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RESEARCH ARTICLE

PROFESSIONAL PERSPICACITY OF BUILDING PROCUREMENT ON WASTE MANAGEMENT IN CONSTRUCTION INDUSTRY

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Abstract

Despite the volume of studies related to procurement waste management in Building construction industry locally and internationally. Wastage in building procurement still poses a severe hazard to both the construction professionals' and the environment. To eliminate this, the study set to examine procurement waste management on building construction industry in southwestern, Nigeria, with a view of providing pertinent information necessary in lessening waste in building procurement industry. The study adopted questionnaire survey to elicit information from 264 built professional across (6) states in the study area, using tables to present the collected data and professional satisfactory index (PSI) to analyze the data collected. The study found that professional satisfactory index fell between "disagree" and "not sure" this translates that management support, staff knowledge, financial incentives/motivation, estimating/ordering practice, design issues, material supply issues, material storage practice may not reduce the scourge of procurement waste in Building construction in within the study area. This study suggested that site workers, technician and craft men should be educated of every management decision concerning procurement waste management plan development across building construction project in southwestern Nigeria.

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Introduction:-

The procurement practice is needed in cutting construction waste (Waste & Resources Action Programme, 2012). It helps in reducing both the costs of waste and its environmental impacts by clearly defining the expected responses to all the stakeholders. The international best approach is necessary at the initial possible stage, and directed through the procurement process. This should be communicated between the client and contractor and passed down through the supply chain (e.g. design and consultancy teams, subcontractors, waste management contractors and material suppliers) and across all building construction phases (Adafin, 2011).

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The study has established it worldwide that substantial waste was generated in end-to-end design, construction and facility management process (Tongo, Oluwatayo, & Adeboye, 2020; Saad, Christine, Andrew, & Emmanuel, 2017). This is due to factors like construction preparation, site preparation, material damage, material use, over-purchased, and human error (Aderibigbe, Ataguba, & Sheyin, 2017; Adewuyi, Idoro, & Ikpo, 2014). Over years several reports of been commissioned to review, suggest, means of improving performance (Eriksson & Westerberg, 2011; Eriksson, et al, 2008; Egan, 1998).

There are now more than ever clear opportunities for business and industry to invest in activities that will create profit and improve environmental outcomes by extracting valuable resources (sustainability) (Mudashiru, Oyelakin, Oyeleke, & Bakare, 2016). There is a need for effective implementation of a waste management plan (WMP) to reduce waste on construction projects (Adewuyi & Odesola, 2015). Bearing in mind the cost of storing and transporting construction waste, along with the loss of revenue from not reclaiming waste materials. This called for financial sense for construction companies to take action that will aid waste minimization.

The previous study on building procurement waste management in the construction industry is dated as far back and not directly address to the aim of this study. However, the level of waste generated by the industry has continuously increased, other studies have also investigated the causes of waste in the construction industry in Southwestern part of Nigeria (Chooi, Takeshi, & Chin, 2018; Ajayi, et al., 2017; Eze, Seghosime, Eyong, & Loya, 2017; Adewuyi & Odesola, 2015; Albert, 2014). This paper will contribute to studies on practices, understanding that will generate activities that are related to project design, materials procurement and actual construction activities (Tongo, et al, 2020).

Waste management significant in building construction Shen, Tam, Tam, & Drew (2004) cited in Mudashiru et al, (2016), reduce and repurpose the quantity of waste generated to achieve sustainable construction practices through social, environmental, and economic principles that contribute to sustainable development. The predominant stages in managing waste are generation, storage, collection, transfer, processing. Quite a lot of approaches may be adopted during each stage to ensure effective management of waste in all stages of construction (Tongo, et al, 2020; Adewuyi & Odesola, 2015; Rodgers, 2011). Because of foregoing, this paper aim to detailed the professional perspicacity on building procurement waste management of construction industry in southwestern, Nigeria. However, this study set to examines procurement waste management on building construction industry in southwestern, Nigeria, with a view of providing pertinent information necessary in lessen waste in building procurement industry.

Research Methods:-

This study adopts random research as its methodological framework. The first type involves identification of relevant built professionally in the six (6) southwestern State Namely Lagos, Ogun, Oyo, Ondo, Osun, and Ekiti State, Nigeria, while the second part involves the use of a questionnaire to randomly elicit information such as waste mitigation through materials procurement process from the experts within the industry. A total no of 264 questionnaires was administered. The information was descriptively analyzed through SPSS 26.0.

Results of Findings:

The presentation in this section depicts the result of professional on the perspicacity of building procurement waste management in the construction industry in southwestern, Nigeria. All table in the paper was derived from the fieldwork January 2020, except otherwise stated. Table 3.1 shows that 83.3% of the respondents' professional agreed that advocacy measure will reduce the Scourge construction waste, 6.4% of the respondents' professional disagreed, while 10.2% of the respondents' professional were not sure whether advocacy will reduce the scourge of Building Waste.

Table 3.1:- Advocacy Measure reduce will reduce Waste.

Responses	Frequency	Percent
Yes	220	83.3
No	17	6.4
Not Sure	27	10.2
Total	264	100

As presented on table 3.2, the study found that significant proportion 83.3% of professional agreed that adoption of waste management plan/policies will reduce the scourge of construction waste, 6.4% were disagreed, while only 3% of the respondents' were not sure either waste management plan/policies will reduce waste scourge in building industry.

Table 3.2:- Waste Management Plan/Policies will reduce Waste.

Responses	Frequency	Percent
Yes	238	90.2
No	18	7.8
Not Sure	8	3
Total	264	100

The result of the finding of whether enforcement of waste management plan/policies will reduce the scourge waste table 3.3, established that 86.4% of respondents' professionals taught in the direction that enforcement of waste management plan/policies reduces waste, 7.8% disagreed, while 5.3% of the professionals were not sure.

Table 3.3:- Enforcement of Waste Management Plan/Policies reduce Waste.

Responses	Frequency	Percent
Yes	228	86.4
No	22	8.3
Not Sure	14	5.3
Total	264	100

Table 3.4, shown that 79.9% of the professionals agreed that adoption of waste reduction strategies will reduce the scourge of waste in building construction, 15.9% disagreed while 4.2% of the professionals were not sure if the adoption of waste reduction strategies will reduce the scourge of construction waste.

Table 3.4:- Adoption of Waste Reduction Strategies will reduce Waste.

Responses	Frequency	Percent
Yes	211	79.9
No	30	15.9
Not Sure	11	4.2
Total	264	100

The study presented on table 3.5, depicts that 67.8% of the profession agreed that financial incentive will reduce waste scourge, 17.8% of the respondents; professionals' disagreed. However, only 14.4% were not sure if the financial incentives, waste will be reduced.

Table 3.5:- Financial Incentives will reduce Waste.

Responses	Frequency	Percent
Yes	179	67.8
No	35	17.8
Not Sure	38	14.4
Total	264	100

Result of finding weather penalty to defaulter on table 3.6, shown that 84.8% of the respondents' professional agreed that penalty to waste defaulter will reduce waste, 8.7% disagreed, and 6.4% of the respondents' professional were not sure.

Table 3.6:- Penalty to Defaulter will reduce Waste.

Responses	Frequency	Percent
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Yes	224	84.8
No	11	8.7
Not Sure	17	6.4
Total	264	100

Professional' Satisfaction Perspicacity of Building Procurement on Waste Management in Construction Industry in Southwestern, Nigeria:

The professionals' perspicacity of building procurement on waste management in the construction industry in southwestern Nigeria, was determined using Professionals Satisfaction Index. To measure this, seven variables relating to the level of satisfaction derivable from building procurement management were identified. It is believed that level of professional' satisfaction would indicate the satisfaction derived from procurement waste management. To this end, a very satisfactory is an indication that those measures have a positive effect on vice versa.

$$\sum \text{PSI} = 72.56, \text{PSI} = \frac{\sum \text{HSI}}{(N=7)} = \frac{20.32}{7} = 2.90$$

The professional' satisfaction index (PSI) on some of these variables fell between disagreeing and not sure (table 3.7). This implies that disagree. For instance, management support, staff knowledge, and financial/incentives/motivation of professionals' will not reduce the scourge of procurement waste in building construction.

Table 3.7:- Professionals' Perspicacity of Procurement Waste Management that will Reduce the Scourge of Building Waste

S/N	Measures	Strongly Agree (5)	Agree (4)	Don't Know (3)	Disagree (2)	Strongly Disagree (1)	SWV	PSI
1	Management Support	4	107	10	28	100	634	2.57
2	Staff Knowledge	2	141	8	21	92	732	2.77
3	Financial Incentives/Motivation	1	140	24	25	74	761	2.88
4	Estimating/Ordering Practice	2	157	33	20	52	829	3.14
5	Design Issues	0	171	44	26	23	891	3.36
6	Material Supply Issues	17	143	16	42	17	806	2.41
7	Material Storage Practice	3	161	28	28	44	843	3.19
	Total	29	1020	163	190	402	5496	20.32

Conclusion:-

Based on the findings of the analysis of this study the following were concluded:

1. improved and better storage and, handling of materials delivered to site, a sale back contract should be entered with suppliers of building materials,
2. The needs for proper site supervision, materials control and security on-site,
3. Site workers, technician and craft men should be aware of material waste generation,
4. All stakeholders' in building construction should be carried along with management decision regarding waste management plan development as the commence of a project.

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