



ASSESSMENT OF CERAMIC SANITARY WARE PATRONAGE IN ABEOKUTA SOUTH, OGUN STATE, NIGERIA

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ABSTRACT

It is an established fact that environmental and social order can be disrupted with inordinate disposal of human waste. This necessitated the need for improved environmental sanitation. Ceramic sanitary ware (CSW) is one of the products designed to manage human excrement. The demand for these products is so alarming that the market is flooded with different brands of imported CSW yet Nigeria is still considered as one of the countries that has not measured up with the Millennium Development Goal targeted by the World Health Organization to improve sanitation. This research assessed the consumer patronage of ceramic sanitary ware products in the study area. Survey method of analysis was adopted, data was collected through questionnaire and processed using statistical tools. Response from respondents revealed that majority of CSW products available in the market were imported, while consumers' choice of the products was determined by factors related to the socio-economic status of the people and their taste. Factors found paramount include ease of cleaning, comfort, durability, and availability of products in market.

Keywords: Ceramics, Sanitation, Marketers, End-users, Industries.

INTRODUCTION

Historical evidence revealed that long before the creation of human abode; people have lived as wanderers and have relieved themselves wherever and whenever they felt like without constituting social or environmental nuisance. In this prehistoric era people have defecated in open fields, bushes, caves, valleys and river channels without much health consequence. This was because the population of these settlements were so small and organised in such a way

that human waste are so minimal that assaults on nose and health was too small to be a nuisance (Barbara, 2013). Waste management chain was not an issue, but as population began to expand, hamlets began to emerge into towns and cities, the management of human excrement became a major challenge, having to deal with smells and health related issues. This development necessitated the need for environmental sanitation since improper disposal of waste is inextricably linked to health related issues which in due course led to the creation of private secluded place (toilets, lavatories, bathrooms, or latrines) where the body can relieve sanitary ware products which are made from different materials which ceramics is inclusive. These products were specifically designed to be used in these secluded facilities to separate man from disease causing filths. Hence, it characterizes the modern day household toilet accessories in Nigeria because they are designed for comfort and proper human fecal waste management. Ryan and Radford, (1987) opined that CSW are manufactured with either Vitreous China or Fireclay body. The colour of CSW made from Vitreous China body is usually covered with an opacified glaze which appears in standard white or a range of other well-defined colours. These products are available in many variations and costs.

Nigerrob Ceramic Industry today known as Porcelainware industry limited was one of the first set of contemporary CSW producing industries established 1975 after independence. In 2016, CDK Integrated Industry limited was also said to have commenced production in Sagamu, Ogun state. This industries manufactured products for distribution in Nigeria and other African countries before they were shot down. Having studied the rise and fall of the indigenous ceramic industries, Chikezie (2016) attributed the failure to wrong government importation policy which allowed the infiltration of imported products at the detriment of the local. In addition, Epina (2014) predicted that by 2018 global Ceramic market must have reach \$408bn. Odinaka (2014) stressed further that Nigeria imports approximately \$600million worth of ceramic products annually, yet the Joint Monitoring Programme of the World Health Organization identified Nigeria as one of the countries that has not measured up with the Millennium Development Goal targeted of access to improved sanitation. Tom Miles (2014) buttressed that an average of one billion people still defecate in public all over the globe. World Bank (2012) also added that 32 million Nigerians defecate in the open. This implies that Nigerian citizens are

in great need of CSW products. On the contrary, Adindu, Moses, Thaddeus and Tse, (2014) argued that with the abundance of human and natural raw materials suitable for the production of ceramic in Nigeria, there should be no reason for reliance on foreign ceramic products for human waste management in the country. This study henceforth, examine the factors responsible for the patronage of CSWs in the study area of Ogun state, Nigeria, which in turn provides information to guide both local producers and foreign investors.

RESEARCH METHODOLOGY:

Survey research design was adopted for this study, as it provides numeric description of trends, attitudes or opinions of a population by studying a sample of that population. The population for this research included the marketers and end users of CSW within Abeokuta south local government of Ogun state.

Questionnaire was designed and administered by students of the Moshood Abiola Polytechnic, Abeokuta for each of the groups of respondents within the study area. Likert scale model ranged in order of 5 to 1 was adopted in the design of questionnaire in order to elicit information from respondents. Ten (10) variables were considered in the questionnaire for product end-users. While, Eight (8) variables were adopted for marketers in order to evaluate the significance of consumers demand on preference. The result of this field study was analysed using (IBM SPSS 21version 2015).

In this study, only marketers of CSW registered with Plumbing Materials Sellers Associations (PMSA) within the study area as at year 2019 were considered for the sample frame. This was because Ceramic Sanitary Ware Marketers (CSWMs) do not exist as an association registered under the Cooperate Affairs Commission of Nigeria. The number of registered CSWM members under PMSA within the study area was 45. While the sample frame for the end users was infinite but based on population record of census 2006, Abeokuta south was 250,278.

As for sample size for end-users, Berg and Lune (2004) and Babbie (2013), recommended a range of 20% to 30% for a population below five hundred (500) respondents, whereas, 10% to 20% sample size would be adequate for a population that is above five hundred (500) respondents. Bagozzi and Yi (2012) simply concur that sample size should be above one hundred (100) or preferably above two hundred (200). In line with the above recommendations,

suggestions, observations and assumptions, various formulas could be employed to arrive at an appropriate sample size. As for this study the internet survey system electronic calculator was used to determine the sample size in each group.

However, it has been established through various studies that returned questionnaires are always lower than number distributed (Argyrous, 2011) and in order to ensure that returned questionnaires falls within the recommended number, extra questionnaires was added. The questionnaire administered were separated into the two categories of respondents in order to elicit responses. Consequently, a set of forty five (45) questionnaires was circulated to CSWM while another set of One hundred and twenty (120) questionnaire to the end users. Eventually, forty two (42) responds from marketers and one hundred and four (104) responds from the end users were returned. Three (3) respondents out of the users returned blank questionnaires and three gave multiple answers so it was annulled. Making a total of ninety eight (98) end users that responded. Simple random sampling technique was employed to respondents within the study area. The technique was adopted because it gave every member of the population equal chances or probability of being included in the sampling exercise.

RESULTS AND DISCUSSION

Demographic Data of the Respondents

Gender disparity was appropriate in this research because it helps to highlight sex distribution and helped to check if there are any bias or gender influence. The gender distribution as displayed in Table 4.1 indicates that the male gender dominates the population of marketers with 67% respondents. While the female gender represented 62% end users of CSW in the study area. This suggests that more female use ceramic sanitary ware than the male in Abeokuta south local government, Ogun.

Table 4.1: Gender distribution of Respondents

Gender	Marketers			End users		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Female	14	33	33.3	61	62	62.2
Male	28	67	66.6	37	38	37.7
Total	42	100	100	98	100	100

Source: Author's field work, 2019

Age distribution of respondents

Analysis carried out on age distribution of respondents in Table 4.2 reveals that only matured marketers between ages of 21 and above 40 were examined. This implies that all respondents were of age and well informed about the sales and distribution of ceramic sanitary wares. Most marketers that responded are between the ages 31 and 40. In addition the age distribution of end-users corroborate that the use of CSW cut across all ages. The age ranges of respondents are from less than 21 to ages above 40.

Table 4.2: Age distribution of Respondents

Ages	Marketers			End users		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
<20	0	0.0	0.0	12	12.0	12.2
21 - 30	2	5.0	4.7	3	33.	32.6
31 - 40	21	50.	50.0	3	37.0	36.7
40	19	45.	45.	6	18.0	18.3
<		0	2			
Total	42	100	100	9	100	100

Source: Author's field work, 2019

Educational qualification of respondents

Result of analysis on Table 4.3 represents the educational qualification of respondents. This shows that none of the ceramic sanitary ware marketers was without a formal education. Majority 33% of marketers with Ordinary National Diploma/National Certificate of Education (OND/NCE) dominates the respondents with other degrees. This suggests that all marketers are knowledgeable in the subject area. And as for respondents belonging to the category of end-users, a popular responds 29% possessed at least West African School Certificate (WAEC). This table reveals that both literate and illiterate use CSW without any bias. This implies that the used of CSW does not require educational qualification.

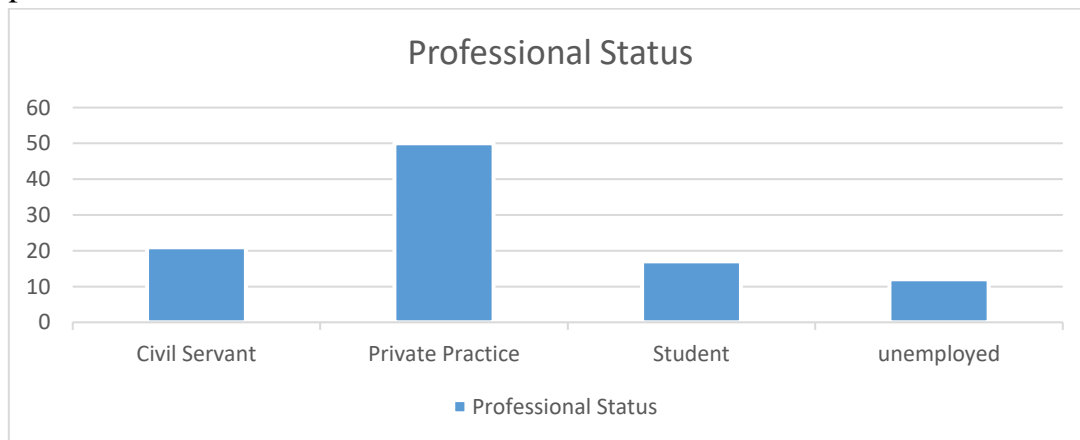
Table 4.3: Educational qualification of respondents

Degree	Marketers			End users		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Master's Degree		2.0	2.3	5	5.0	5.1
Bachelor's Degree	6	14.0	14.2	18	18.0	18.4
HND	12		28.5	20	20.0	20.4
OND / NCE	14	29.0	33.3	25	26.0	25.5
WASC	9	21.0	21.3	28	29.0	28.5
No formal Education	0	0	0	2	2	2.0
Total	42	100	99.6	98	100	98.9

Source: Author's field work, 2019

Professional status of end-users

Analysis was also conducted on the professional status of CSW user. The results as displayed on Figure 4.1 shows that majority 50% of the end-user respondents were into private practice or self-employed because of their accessibility during working hours. The civil servants were 21%, students 17%, and 12% unemployed. This indicates that anybody can use of CSW regardless of professional status.



Factors responsible for consumer preference for CSW from End users’ responds.

Result from this analysis indicated that consumers or end-users of CSW are enticed to purchase these products based on some qualities or factors that appeals to them. These dynamic forces of preference can also be referred to as factors influencing demand. These factors were investigated using relative importance index (RII) and judging from the results shown in Table 4.4. ranked the Ease of cleaning as the first most important factor end-users consider before buying CSW with RII of 0.98 (Mean = 4.9). The table also categorized other priorities in the following order of RII; functionality (0.97), durability (0.97), comfort (0.96), price (0.96) and availability of products in the market (0.92) were the most relevant factors sort after by end-users before purchasing a CSW. Other important factors include size (0.88), colour (0.86), elegance (0.85), surface texture (0.83), uniqueness (0.83) and Glaze type (0.76). While choice based on origin of CSWs remains undecided and has RII of 0.67.

Table 4.4: Factors responsible for end-user preference for ceramic sanitary ware

S/N	Qualities of Attraction	VI	I	UD	LI	NI	Mean	RII
1	Colour	52 (53.0%)	31 (32.0%)	5 (5.0%)	9 (9.0%)	1 (1.0%)	4.3	0.86
2	Elegance	48 (49.0%)	34 (35.0%)	7 (7.0%)	9 (9.0%)	-	4.2	0.85
3	Durability	87 (89.0%)	9 (9.0%)	-	-	2 (2.0%)	4.8	0.97
4	Origin of product	22 (22.0%)	24 (25%)	28 (29.0%)	14 (14.0%)	10 (10.0%)	3.4	0.67
5	Comfort	84 (86%)	11 (11%)	2 (2%)	1 (1%)	-	4.8	0.96
6	Functionality	83 (85%)	11 (11%)	-	1 (1%)	3 (3%)	4.9	0.97
7	Availability in market	64 (65%)	31 (32%)	3 (3%)	-	-	4.6	0.92
8	Ease of cleaning	90 (92%)	7 (7%)	1 (1%)	-	-	4.9	0.98
9	Uniqueness	49 (50%)	20 (21%)	25 (25%)	4 (4%)	-	4.2	0.83
10	Affordability	82 (84%)	13 (13%)	1 (1%)	1 (1%)	1 (1.0%)	4.8	0.96

Source: Author’s field work, 2019

Keys: VI = Very Important
 I = Important
 UD = Undecided
 LI = Less Important
 NI = Not Important
 RII = Relative Importance index

As for the marketers, significant factors was used to determine what their customers look out for while buying CSWs. Using RII as determinate for the significant factors, the results in Table 4.5 identify Durability (0.99) and Ease of cleaning (0.99) as top most priority. Design (0.98) and Availability of products (0.96) were also very significant factors chosen by the respondent. While other significant factors include Price (0.89), Packaging (0.82), Colour (0.86) Brand (0.88) and place of origin (0.86).

Table 4.5: Sanitary ware marketers’ opinion on factors affecting consumers demand

S/N	Significance of factors	MS	S	U	LS	NS	Mean	RII
1	Design	38 (90%)	4 (9.8%)	-	-	-	4.9	0.98
2	Affordability	30 (71%)	7 (17%)	-	2 (5%)	3 (7%)	4.4	0.89
3	Colour	25 (60%)	6 (14%)	9 (21%)	2 (5%)	-	4.3	0.86
4	Durability	41 (97.6%)	1 (2.4%)	-	-	-	5.0	0.99
5	Brand name	21 (50%)	16 (38%)	5 (12%)	-	-	4.4	0.88
6	Availability	33 (79%)	8 (19%)	1 (2%)	-	-	4.8	0.96
7	Ease of cleaning	40 (95%)	2 (5%)	-	-	-	5.0	0.99
8	Place of origin	21	11	8	-	2	4.3	0.86

(50%) (26%) (19%) (5%)

Source: Author's field work, 2017

Keys: MS = Most Significant S = Significant U = Undecided LS = Less Significant

NS = Not Significant RII = Relative Importance index

CONCLUSION

Having considered the importance of ceramic sanitary ware to the management of human faeces and the effect on societal health improvement, it is imperative that local production and patronage of these fixtures be prioritized. The findings made revealed that majority of CSW available in the Abeokuta South market were imported owing to the fact that locally made CSWs were more expensive and less attractive. The market was dominated by brands such as Twyford, Aston, Roca, Delta, Ideal Standard, Cera, Ariston, Virony, Astell, Hayu, and Vieany products. While the indigenous ceramic industries were often plagued the challenges of cost of production, outdated product designs and broken-down, old machineries whose spare parts were not readily available in the local markets. In addition, Durability, ease of cleaning, design, affordability, comfort, functionality of products and their availability in the market were the most essential criterial that influence consumers' choice for ceramic sanitary ware.

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