and Development Department (89), Finance i.e. Department (32), Logistic Department (53), Quality Assurance Unit (41), Production Department/Brew House (115), Packaging and Engineering Department (144). Unilever Nigeria Plc, Enugu (85).

4.0. DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Table.1. Analysis of distributed questionnaire

Questionnaire	Number of Respondent	Percentages
Distributed Questionnaire	233	-
Returned Questionnaire	230	99
Unreturned/uncompleted Questionnaire	3	1
Total	233	100

From the analysis in table 1, it was shown that 99 percent of the distributed questionnaires were returned while 1 percent was unreturned. This shows that high percent of distributed questionnaire were returned.

Table.2. Name of industry

Response Options	Frequency	Percentage (%)
Nigeria Breweries Plc (Ama Breweries)	153	67
Unilever Nigeria Plc	77	33
Total	230	100

The analysis in table 2 shows that 67 percent of the respondents are from Nigeria Breweries Plc (Ama Breweries) while 33 percent of the respondents are from Unilever Nigeria Plc.

Table.3. Types of facilities owned by industry

Response Options	Frequency	Percentage (%)
Land/Buildings	16	7
Machinery & Equipment	30	13
Furniture & fittings	26	11
Motor vehicles	16	7
All of the above	142	62
Total	230	100

The analysis in table 3 shows that 7 percent of the respondents agreed for Land/Buildings, 13 percent says machinery & equipment, 11 percent says furniture & fittings, 7 percent says motor vehicles while the 62 percent agreed for all.

Table.4. Existence of maintenance department in the industries

Response Options	Frequency	Percentage (%)
Yes	150	65
No	80	35
Total	230	100

Table 4 shows that 65 percent of the respondent agreed that they have department or unit in their industry responsible for the management of their facilities while 35 percent says their facilities are not managed.

3.3 DETERMINATION OF SAMPLE SIZE, SAMPLING TECHNIQUES and QUESTIONNAIRE DISTRIBUTION

The sample size of the study was determined using Taro Yamane's formulae; sample size of 233 was adopted to ensure uniform representation of the groups in the sample and Sampling Pro Technique i.e. Random sampling technique was adopted in the distribution of questionnaires.

3.4. VALIDITY OF THE INSTRUMENT AND RELIABILITY OF INSTRUMENT.

This study was subjected to validity testing by subjecting the study to scrutiny by expert and the reliability test of the questionnaire was done using Cronbach's Alpha.

3.5 METHOD OF DATA ANALYSIS

The data collected, descriptive statistical analysis method was used. This involves the use of tables, simple percentages, charts and texts to buttress the information gathered from the field. Total number of the sample size represents 233 which is the number of the respondent to be used. The hypotheses were tested with Z- Test which was used to examine the difference in mean. Relative importance Index was used to rank the analysed data. The results of the analysis were used to answer the research questions for clear understanding and possible solution to the study problem. All analysis was done using statistical package for social sciences (SPSS) version 23.

Table.5. Frequency of facility maintenance in the industries

Response Options	Frequency	Percentage (%)
Weekly	16	7
Monthly	16	7
Quarterly	26	11
Yearly	142	62
Others	30	13
Total	230	100

The analysis in table 5 shows that 7 percent of the respondents agreed that maintenance is carried out weekly, 7 percent says monthly, 11 percent says quarterly, 62 percent says yearly while the remaining 13 percent says others.

Table.6. Competence of the maintenance unit in handling emergencies

Response Options	Frequency	Percentage (%)
Yes	92	40
No	138	60
Total	230	100

Table 6 shows that 40 percent of the respondent agreed that their industries are well equipped to handle emergencies involving crucial equipment failure while 60 percent says their industry is not well equipped to handle emergencies involving crucial equipment failure.

Table.7. Method of facilities management practice adopted in the industry

Response Options	Frequency	Percentage (%)
In- house	48	21
Outsourced	51	22
In – house/outsourced	120	52
Others	11	5
Total	230	100

The analysis in table 7 shows that 21 percent of the respondents are adopt in house method of facilities management in their industry, 22 percent adopt outsourced, 52 percent adopt in–house/outsourced while 5 percent adopt other.

Table.8. Decision of maintenance services

Response Options	Frequency	Percentage (%)
Management decision	30	13
Risk minimization	26	11
Size of asset and sophistication of service	142	62
Uniqueness of service	16	7
Others	16	7
Total	230	100

The analysis in table 8 shows that 13 percent of the respondents agreed that Management decision is what determines maintenance services to be outsourced and those to be handled in – house, 11 percent says is risk minimization, 62 percent says is Size of asset and sophistication of service, 7 percent says is Uniqueness of service while 7 percent says is others.

Table.9. Assessment of staff training

Response Options	Frequency	Percentage (%)
Yes	92	40
No	138	60
Total	230	100

From the table 9, 40 percent of the respondent agreed that they organize staff training and development for staff in their industries, especially as more sophisticated equipment's are introduced while 60 percent disagree.

Table.10. Adequacy of workforce

Response Options	Frequency	Percentage (%)
Yes	92	40
No	138	60
Total	230	100

From the table 10 above, 40 percent of the respondent agreed that they have adequate workforce while 60 percent disagree.

Table.11. Existence of facilities management records

Response Options	Frequency	Percentage (%)
Yes	92	40
No	138	60
Total	230	100

From the table 11 above, 40 percent of the respondent agreed that they have record containing list of all facilities for planning and implementation of facilities management in their industry while 60 percent disagree.

Table.12. Impact of facilities management practice on the industries

Response Options	Frequency	Percentage (%)
Strongly Agree	58	25
Agree	164	71
Neutral	4	2
Disagree	2	1
Strongly Disagree	2	1
Total	230	100

From the table 12 above, 25 percent of the respondent strongly agreed that the facilities management practice have significant impact in their industry, 71 percent agree, 2 neutral, 1 disagree, while 1 percent strongly disagree.

Table.13. Satisfaction of facilities users in the industries

Response Options	Frequency	Percentage (%)
Yes	90	39
No	140	61
Total	230	100

From the Table 13 above, 39 percent of the respondent agreed that the facilities users' requirements satisfied in their industry while 61 percent disagree.

Table.14. Assessment of the present state of facilities

Response Options	Frequency	Percentage (%)
Functional	23	10
Under repairs	27	12
Obsolete	40	17
Due for replacement	140	61
Total	230	100

The analysis in Table 14 shows that 10 percent of the respondents say that they will rate the present state of facilities in their industry functional, 12 percent are under repairs, 17 percent says obsolete while 61 percent says due for replacement.

Table.15. Challenges of facilities management practice according to ranking.

Response Options	Strongly Agree Wf = 5	Agree Wf = 4	Neutral Wf = 3	Disagree Wf = 2	Strongly Disagree Wf = 1	Total	RII	Ranking
Poor funding	95 wf = 475	85 wf=340	15 wf = 45	10 wf = 20	25 wf = 25	230 (905)	3.93	1st
Bureaucracy	90 wf = 450	84 wf = 336	21 wf = 63	10 wf = 20	25 wf = 25	230 (894)	3.88	2nd
Environmental factors	85 wf = 425	82 wf = 328	25 wf = 75	18 wf = 36	20 wf = 20	230 (884)	3.84	3rd
Aging workforce /skills gap	79 Wf = 395	81 Wf = 324	22 Wf = 66	22 Wf = 44	26 Wf = 26	230 (855)	3.72	4th
Safety/healthcare cost	70 Wf = 350	78 wf = 312	35 Wf = 105	29 Wf = 58	18 Wf = 18	230 (843)	3.66	5th
Regulatory compliance and traceability	55 Wf = 275	75 Wf = 300	45 Wf = 135	38 Wf = 76	17 Wf = 17	230 (803)	3.49	6th
Difficulty in procuring materials	48 Wf = 240	68 Wf = 272	59 Wf = 177	40 Wf = 80	15 Wf = 15	230 (784)	3.41	7th
All of the above	45 Wf = 225	76 Wf = 304	47 Wf = 141	44 Wf = 88	18 Wf = 18	230 (776)	3.37	8th

Key: Wf: Weighted Frequency The response in Table 15 showed the challenges of facilities management practice in the

selected manufacturing industries according to ranking. The first ranked response showed that poor funding is one of the

challenges of facilities management practice in their industry (RII=3.93), 2nd ranked bureaucracy (RII=3.88), 3rd ranked environmental factors (RII=3.84), 4th ranked says aging workforce /skills gap (RII=3.72), 5th ranked on

safety/healthcare cost (RII=3.66), 6th ranked on regulatory compliance and traceability (RII=3.49), 7th ranked difficulty in procuring materials (RII=3.41), while 8th on all (RII=3.37).

Table .16. The ways to improve facilities management practice in the selected manufacturing industries.

Response Options	Strongly Agree Wf = 5	Agree Wf = 4	Neutral Wf = 3	Disagree Wf = 2	Strongly Disagree Wf = 1	Total	RII	Ranking
Increased funding by the management concerned	95 wf = 475	85 wf=340	15 wf = 45	10 wf = 20	25 wf = 25	230 (905)	3.93	1st
The management concerned to streamline their mode of operation to avoid bureaucratic bottlenecks in the system	90 wf = 450	84 wf = 336	21 wf = 63	10 wf = 20	25 wf = 25	230 (894)	3.88	2nd
Attention should be paid to Environmental factors	85 wf = 425	82 wf = 328	25 wf = 75	18 wf = 36	20 wf = 20	230 (884)	3.84	3rd
Aging workforce to be replaced with experienced, skilled, vibrant and younger staff while adequate attention be paid on retirement benefit of the aged	79 Wf = 395	81 Wf = 324	22 Wf = 66	22 Wf = 44	26 Wf = 26	230 (855)	3.72	4th
Training and retraining of Staff on Safety and healthcare	70 Wf = 350	78 wf = 312	35 Wf = 105	29 Wf = 58	18 Wf = 18	230 (843)	3.66	5th
Closing skills gap by engaging staff on new technological training	55 Wf = 275	75 Wf = 300	45 Wf = 135	38 Wf = 76	17 Wf = 17	230 (803)	3.49	6th
Regulatory compliance and traceability	48 Wf = 240	68 Wf = 272	59 Wf = 177	40 Wf = 80	15 Wf = 15	230 (784)	3.41	7th
The right professionals should engaged in procuring materials	45 Wf = 225	76 Wf = 304	47 Wf = 141	44 Wf = 88	18 Wf = 18	230 (776)	3.37	8th

Key: Wf: Weighted Frequency

The analysis in Table 16 above showed the response on suggested ways to enhance facilities management practice in the selected manufacturing industries. These range from increased funding by the management concerned (RII=3.93), the management concerned to streamline their mode of operation to avoid bureaucratic bottlenecks in the system (RII = 3.88), attention should be paid to environmental factors (RII = 3.84), aging workforce to be replaced with experienced, skilled, vibrant and younger staff while adequate attention be paid on retirement benefit of the aged (RII = 3.72), training and retraining of staff on safety and healthcare (RII = 3.66), closing skills gap by engaging staff on new technological training (RII = 3.49), regulatory compliance and traceability

(RII = 3.41), while the right professionals should be engaged in procuring materials (RII = 3.37).

TEST OF HYPOTHESES USING STATISTICAL PACKAGE FOR SOCIAL SCIENCE (SPSS, 23)

Decision rule: We accept the null hypothesis when the probability value is greater than the alpha value, otherwise we reject it.

Hypothesis I

H_0 : Facilities Management practice does not have any positive impact in the selected manufacturing industries.

H_1 : Facilities Management practices have positive impact in the selected manufacturing industries.

Table.17. Descriptive statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Facilities Management practice	5	24.000	14.900	11.00	34.00

Table .18. One-sample kolmogorov-smirnov (z-test)

		Facilities Management practice
N		5
Normal Parameters ^{a,b}	Mean	24.0200
	Std. Deviation	14.900
Most Extreme Differences	Absolute	.129
	Positive	.129
	Negative	-.239
Kolmogorov-Smirnov Z		.492
Asymp. Sig. (2-tailed)		.030

a. Test distribution is Normal.

b. Calculated from data.

The analysis in 18 above shows that the probability value (0.030) is less than the alpha value (0.05), the researcher therefore accepts the alternative hypothesis and conclude that facilities management practice has positive impact in the selected manufacturing industries.

Hypothesis II

H_0 :There are no significant FM challenges encountered in the selected manufacturing industries.

H_1 :There are significant FM challenges encountered in the selected manufacturing industries.

Table.19. Descriptive statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Facility management challenges	5	24.000	18.900	15.00	20.00

Table .20. One-sample kolmogorov-smirnov (z-test)

		Facility management challenges
N		5
Normal Parameters ^{a,b}	Mean	24.0200
	Std. Deviation	18.900
Most Extreme Differences	Absolute	.129
	Positive	.129
	Negative	-.239
Kolmogorov-Smirnov Z		.492
Asymp. Sig. (2-tailed)		.001

a. Test distribution is Normal.

b. Calculated from data.

The following findings were made from the Analysis;

1. Facilities Management practice has positive impact in the selected manufacturing industries.
($P - value = 0.030 < 0.05$, *confident interval*; 0.05)
2. There are significant Facilities Management challenges encountered in the selected manufacturing Industries.
($P - value = 0.001 < 0.05$, *confident interval*; 0.05)

The analysis in 20 shows that the probability value (0.030) is less than the alpha value (0.05), the researcher therefore accepts the alternative hypothesis and conclude that there are significant Facilities Management challenges encountered in the selected manufacturing industries and Facilities Management practice has positive impact in the selected manufacturing industries.

4.1 DISCUSSION OF FINDINGS

From the analysis, it has been confirmed that respondents agreed that poor funding, bureaucracy, environmental factors, aging workforce/skills gap, safety/healthcare cost, regulatory compliance and traceability, difficulty in procuring materials challenges of facilities management practice in their industries. This was in line with the study carried out by Ayoola (2006) which states that poor funding is one of the major challenges of facilities management. The analysis also revealed that increased funding by the authorities concerned, authorities concerned to streamline their mode of operation to

avoid bureaucratic bottlenecks in the system, environmental factors, replacing workforce with experienced, skilled, vibrant and younger staff enhance facilities management practice in manufacturing industries. This was in accordance with the study carried out by Adewunmi (2006).

5.0 CONCLUSION

Facilities Management practice has positive impact on industrial development and there are facilities management challenges encountered in the selected manufacturing

Industries. Sincere and genuine efforts should be made at ensuring that those solutions proffered are worked and attention paid to recommendations made. Facilities management is a vital element in supporting any organization in carrying out its core business, whatever that may be, by providing a safe and effective environment in which to operate. Conclusively, it is very important for managers to be aware of the importance of facilities management because it holds the key to organizational effectiveness and growth. When the solutions proffered and recommendation made are implemented, facilities management practice would be seen as developing and moving well in this part of the globe and organizations will be better off in terms of their productivity. It is hereby recommended that the manufacturing industries studied should integrate adequate facilities management practice into its management structure through proper funding, streamline their mode of operation, pay attention to environmental factors, encourage adequate and regular inspection of the facilities, carry out regular corrective repairs, replace aging workforce with experienced and younger staff while adequate attention be paid on retirement benefit of the aged, organize adequate workshops and seminars regarding new technological innovation on maintenance programs.

6.0. REFERENCES

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