“Influence of public relations’ media public enlightenment campaign and community participation strategies on waste management”

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INFLUENCE OF PUBLIC RELATIONS' MEDIA PUBLIC ENLIGHTENMENT CAMPAIGN AND COMMUNITY PARTICIPATION STRATEGIES ON WASTE MANAGEMENT

Abstract

Waste management has posed a lot of threats to both humanity and the stability of the natural environment. This study specifically investigated whether public relations' media enlightenment campaign has any significant influence on waste management and also studied whether public relations' community participation has any significant influence on waste management. The population of the study consists of residents of Enugu metropolis. Survey method was adopted for the study, and the sample size of 384 residents were determined using Cochran's method. Cronbach's Alpha was used to determine the reliability of 0.980. Using the convenience sampling technique, the questionnaires were distributed to 384 residents, and 295 of them were duly filled and validated. Using simple linear regression for data analysis, the findings revealed that public relations' media public enlightenment campaign strategy has a significant influence on waste management ($r = 0.933$; $t = 76.736$; $F = 5888.365$; $p < 0.05$). Similarly, it was revealed that public relations' community participation strategy has a significant influence on waste management ($r = 0.930$; $t = 76.280$; $F = 5667.029$; $p < 0.05$). Ergo, there is a need to improve on media public enlightenment campaign strategy towards educating and encouraging waste management behavior among residents through an adequate traditional and social media awareness campaign. Also, residents should be encouraged to participate actively and meaningfully in environmental waste management issues in Enugu metropolis. The implication is that residents will be more conscious of managing their wastes effectively as a result of adequate information gathering from the media and participation in waste management activities.

Keywords waste, public relations, waste disposal, media, two-way symmetrical, Enugu State Waste Management Authority (ESWAMA)

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INTRODUCTION

Succeeding and surviving in every business endeavor requires deliberate planning, communication, and action (Nwosu, 2001). Emphatically, an organization can be projected a Victor if only it matches its communication with action. In other words, "talking and talking and talking is not doing and doing and doing." However, public relations is a credible management weapon that matches words with action. It is an efficacious marketing communication and management technique for building a two-way symmetrical relationship between an organization and its various stakeholders. It is an epitome of face-to-face communication in which there is an innate feedback system that guarantees equitable and harmonious interaction between different groups of people. Public relations is portrayed as a credible and balanced com-

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munication strategy very different from advertising and other marketing communication techniques in delivering the needs and aspirations of all stakeholders because of its capability of generating 'a question and answer session' between a public relations spokesperson and the audience.

However, waste disposal is a component of waste management hierarchy aside waste reduction, reuse of waste and recycling of waste. Wastes are unwanted objects, which are no longer beneficial and therefore are disposed of to keep the environment clean and more sustainable. Unfortunately, most urban and community residents exhibit lackadaisical attitude towards effective waste disposal and this leaves the environment dirty and uninhabitable. Poor waste disposal leads to pollution, which causes health challenges, environmental degradation and global climate change.

Moreover, both media enlightenment campaign through the use of radio and television and community participation through townhall meeting are viable and effective public relations strategies that will solicit and initiate robust commitment by residents of Enugu metropolis towards effective waste disposal. Media public enlightenment campaign is a sine qua non for creating awareness among residents and the general public on the importance of keeping their environments clean. Through media enlightenment campaign, community residents will acquire the needed education and training on the benefits of effective waste disposal to save the life of the residents from pollution as well as the sustainability of the natural environment. Training of residents on how to collects their wastes timely and channel them to designated dumpsites would lead to proper hygiene and reduce the amount of rodents and other insects that transmit diseases in the neighborhood. Besides, community participation is also indispensable to the actualization of a waste-free environment. As members of the residential areas are permitted to take part in all programs and activities projected towards adequate disposal of wastes in their abode, they will respond positively each time they are called upon to keep their environment clean.

Thus, poor media public enlightenment campaign will definitely lead to poor waste management by residents. On the contrary, adequate media information will result in acquisition of knowledge and commitment towards proper waste disposal and environmental sustainability. Regrettably, community participation is one of the major waste management problems in Enugu (Amujiri, 2009). In addition, dearth of and poor environmental policies and regulations, poor environmental awareness, poor technology know-how, inadequate funding, poor planning of urban towns and cities and corruption, contribute to inadequate waste management in Nigeria (Ebikapade & Jim, 2017).

Furthermore, no study known to the researcher had delved into the use of both media enlightenment campaign and townhall meeting as public relations techniques to trash the issue of inadequate waste disposal in Enugu State and Nigeria. It is on this background that this study tries to fill a gap in the literature by choosing to adopt the two-way symmetrical model to investigate the influence of media public enlightenment campaign and community participation as public relations strategies towards effective waste management in the Enugu metropolis.

1. LITERATURE REVIEW AND HYPOTHESES

1.1. Public relations

Public relations had evolved through some stages such as press agentry, public information, two-way asymmetrical and two-way symmetrical stages (Lane, 2003; Browning, 2008). They are known as four models of public relations propounded by James Grunig and Todd Hunt in 1984 (Dunkerley, 2016; Beverly, 2013). The first two stages of the evolution are unidirectional (Dlamini, 2016) as they focused more on passing false information and propaganda to easily manipulate their audience. They equally lack the primacy of research and feedback to discover what the information needs

and responses of their audience are. The two-way asymmetrical model though utilizes research element to investigate what the audience needs, fails to manage the feedback from the audience. They only require the contribution of the audience to use it against them. In other words, they manipulate the audience's feedback in order to suit their selfish goal (Erturk & Berkman, 2016; Nwosu, 1996). Though it applies research, it is totally lopsided as the needs of the audience are never catered for (Dunkerley, 2016).

Fortunately, and interestingly, the two-way symmetrical model is metaphorically public relations practice in reality (Beverly, 2013). That is where the world is today. That is the domain of practical and contemporary public relations (Browning, 2008). That is because it uses research to discover the needs and wants of the public, solicits their feedback, and uses the feedback to satisfy the requirements of the public in an effective and efficient manner. It is all about mutuality and symbiosis between parties targeted towards achieving a common objective (Dlamini, 2016). For Dlamini (2016), building trust, confidence, respect, transparency, credibility, accountability, and long-term rapport must elicit to and fro communication. Erturk and Berkman (2016) gave their assent to this view. It must be interactive and cordial at all times. In other words, messages must be sent, and feedback received, and used to solve both individual and societal problems. Two-way symmetrical communication improves the effectiveness and efficiency of an organizations' communication process (Dunkerley, 2016).

1.1.1. Media public enlightenment campaign public relations strategy

Adequate communication is all that is required to guarantee effective waste management (Hammed, Sridhar, & Wahab, 2016). Obi, Orga, and Ogadimma (2018) affirmed that most waste management issues are caused by lack of public enlightenment campaign. The mass media and the social media are indispensable in the discharge of public relations campaign towards the achievement of mutual relationship, understanding and acceptance of social, political, cultural, economic and environmental causes (Olayiwola, 2014). All the media are used by both public relations and non-public relations professionals to achieve individual and organizational goals (Mutungwe, 2016; Ngwu, 2017).

The traditional broadcast or electronic media (radio and television), the traditional print media (Mbalisi & Ogoegbunam, 2012) (newspaper and magazine), the traditional and electronic billboards and the social media (Ngwu, 2017; Nabegu & Mustapha, 2014) are veritable public relations tools for attitudinal change (Mutungwe, 2016) and behavior towards adopting political, social, cultural, religious, education, and environmental programs in the society. Indeed, waste management issues require public enlightenment campaign for creating the awareness among members of a given location, community, city, and entire society to adopt efficient and effective waste management behavior to help salvage the dangers and degradation posed on planet earth (Olayiwola, 2014). The mass media is often and mostly deployed to inform and communicate the members of the public about major issues because it is the only channel through which a significant number of people can gain awareness, information, and knowledge about important issues affecting them simultaneously and with high impact.

The media is germane in delivering waste management messages to members of the community towards taking adequate care of their natural environment by reducing, reusing, recycling, recovering, and disposing of the waste in governments' designated dumpsites instead of indiscriminate dumping. Waste disposal causes environmental problems and had been very challenging in most developing countries in the world (Nwigwe, 2008). Indeed, public enlightenment campaign is a rich public relations strategy aimed at educating the masses on modern waste management methods available to them. The hypothesis is stated as follows:

H1: Public relations' media public enlightenment campaign strategy has a significant influence on waste management.

1.1.2. Community participation public relations strategy

Community participation is indispensable to the success of waste management (Ike, Ezeibe,

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Anijiofor, & Daud, 2018). That is because without it, the problem of solid waste management will be highly intractable (Obi, Orga, & Ogadimma, 2018). Gone are the days when governments are known for their paternalistic behavior towards the citizenry. Nowadays, they, however, encourage community participation in all aspects of societal development (Amujiri, 2009). Community participation is the inclusiveness and involvement of the members of the community in decision-making and carrying out certain social tasks that encourage their welfare and that of the entire society (Iyi & Ugwuanyi, 2014). It is embedded in social equity and eschews every aspect of social stereotype or discrimination against any gender, age group, education qualification, religion, ethnicity, tribe, social status, etc. In fact, everyone is judiciously involved in the fulfillment of community objectives and mission. It gives members of the community the mental disposition that they are highly valued and that their opinion is taken into account in making critical decisions affecting them. It equally grants them huge control over the environment they inhabit (Emenike & Okonkwo, 2015). This could be achieved through town hall meetings, seminars, conferences, workshops, etc.

Indeed, at the waste management levels, especially at the level of waste disposal, everybody is involved in ensuring that waste is diligently collected, packaged, and taken to designated waste bins and dumpsters where they are finally collected by the Enugu State Waste Management Authority (ESWAMA). Failure to abide by the existing environmental protection agency (EPA) regulations is subject to severe punishment that sometimes may even lead to a lawsuit. Chukwuemeka, Ugwu, and Igwegbe (2012) posited that community participation is very germane to waste management and needs to be encouraged.

Maintaining the aestheticism of the environment is a viable option because it equally leaves the environment hygienically habitable for the members of the local communities. It reduces the infection of water-borne and air-borne diseases and leaves all citizens in better health and safety conditions. In other words, an unhealthy environment is a certificate to contraction of diseases that renders human beings sick and may sometimes lead to fatalities. In fact, it is often said that "health is wealth." This is because if one is in a sound health condition, the money that would have been used for the treatment of diseases and other infections would have meaningfully been diverted into other profitable ventures. The hypothesis is stated as follows:

H2: Public relations' community participation strategy has a significant influence on waste management.

1.2. Fundamentals of waste management

Waste is any object that is destined to be disposed of because it is of little or no value (Jibril, Sipan, Sapri, Shika, Isa, and Abdullah, 2012). Waste, according to Eleje, Anienwelu, and Adebayo (2017), is refuse, by-products, remains, debris, and household garbage that is no longer needed or useful. Waste is an unwanted and unusable object which is regarded as useless and is therefore discarded. Examples of waste includes household trash or refuse known as municipal solid wastes, hazardous wastes made up of chemicals, sewage regarded as wastewater that contains faces and urine, and radioactive wastes from nuclear reactors. It is any substance or object which is not in use by the owner and is therefore disposed of (DEFRA, 2012). Lamb, Pogson, and Schliebs (2012) defined it as any useless and discarded object that can be recycled. It is an unavoidable material which is refuse or remains of household or industrial activities that are disposed of because they have no economic demand (Sridhar & Hammed, 2014).

Besides, industrial waste is waste that is produced as a result of the manufacturing activities of business organizations. Industrial waste could be industrial solid waste and municipal solid waste, toxic waste, and chemical waste. Industrial waste includes paints, sludge, metals, ash, sandpaper, paper products, industrial by-products, pigments, metals, chemical solvents, and radioactive waste. Eleje, Anienwelu, and Adebayo (2017) noted the classification of solid waste as household waste, agricultural waste, commercial waste, municipal waste, institutional waste, construction and demolition waste, and hazardous industrial waste. Eleje et al. (2017) assured that adequate waste management bestows economic, social, environmental, and inter-generational equity benefits.

Metaphorically, waste management is a sine qua non to the continued and healthy existence of any society in the world (Odunola, Jelili, Adejumobi, & Asani, 2015). Waste management is the process of minimization, collection, transformation into new products through recycling and disposal of waste. Abila & Kantola (2013) defined it as the process of collection, sorting, transportation, and disposal. It is an issue with global attention but has taken its toll more in developing countries. It had defiled environmental equilibrium and made it highly vulnerable to climate change (Ndubisi-Okolo, Anekwe, & Attah, 2016; Mshelia, 2015). Amasuomo and Baird (2017) argued that the need for effective and efficient management of waste arose as a result of an astronomically growing consumer population with changing lifestyle permeating the bone marrows of many manufacturing organizations. According to them, judicious waste management policy would definitely reduce industrial pollution, conserve and preserve life. Unfortunately, Ngwuluka, Ochekpe, Odumosu, and John (2009) observed that waste management policies are hardly formulated in developing countries.

Ironically, waste management has defiled many government policies, programs, and intention tailored towards addressing it. In fact, poor waste management is a cankerworm that has eaten deep into the fabrics of our nation, Nigeria, and some other developing countries in the world. In Nigeria, it is commonplace to see people dump their waste indiscriminately. In other words, waste could be found dumped in flowing gully waters and drainage systems, streams, rivers, and other water bodies, roadsides, available open lands, open pits, etc. Untreated waste is disposed of at designated dumpsites in Nigeria (Egesi, Ikeuka, Alum-Udensi, & Uchendu, 2016).

Notwithstanding, industrial control and waste management started in the United States of America in 1976 by the adoption of the Resource Conservation and Recovery Act (Hoveidi, Pari, Vahidi, Pazoki, & Koulaeian, 2013; Adewole, 2009). It had been the subject of discourse and debate in many seminars, workshops, conferences, and meetings between the members of the academia and the industries (Onipede & Bolaji, 2004; Okwesili, Ndukwe, & Nwuzor, 2016). Following the above assertion, many different studies had been conducted on it. Interestingly, it became an issue on the election agenda of 2003 in Kano State in Nigeria and culminated in the establishment of Refuse Management and Sanitation Board (REMASAB) (Nabegu & Mustapha, 2015).

Certainly, pollution is one of the greatest impacts of indiscriminate dumping of waste in the environment (Ezigbo, 2012). Ekpeze (2014) narrated that non-disposal and indiscriminate waste disposal has led to environmental pollution that consequently has resulted in environmental disasters in Nigeria. Indisputably, waste management is really a fundamental environmental issue in Nigeria and had generated a lot of concerns (Ebikapade & Jim, 2017). Poor or inadequate waste management leads to health problems and degradation of the natural environment (Ayuba, Manaf, Sabrina, & Azmin, 2013; Ayodeji, 2010). Adewole (2009) asserted that poor waste management had taken its toll on the health and quality of life of the people. A study conducted by Amalu and Ajake (2014) revealed that the central waste collection method and pattern is an inadequate technique for waste management in Enugu State as the number of people located within each dumpster produces more waste than the capacity of the dumpsters.

Furthermore, in Nigeria, waste is exclusively being managed by federal government institutions through its policies and regulations. The Federal Environmental Protection Agency (FEPA) was established by Decree 58 on 30th December 1988 to checkmate indiscriminate disposal of waste in Nigeria (Abila & Kantola, 2013). One of the major functions of the government at the local, state, and federal levels is waste management in order to keep the cities clean, attractive, and healthy. In big towns and urban cities in Nigeria, waste management is handled by two agencies – state environmental protection agency and the state waste management authority (Abila & Kantola, 2013). Metaphorically, these agencies are nothing but titular heads in terms of managing the waste in their various domains and capacities (Adeniyi, 2014). In Enugu State, it is specifically managed by Enugu State Waste Management Authority (ESWAMA) under the auspices of Enugu State Environmental Protection Agency (EPA) in the Ministry of Environment and Mineral Resources. Thus, waste

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management, especially waste disposal to designated dumpsters before final evacuation of such collected waste to dumpsites by Enugu State Waste Management Authority (ESWAMA), had posed an overwhelming threat to the health, safety, aesthetic, and environmental stability of the city and the entire society (Chukwu, 2018; Agbaeze, Onwuka, & Agbo, 2014). Inadequate waste management threatens not only Enugu but also most cities in both developing and developed countries in the world (Chukwu, 2018; Agbaeze et al., 2014).

Nevertheless, waste management issue had been highly intractable and precarious in Nigeria (Adeniyi, 2014; Oyeniyi, 2011; Ezigbo, 2012). That is because many governments all over the world have found it very difficult to deal with (Adewole, 2009; Ebikapade & Jim, 2017; Anyanwu & Adefila, 2014). Perhaps one of the reasons why consumers, households, businesses, governments, investors have failed in their personal and corporate responsibility to managing the waste in their various domains are the inadequate information and knowledge concerning the long-term benefits of undertaking such sustainable behavior (Abila & Kantola, 2013).

1.3. Waste disposal

Waste disposal is the last option in the waste management hierarchy because it leaves a devastating effect on the ecological footprint (Onipede & Bolaji, 2004; Aboyade, 2004). Waste is a material or object which has no value and is therefore discarded by households and industries (UN Habitat, 2012). Waste disposal is the deliberate collection, packaging, and discarding of used or unused materials, which are no longer required at home or at industrial production sites and are moved to dumpsites. UN Habitat (2012) acknowledged other types of solid waste to include "agricultural waste, mining waste, construction and demolition waste, infectious waste from medical facilities, and hazardous waste from laboratories and factories."

Papers, bottles, used cars, clothes, batteries, plastics, sachets, tires, broken furniture, garbage, glasses, aerosol cans, leather bags, polythene bags, etc. were waste dumped indiscriminately in open dumpsites in Federal University of Technology Owerri (FUTO) in Nigeria (Ejionu, Okpara, Okpara, Onyeocha, Azubuike, & Emeh, 2018). In line with this, heavy amount of waste perpetually continues to dominate some of the major cities in Nigeria. They block drainage systems and roads and constitute health and environmental hazards to residents in these cities (Idowu, Omirin, & Osagie, 2011).

According to Abdullahi, Ajibike, Man-Ugwueje, and Ndububa (2014), domestic waste, commercial waste, and industrial waste are the three major types of waste. They also mentioned other waste categories based on their composition such as biodegradable and non-biodegradable waste, gaseous waste, liquid waste, solid waste, and regulated medical waste. Methane constitutes the second largest (20%) global emission of greenhouse gases after CO2, and this is caused by solid waste disposal at numerous dumpsites (Aboyade, 2004).

In addition, most waste are not properly disposed of but rather deliberately and 'ignorantly' left to litter the streets, along the roads, highways, gutter, and everywhere in the environment (Aladejebi, Adeyeye, & Olatunji, 2015; Onipede & Bolaji, 2004). It is throwaway that is found scattered around the premises and industrial vicinities, which blocks the drainage systems and causes air, land, noise, and water pollution (Audu, Aigwi & Enaboifo, 2015). Supporting this statement, Odunola, Jelili, Adejumobi, and Asani (2015) agreed that indiscriminate waste disposal leads to environmental pollution. Unfortunately, this waste emits greenhouse gases (CO2, methane, nitrous oxide, ozone, and water vapor) that evolved climate change in which its impact continues to rise (SRU, n.d.; Aboyade, 2004).

Therefore, as a result of lack of recycling facilities, lack of landfill disposal, poor service coverage cum inefficiencies in services operation and poor healthcare and hazardous waste management, it had been very problematic dealing with Nigeria's waste disposal issues (Uchendu, 2016). Waste that ends up in dumpsites and landfills is higher in the developing countries than the developed countries because of inadequate recycling facilities and reuse capabilities (Aboyade, 2004). Adetunji, Atomode, and Isah (2015) concurred with this and noted that solid waste is treated with contempt in Nigeria. However, inadequate and lack of waste disposal to designated sites has led to devastating health is-

sues in Nigeria (Abdullahi et al., 2014; Adetunji et al., 2015; Momodu, K. Dimuna, & Dimuna, 2011) such as dengue fever, Lassa fever, diarrhea, yellow fever, and bubonic fever transmitted through pests such as mosquitoes, flies, and rats (Uchendu, 2016; Ajibuah & Terdoo, 2013; Aladejebi et al., 2015; Ikemike, 2015). Unfortunately, burning of waste is another dangerous method of waste disposal as it may cause respiratory disease. A study conducted in Ijebu Ode town in Nigeria among market women revealed that indiscriminate waste disposal led to Typhoid fever, Lassa fever, malaria, food and water contamination (Kalesanwo, Oke, & Okufuwa, 2013).

1.4. Waste management and role of Enugu State Waste Management Authority (ESWAMA) in waste disposal

Indeed, waste disposal by individuals, households, and organizations has posed a great threat to the ecological and social system. In the waste management hierarchy, waste disposal is the major option left for these groups when source reduction, reusing of products, recycling, and recovery fail. What and how would individuals respond to the issues of waste disposal even when the authority has communicated the hazards and health and environmental challenges posed by indiscriminate dumping? Most times, it seems that both media public enlightenment campaign and community participation fail out of indiscipline and poverty on the side of the citizens to pay their monthly waste collection fees.

A clean and healthy environment is concomitant to sound health. In truism but unfortunately, most Nigerian cities are turning into ghettos consequent upon a large volume of waste generated, which the government waste management authorities have been unable to deal with, and this has resulted in indiscriminate dumping (Ajah, Ademiluyi, & Nnaji, 2015). Also, the contamination of water is caused by inadequate disposal of waste (Ajah et al., 2015). This has led to the pollution, which has resulted in a miasma of diseases and sicknesses. Thus, there are countless open dumpsites in Nigeria, one of which is the Enugu State Waste Management Authority (ESWAMA) dumpsite (Ajah et al., 2015). Of course, the final bus stop to all the waste in Enugu is the dumpsite located about 1.6 kilometers away from Enugu-Port Harcourt expressway. Although the initial plan of ESWAMA was to establish a landfill (Emenike & Okonkwo, 2015), poor manpower, inadequate technology, and lack of strategic management destabilized the erstwhile plan, leaving the place overloaded with dumps. Chijioke & Ugwuanyi (2014) iterated that technology sets the pace for waste management. Indeed, open waste disposal is very dangerous (Emodi, 2017; Abah & Ohimain, 2011). Ahmed (2008) reported that inadequate logistics is the major cause of poor waste management in Enugu.

Unequivocally, ESWAMA was established in 2004 to replace the moribund Enugu State Environmental Protection Agency (ENSEPA) (Emenike & Okonkwo, 2015) as a waste management authority responsible (Emodi, 2017) for waste management within all levels of management such as encouraging waste reduction from sources, encouraging reusing, recycling, recovery, and judicious dumping at landfills but, unfortunately, they do neither of these, except collection and dumping, without any kind of treatment on the dumpsites (Oteh, 2016; Asibor & Edjere, 2017; Ajah et al., 2015). According to them, only the scavengers who rummage through the dumps try to sort out and recover a few valuable materials which sometimes they subject the dumpsites into burning, thereby polluting the natural environment the most. Amalu, Ajake, Oba, and Okpara (2012) are in line with the poor waste management approach by ESWAMA and confirmed that they never tried to reach out to the citizenry through public relations messages by way of encouraging community participation and media public enlightenment campaign. For them, citizens are never granted the awareness of the health implication of indiscriminate dumping and, as such resort to littering everywhere with waste. To make the matter worse, ESWAMA itself allows its dumpsters overflowing with waste resulting in a miasma of odor and infection. This has really affected the stability of the environment as well as led to deteriorating health conditions in the neighborhood. In their view, Asibor and Edjere (2017) concurred too, and observed that waste management authorities lack an adequate plan to evacuate the overwhelming volume of waste generated.

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1.5. Two-way symmetrical model

Building a mutually beneficial relationship is domiciled in the two-way symmetrical model of public relations (Beverly, 2013). Bi (2014) doubted whether two-way symmetrical could be tenable in the real world. He argued that it is utopian and mere academic imagination for there to be a balance of communication between an organization and members of the public (Dunkerley, 2016). Kenny (2016) affirmed the elusiveness of two-way symmetrical communication by criticizing the lopsidedness of communication between an organization and members of the public. Cooper (n.d.) reaffirmed this view and noted that two-way symmetrical communication would never be balanced in settling the issues with activist groups. For Cooper (n.d.), the excellence theorists hold tenaciously that the two-way symmetrical model of public relations encourages the dialogue between organization and public and, therefore, will be very efficacious in settling public relations conflict or misunderstanding. According to him, it portrays daily dialogical interaction between management and employees of business enterprises. Davidson (2016) supported this statement too, and asserted that two-way symmetrical communication is a very important aspect of dialogic deliberation. Browning (2008) reiterated that two-way symmetrical is factual as it is very effective and ethical in communicating with various stakeholders. It is purely a persuasive means used by either of the community or the organization to influence each other in a positive manner (Dlamini, 2016).

This model represents the modern public relations practice and explains the relationship between public enlightenment campaign and community participation as viable and robust public relations conduit through which waste management authorities can create messages and rapport with the members of the community to guarantee adequate waste management in the Enugu metropolis. It creates waste management awareness to the residents through the media of communication and solicits community participation in deliberating on waste management issues and also allowing practical participation in proper waste management. For instance, the government of Enugu State through ESWAMA had allotted the last Saturday of every month to wean the metropolis off wastes.

2. DATA AND METHODS

The survey method was deployed by administering a structured questionnaire to gather primary data from adult residents of the 10 districts in Enugu metropolis. The districts include Achara Layout, Uwani, Independence Layout, Hew Haven, GRA, Trans Ekulu, Asata, Coal Camp, Enugu Campus and Marylan. The scope of the study covered the influence of public relations' media public enlightenment campaign and community participation strategies on waste management in Enugu metropolis. Cochran's sample size determination method was used to arrive at the value of 384 as the sample size. The reliability of the study is 0.980 determined using Cronbach's Alpha. Also, convenience sampling was adopted in selecting the respondents for the study. However, the researcher through cold call visits distributed 384 copies questionnaires, 38 each to the nine districts except for Achara Layout that got 42 because of its larger population and also the researcher's residence. Of the 384, 295 were well responded to and returned. Hypotheses testing and analysis of data were done using simple linear regression analytical technique with the help of the Statistical Package for Social Sciences (SPSS) version 22.

3. RESULTS AND DISCUSSION

Descriptive statistics were used for the presentation and analysis of data obtained from the field to provide the answers for the research questions, while linear regression at 0.05 Alpha level was used to test hypotheses one and two, respectively.

In Table 1, based on the aggregate response, a total of 829 indicated strongly agree, 713 indicated agree, 93 indicated undecided, 83 indicated disagree, while 53 indicated strongly disagree respectively. This implies that public relations' media public enlightenment campaign strategy has a significant influence on waste management.

Hypothesis one

H1: Public relations' media public enlightenment campaign (MPEC) strategy has a significant influence on waste management (WM).

Table 1. Coded responses on the influence of public relations' media public enlightenment campaign strategy on waste management

Source: Fieldwork (2019).

S/No	Questionnaire items	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total (Freq)
		Freq	Freq	Freq	Freq	Freq	
1	Listening to Radio and viewing TV messages will encourage effective waste disposal	138	100	15	25	17	295
2	Understanding the messages that effective waste disposal will keep our environment clean and healthy will lead to positive attitude	151	94	20	17	13	295
3	The messages will encourage me to dispose of my waste adequately and regularly	140	121	13	10	11	295
4	My attitude towards waste disposal will change if messages are broadcast regularly on radio and TV	126	132	15	14	08	295
5	Waste disposal messages will guarantee more awareness to me on local radio and TV stations	110	154	21	07	03	295
6	If waste disposal messages are continuously communicated, I will be more conscious and committed to keeping my environment clean	164	112	09	10	0	295
TOTAL		829	713	93	83	52	1770

Table 2. Model summary[b]

Model	*R*	*R*-square	Adjusted *R*-square	Std. error of the estimate	*F*	Sum of squares	*T*	Durbin-Watson (DW)
1	.933[a]	.871	.871	.38856	5888.365	889.040 131.959	76.736	.076

Note: a. Predictors: (constant), MPEC, b. Dependent variable: WM.

Interpretation

Table 2 showed that the regression sum of squares (889.040) is greater than the residual sum of squares (131.959), which indicates that more of the variation in the dependent variable is not explained by the model. The significance value of the *F* statistics (0.000) is less than 0.05, which means that the variation explained by the model is due to chance. *R*, the correlation coefficient, which has a value of 0.948, indicates that public relations' media enlightenment campaign strategy has a significant influence on waste management. *R*-square, the coefficient of determination, shows that 87.1% of the variation in waste management is explained by the model. With the linear regression model, the error of the estimate is low, with a value of 0.38856. The Durbin-Watson statistics of 0.076, which is less than 2, indicates that there is no autocorrelation. However, media enlightenment campaign of 0.933 indicates that public relations' media enlightenment campaign strategy has a significant influence on waste management, which is statistically significant (with $t = 76.736$). The hypothesis is, therefore, accepted.

In Table 3, based on the aggregate response, a total of 826 indicated strongly agree, 606 indicated

Table 3. Coded responses on the influence of public relations' community participation strategy on waste management

Source: Fieldwork (2019).

S/No	Questionnaire items	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total (Freq)
		Freq	Freq	Freq	Freq	Freq	
1	If ESWAMA engages the residents on adequate waste disposal through townhall meetings, I will participate	118	96	45	24	12	295
2	If residents are allowed to fully suggest ways of disposing of waste through townhall meetings the problem of poor waste disposal will be over	120	98	39	11	27	295

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Table 3 (cont.). Coded responses on the influence of public relations' community participation strategy on waste management

S/ No	Questionnaire items	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total (Freq)
		Freq	Freq	Freq	Freq	Freq	
3	Participation in townhall meetings will educate residents much on the need to dispose of waste adequately	137	105	21	17	15	295
4	Waste disposal by residents will be more communicated through townhall meetings	134	91	18	30	22	295
5	If ESWAMA staff educate residents on how to dispose of wastes at designated dumpsites, it will be more knowledgeable and very credible	173	101	10	05	06	295
6	My active participation in waste disposal townhall meetings will definitely change my entire attitude towards wastes	144	115	23	08	05	295
TOTAL		826	606	156	95	87	1770

Table 4. Model summary[b]

Model	*R*	*R*-square	Adjusted *R*-square	Std. error of the estimate	*F*	Sum of squares	*T*	Durbin-Watson (DW)
1	.930[a]	.865	.865	.42336	5667.029	1015.719 158.263	75.280	.053

Note: a. Predictors: (Constant), CP, b. Dependent variable: WM.

agree,156 indicated undecided, 95 indicated disagree, while 87 indicated strongly disagree, respectively. This implies that public relations' community participation strategy has a significant influence on waste management.

Hypothesis two

H2: Public relations' community participation (CP) strategy has a significant influence on waste management (WM).

Interpretation

Table 4 indicates that the regression sum of squares (1015.719) is greater than the residual sum of squares (158.263), which indicates that more of the variation in the dependent variable is not explained by the model. The significance value of the *F* statistics (0.000) is less than 0.05, which means that the variation explained by the model is due to chance. *R*, the correlation coefficient, which has a value of 0.930, indicates that public relations' community participation strategy has a significant influence on waste management. *R*-square, the coefficient of determination, shows that 86.5% of the variation in waste management is explained by the model. With the linear regression model, the error of the estimate is low, with a value of 0.42336. The Durbin-Watson statistics of 0.053, which is less than 2, indicates that there is no autocorrelation. However, community participation of 0.930 indicates that public relations' community participation strategy has a significant influence on waste management, which is statistically significant (with $t = 76.280$). The hypothesis is, therefore, accepted.

Furthermore, the findings were revealed in hypothesis one that public relations' media public enlightenment campaign strategy has a significant influence on waste management ($r = 0.933$; $t = 76.736$; $F = 5888.365$; $p < 0.05$). Similarly, hypothesis two revealed that public relations' community participation strategy has a significant influence on waste management ($r = 0.930$; $t = 76.280$; $F = 5667.029$; $p < 0.05$).

Therefore, in agreement with the finding of hypothesis one, Afangideh, Joseph, and Atu (2012) revealed in their study that the media public enlightenment campaign encouraged positive behavior towards effective waste generation and management. On the contrary, Idamah (2015) revealed in their study that poor media public enlightenment campaign resulted in poor management of waste by residents. In their study, Obuah and Okon (2017) revealed that although

residents were aware of effective waste management through media public enlightenment campaign, they never, in reality, considered serious commitment towards waste disposal worthwhile. On the contrary, a study conducted by Onokpite (2018) revealed that lack of public enlightenment campaign resulted in residents' insensitivity towards waste management. Also, Chukwuemeka et al. (2012) in their study revealed that public enlightenment campaign needed to create awareness among members of the community about the dangers posed by indiscriminate waste disposal was totally inadequate. According to them, aside from inadequate waste management facilities, waste management personnel were not properly trained. Eke (2015) also observed that one of the major hiccups to adequate waste disposal in Enugu is the lack of public enlightenment campaign.

Furthermore, in line with the finding of hypothesis two, Chima and Itabita (2018) revealed in their study that sustainability in the rural water supply would be guaranteed through effective community participation in the water supply. Community water committee was recommended to be established to pursue the sustainability in the water supply scheme in the rural community. In another study, Chukwuemeka et al. (2012) noted that there was no public enlightenment campaign to encourage members of the community to ensure discipline towards waste disposal. They, therefore, recommended the need for community participation in weaning the Enugu metropolis off waste. Eke (2015) in her study also noted many lapses in waste management in Enugu and encouraged community participation.

CONCLUSION

This study revealed that media public enlightenment campaign if effectively applied, would significantly influence waste management. It implies that the use of the media to create awareness and educate all stakeholders on the importance of dispatching the waste to dumpsites to save the environment will improve waste management. That is because people really need to gain media awareness before they can show their commitment to effective management of waste in their environments.

Similarly, it was revealed that community participation initiative, if effectively adopted, would significantly influence waste management. What it implies is that when community participation is effectively implemented, it will help in carrying all stakeholders along towards the achievement of waste management objectives. Thus, carrying everybody along generates a sense of belonging and pride because when the voice of the masses is heard, it will go a long way to establishing their confidence and trust in ESWAMA.

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